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Rome: Economic Change in the 2nd Century BC - The Context of Mosaic as a Luxury Product

Roma: İÖ 2. yüzyıl'da Ekonomik Değişim - Lüks Bir Ürün Olarak Mozaik Konteksti

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Abstract

To understand the Roman economy in the 2nd century BC is something that is not possible without being aware of the process of how the Mediterranean World fused into a political whole, first under the influence and later under the rule of the Roman State. Constructing the economic history of this period is not possible without considering the globalisation that occurred in the Mediterranean political realm, as well as the major changes in the social and economic spheres taking place in the Italian Peninsula.

This context makes it possible to lay down a relationship between the conquering process and the changes that came about in the field of the land property and land cultivation. A second relationship may be established between the deep changes that occurred in the distribution of urban and rural populations and the consumption structure, the origin of corn supplies and the changes in the economic tissue in general. Further consideration is given to the economic significance of the proceeds coming from the war along with the revenues that Roman ruling officials and economic agents obtained while administering the imperial domain. The appetite for luxury goods that resulted from this process led in particular to the building of wealthy houses where fine mosaic pavements tended to be a common feature.

Keywords: *Roman economy, second century BC, economic complexity, state finances, infrastructures, luxury and mosaics.*

Öz

İÖ 2. yüzyıl Roma ekonomisini anlamak, politik olarak Akdeniz Dünyası'nın bir bütün halinde önce Roma Devleti'nin etkisi ardından da yönetimi altındaki süreçte nasıl kaynaştığını anlamadan mümkün değildir. Akdeniz siyasi topraklarında, üzerinde yaşanan küreselleşmenin yanı sıra İtalyan Yarımadası'nda yaşanan sosyal ve ekonomik alanlardaki büyük değişiklikler dikkate alınmaksızın, bu dönemin ekonomik tarihinin oluşturulması imkansızdır.

Bu bağlamda, fethetme süreci ile arazi mülkiyeti ve toprak işleme alanındaki değişiklikler arasında bir ilişki kurulması mümkün olmaktadır. İkinci bir ilişki, kentsel ve kırsal nüfus dağılımında meydana gelen derin değişimler ile tüketim yapısı, Mısır tedarikinin kaynağı ve ekonomik dokudaki genel değişiklikler arasında kurulabilmektedir. Roma yöneticileri aracılığıyla gelen savaş gelirlerinin ekonomik önemi ve imparatorluk sahasının yönetimi esnasındaki ekonomik etmenler konusunda da derin bir değerlendirme yapılacaktır. Lüks eşyaya düşkünlüğe sebebiyet veren bu durum, kaliteli mozaik döşemelerinin bulunduğu zengin ev yapılarının yaygınlaşmasını sağlamıştır.

Anahtar Kelimeler: *Roma ekonomisi, İÖ. 2. yüzyıl, ekonomik karmaşıklık, devlet maliyesi, altyapılar, lüks ve mozaikler.*

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The age of the Antonines has been regarded as a true golden century, a period in which a complete transformation – in areas such as the environment and the socio-cultural organisation – occurred. In his book of the late twentieth century, *La storia spezzata*, Aldo Schiavone conveys to us something essential from an oration delivered by a young Greek speaker (whom Rostovtseff classifies as a «sophist»), born and educated in Asia Minor, which became famous: Aelius Aristides. This oration was delivered in AD 154 in Rome before the imperial court, likely in the presence of Antoninus himself, and was integrated into the ceremonies of the annual celebration of the Foundation of Rome (Schiavone 2002: 5-17)[1].

What Schiavone has seen of particular interest in the oration of the young Aristides was the accent put on the «faculty for imposing order and transformation evident in the entire Roman civilisation at its height, and its effect on the until then prevailing condition of humanity». But Schiavone draws our attention to the fact that the prospect of Aristides was rooted in a mental horizon shared by an important part of his contemporaries, made up of small city elites that, from Hispania to Asia, the Roman presence had helped to create or promote.

From an economic perspective, the situation described reflects circumstances in which the mentioned city elites – and also of course the elites that had the control of the state – had acquired consumer habits which marked a departure from those behaviours that traditionally defined the structure of the ancient economy such as they were conceived to be by a school of thought centred on Moses Finley and to which he gave expression in his writings[2]. The predominance of an agrarian economy of self-sufficiency would have been at the root of such traditional behaviours and so, according to Finley, it would have been agriculture – and not trade or manufacture – which formed the economic basis of the urban development. This is a conception that presents the ancient city as primordially a centre of consumption, tending to be a parasitical entity, such as Max Weber had stated earlier (Finley 1999: 123-5)[3].

It is precisely apropos the disappearance of these consumption habits (yet in a later period, the one that follows the fall of the Roman Empire) that Bryan Ward-Perkins writes about in a chapter entitled «The Disappearance of Comfort» in his emblematic work published in 2005 (Ward-Perkins 2005: 87-122). Based on abundant archaeological evidence, the author recounts an impressive decline of western living standards between the V and the VII century, which affected everybody in society – from peasants to kings – and reached a scale that can be described as the «end of a civilisation». And, even though the purpose of this text is not to identify or describe the consumption habits that made up the comfort of Roman citizens and which disappeared with the fall of the Empire, the how and why of their appearance as well as the time when that occurred are extremely important elements to characterise, and this will be done though only briefly, the economic transformations that have taken place in the second century BC on the Italian peninsula.

In fact, the «economic complexity» – a cherished expression to Ward-Perkins – that characterised the Roman world in the imperial period did not emerge from nowhere and the transitions that occurred in the geographical centre of

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1 See also Rostovtseff 1988: 110-8.

2 The fundamental work of Finley is *The Ancient Economy*, first published in 1973.

3 The concept of city of consumption may, according to Jean Andreau, have originated in Sombart, although applied to the modern world.

the Roman political system (precisely the Italian peninsula) were particularly relevant in the period following the Second Punic War. It is in this context that we must ask ourselves, in a first approach, about the high quality pottery items that were used for cooking food, the fine tablewares or the amphorae that were used for the transport and storage of liquids such as olive oil and wine. From the high quality of these items, we can pass to the complexity of the productive and distributive processes underlying them and to a sufficiently broad dissemination in order to be able to infer that the corresponding consumption far exceeded the limits that were assigned to the high status groups of the society. Ward-Perkins goes even further, saying that the Roman world was a society somewhat similar to that in which we currently live, which moved goods on a massive scale, manufactured high-quality containers for such a move and occasionally discarded them on delivery (Ward-Perkins 2005: 92).

The existing sophistication in the field of pottery spilled over into another important area in terms of domestic comfort (reaching also the lower social strata): housing itself, in particular the roofs, which provided practical advantages especially in terms of durability, cost and safety when rain, moisture and fire were considered. The investment in tiles, which was made even for rural facilities such as stables or barns from at least the second century BC, was nevertheless weighty considering that their construction required substantial technical resources (a large oven, much clay and fuel as well as great professional competence) and its transport entailed significant costs (all the greater the more the distance increased) (Ward-Perkins 2005: 95-6).

Ward-Perkins has the view that the complexity revealed by the archaeological record concerning the ceramics industry could also be extendable to the rest of the economy, an essential component of that complexity being the range of infrastructures that went from the road network to the water supply and wastewater disposal, passing through the facilities serving the maritime and inland ports.

Regarding the construction of infrastructures in the period that is the subject of this work (second century BC), the remarkable development of the road network – already before the Second Punic War – must be referred to first. In particular, the case of three roads that took names derived from the magistrates who took the initiative of the corresponding construction: the Via Appia, which originated in 312 BC, the Via Aurelia in 240 BC and the Via Flaminia in 220 BC[4]. However, this development had started many years before, with its most ancient component strongly associated with the river course[5]. This very archaic component was made up of the Via Salaria (linking the Forum Boarium to the Sabin territory), the Via Campana (linking the Forum Boarium to the coastal saltworks) – both connected with the salt trade – and the Via Tiberina. The intermediate component (built later, between the 8th and the 6th centuries BC (Coarelli 1988: 133)[6]), on the other hand, arose in connection with the development of other types of traffic, in particular manufactured products.

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4 There are also indications that two of the roads - the Clodia and the Amerina - might have been built in the third century BC even though there are opinions that place their construction in the following century (Kay 2014: 10 n. 5).

5 Apart from the terrestrial roads, we should consider the waterway constituted by the Tiber itself, which, increasingly integrated into the road system with the development of navigation systems that allowed overcoming the current of the river (Coarelli 1988: 146-8), was also used for log driving from the upstream section of the river (Coarelli 1988: 132).

6 This set includes roads that took the locality names of their respective destinations (Via Nomentana, Via Tiburtina, Via Praenestina, Via Labicana, Via Albana, Via Satricana, ...).

The development of the road system in the course of the third century BC cannot be dissociated from the Roman State's efforts to ensure the political control of the Peninsula and, accordingly, cannot be understood without referring to its strategic-military reasons. The abovementioned dates for the beginning of the construction of the Via Appia, the Via Aurelia and the Via Flaminia were usually subsequent to the creation of colonies that followed significant military advances.

The control of the Italian peninsula being almost fully secured by the end of the third century BC, one can easily understand that in the ensuing century the construction of new roads had not as its objective the development of fundamental traffic routes. In fact, what can be inferred from the sources is that the new works have targeted the construction of more or less parallel roads to those existing (or simply their extension), stretches between them or still their paving and the improvement of the corresponding paths.

Still on the construction of infrastructures, aqueducts[7] and in general the systems based on water use and its disposal after use should be referred to. The first of the aqueducts that served the city of Rome, the *Aqua Appia*, with a length of 16.6 km and a capacity of about 73,000 m^3/day, was built in 312 BC at the initiative of the same Censor (Appius Claudius Caecus) who was at the origin of the construction of the Via Appia (and at exactly the same date). The second aqueduct to be constructed (272– 269 BC) was the *Anio Vetus*, with a length of 63.6 km and a capacity of about 176 thousand m^3/day. In the second century BC two other aqueducts were built, *Aqua Marcia* (144 BC, 91.4 km long and capacity of 187.6 thousand m^3/day)[8] and *Aqua Tepula* (125 BC, 17.7 km long and capacity of 17.8 thousand m^3/day). Aqueducts, of course, were significant monuments when the quality of life of the population is considered, not only because they met the daily needs for drinking water but also because water transported was used in economic activity (including industrial), in garden watering, protection against fires[9], cleaning, the wastewater disposal, the public baths, the spas... But before the aqueducts had been built there were sewers, of which the case of *Cloaca Maxima* in the city of Rome should be emphasised and the construction of which, according to Livy, started about 600 BC and finished, still in monarchy times, as an open channel[10]. The channel covering occurred, however, only at the beginning of the second century BC[11]. The mastery of hydraulic technology, its development and practical application, preceded – it may be confirmed – the time of the founding of the Republic. Such mastery allowed then the drainage of the malarial lowlands and therefore the emergence of large cereal farms[12].

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7 Before having at its disposal aqueducts, the city of Rome had recourse to other sources of water, including springs and local watercourses, wells and rainwater collected from roofs and stored in diverse receptacles and cisterns.

8 According to (Frontin. 1.7), the cost of the aqueduct plus repairs to the *Aqua Appia* and *Anio Vetus*, was 180 million sesterces (equivalent to 45 million denarii or 7,500 talents; to get a sense of the meaning of these values see below note 20), its funding coming, at least partially, from the booty taken at Corinth and Carthage (Frank 1933: 226).

9 A fire department existed in Rome since the early days of the Republic, working albeit in a poorly organised way. Only with Augustus in 22 BC, was its organisation significantly improved (Malissard 1994: 49-53).

10 (Liv. 1.38, 1.56).

11 Concerning the city's sewage system and its dependence on water from aqueducts, including transformations in the centuries II and I BC, see (Malissard 1994: 232-40). With specific regard to the *Cloaca Maxima*, the cost incurred in its recovery and coverage had possibly reached a thousand talents (Dion. Hal. ant. 3.67).

12 These developments were made possible thanks to the knowledge acquired in contact with Etruscan engineering. The drainage of the malarial plains took place both north (Etruscan area) and south of

With regard to spas and public baths – uses that required large amounts of water, all the greater insofar as the population to cover was wider – it should however be stressed that their development was more significant only in the final period of the Republic and especially in the imperial period. They were hypertrophied establishments, dedicated of course to bathing (motivation for which ranged from purely hygienic needs to physical exercises or to mere pleasure) but also to social practices as diverse as reading, conviviality, commercial and political contact, massage, hair treatment, depilation... The relevance of the baths in the social sphere clearly follows from the importance that members of the elite gave to them when receiving guests for their banquets. It was in fact an occasion for providing such a pleasure to them on arrival in similar conditions to those found in public establishments (Laty 1996: 20-9). It would, however, have been a more common ritual in the imperial period, but its development has probably begun in the second century BC[13]. However, there are no indications that in the city of Rome itself the construction of public baths and thermal facilities had assumed very high levels before the second half of the first century BC.

Regarding other areas in the field of construction, particular attention was given to the temples from the earliest times. The literary sources contain indications about the construction of several of these monuments in the final period of the monarchy and in the first two decades of the fifth century BC (which finds confirmation in the archaeological record), although they are silent regarding the period until the beginning of the following century. From about 380 BC, the construction of temples took on again a significant importance, being always in general associated with military victories (the conquest of Veii, the victory over the Gauls, ...) and the fulfilment of vows that, anticipating their occurrence, had been made by commanders. Other examples occurred in this area in the following centuries but only in the second half of the second century BC were temples built in marble in the city (material imported from Greece, since after the sack of Corinth), works that were directed by one or more Greek architects[14].

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the Tiber (the Pontine plain, located in Latium). This evolution had only been possible through the imposition of exhausting, inhumane working conditions. Such conditions, which the workers engaged in the construction of underground channels necessary to the drainage encountered (Liv. 1.38, 1.56), (Dion. Hal. ant. 3.67.5, 4.44.1-3, 4.81.2), and (Plin. nat. 36.106-8); see also (Torelli 2007: 14-5), (Carmo 2010: 49-50, including notes 106-109), (Coarelli 1990: 141-9) and (Malissard 1994: 223-7), were hardly compatible with lesser social inequalities predominating in other periods (before or after).

13 Seneca (who lived from 4 BC to AD 65), in one of his letters to Lucilius, refers, not without disdain, to the tiny bathtub in a dark room that existed in Scipio Africanus' *villa* (Sen. epist. 86).

14 (Cornell 2000: 43-4, 48-9). According to (Kay 2014: 215), the changes that occurred in the course of the second century BC to the detriment of the importance of such constructions and favouring buildings and public spaces of better quality, were due, in the first half of the century, to the higher level of government revenue and, with the approaching end of the century, to the growing importance of the regular collection of taxes in the provinces. Furthermore, the use of external expertise would indeed already have been significant in prior periods (several references can be found in the literary sources concerning the contribution of such skills in the sixth century BC, including the immigration of Greek technicians to Etruria), in particular in what regards the defensive wall (known as «Servian Wall») for the construction of which in the fourth century BC the city had resorted to specialised contractors, probably from Syracuse. This is a remarkable undertaking, not only for its grandeur (it probably took over 30 years to build) and costs but also because the enclosed area (about 426 hectares) seems to confirm existing estimates of the population of the city as not less (Cornell 2000: 45-6) than 50,000 inhabitants (which at the time places Rome on a par with the largest urban settlements in the western Mediterranean). Cornell also refers to some other data which reflect dissimilar population estimates, ranging for example between 90 and 190 thousand in 270 BC, and indicating numbers greater than 200,000 in 200 BC (in Cornell's opinion) and about 375,000 in 120 BC (Peter Brunt). The population of Rome has been the subject of in-depth studies ever since the nineteenth century (the most notable example being, in that century, Karl Julius Beloch). Equally remarkable is the study developed by (Brunt 1971). It is however a difficult undertaking that was later the subject of vast developments, in particular by Elio Lo Cascio, Luuk de Ligt, Walter Scheidel and Bruce Frier. Given the limited nature of this study, it is not possible to develop this matter in greater depth.

The great transformation that Rome experienced from this mid-fourth century BC – which with the extinction of the Latin League, the victories in the Samnite Wars and the final victory over Pyrrhus, led to an almost complete domination of the Italian peninsula about 270 BC – had as a consequence the city gradually becoming a centre of trade, production and consumption. The first signs of this transformation appeared already at the end of the fourth century BC with the development of the Tiber harbour (*Portus*) and of the temple, situated in the Forum Boarium, dedicated to the god of the port: Portunus. The Harbour came to be, around 200 BC, the subject of important developments and extension to the southwest (the port area being «invaded» by warehouses and barns, with more significant expansions at the end of the second century BC, due in particular to the assumption by the Roman State of the responsibility for the grain supply to the city) and the temple (which still exists) was eventually finished, or even rebuilt, about 100 BC (Cornell 2000: 46, 49, 51).[15]

Regarding other public buildings – or mere public spaces – the structures created in the Forum Romanum should be mentioned, of which the *Comitium* (the political and commercial centre of the city – extended and refurbished in the second half of the fourth century BC – and the place where the popular assemblies occurred) and several porticoes and *basilicae* (which, taken as a whole have reflected, in the course of the second century BC, a first attempt to introduce a monumental planning and systematic organisation of the urban space) must be highlighted. Concerning the *basilicae*, their original function seems to have been to protect the citizens from sun and rain, but soon other uses emerged, such as the commercial ones and those related with justice (Cornell 2000: 47, 53).

At last, with regard to housing, there is hardly any information on what would be the corresponding facilities in the residential areas, even in the course of the second century BC. From the mid-seventh century BC the clusters of huts until-then-prevailing probably started to be eliminated to the benefit of more sophisticated buildings, presumably made of stone. In the following century, the aristocratic families may have started to have at their disposal big houses, of good quality, having at their centre an *impluvium* surrounded by a large cruciform atrium (including a *tablinum*, the large reception area), which in turn was surrounded by several rooms. This will be true if we assume that the house excavated by Professor Andrea Carandini on the northern side of the Palatine is representative of a larger situation. That house, along with others, subsisted until the end of the third century BC. That could have been the type of house identified in Pompeii (dated as having originated in the third century BC; see below the references about the House of the Faun and the Alexander Mosaic) as being perfectly appropriate to the needs of a wealthy and competitive elite and similar to the one that existed in Rome at the same time. As to the accommodation of the lower classes, nothing is known about the period preceding the Late Republic unless in a story told by (Liv. 21.62) for the year 218 BC[16].

Furthermore, as regards the construction of residential buildings, the rapid upsurge in the city of Rome during the second century BC – derived from the strong population growth – has been considered the main reason that led to fast-moving technological developments, including the increased use of concrete at

15 With respect to investments in fort facilities see (Kay 2014: 217-8, 220).

16 (Cornell 2000: 43-4, 47) and (Cornell 1995: 96-9). Concerning the story told by Livy, it concerns a cow that ascended to the third floor of a building in the Forum Boarium, which reveals the existence of multistory housing blocks as early as the third century BC, in principle the same type of hovels that two centuries later are known to constitute the places where mainly the poor were housed.

the beginning of the century which had as a purpose the replacement of technologies more demanding in materials (especially stone) and manpower. Facing techniques of concrete walls had also evolved over the century, to *opus incertum* (use of small irregularly shaped pieces of stone) succeeding *opus quasi reticulatum* and *opus reticulatum* (pyramidal-shaped pieces of stone), which allowed considerably lower costs in materials and labour. Such cost savings proved crucial to enable, in particular, the fast growing building of dwellings for free peasants and slaves who were rushing into the city of Rome[17].

Heavy investment in roads, water supply, buildings and other infrastructure, as well as other high expenditure discussed below, were possible in the second century BC just because the Roman State had pursued the military and political expansion that came from previous centuries. In this context – then centred on the one hand in the Hellenistic east and on the other hand in the Iberian peninsula – an extremely substantial revenue was appropriated. In a first analysis, such revenue resulted from booty captured by the Roman armies at the time of their victories over enemies and from war indemnities imposed on the vanquished (indemnities were generally paid in instalments in the years that followed decisive battles). So, in the 44-year period following the 2nd Punic War (200–157 BC[18]), the total from these two sources was a little less than 44 thousand talents, which – the amount of indemnities[19] having represented notwithstanding more than five times the corresponding total of the entire third century BC see (Kay 2014: 38) – was not sufficient to cover the *stipendia* paid to Roman soldiers[20]. In addition to these two types of income, some other items should be considered, leading to a grand total of about 101.8 thousand talents[21].

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17 For further discussion, see (Kay 2014: 221) and especially (Wilson 2006: 225-9) and (Coarelli 1977: 9-19). Janet DeLaine greatly develops this theme of the evolution of the costs associated with different construction techniques – including the one using bricks, the development of which took place at a later period (she specifies by cost factor: materials, transport and manpower) – in (DeLaine 2001). DeLaine terms this a «Concrete Revolution» – also called the «Roman Architectural Revolution», a concept also adopted by other authors – albeit in a perspective of a more technical nature (DeLaine 1990).

18 The setting of this period of 44 years for the study of the Roman State Finances after the 2nd Punic War is made by Tenney Frank. The fixing of the final limit on the period is apparently related to the unavailability of Livy books after 167 BC (which until then was an essential source for assessing the detail of revenue and expenditure) and to the availability of the government cash balance in 157 BC.

19 According to (Frank 1933: 145). Frank gives his values in denarii, values that here, for reasons of simplicity, are converted into talents (1 talent was equivalent to 6,000 denarii, according to (Crawford 1974: 594), quoted in (Kay 2014: 23). These values do not significantly differ from those presented most recently in (Kay 2014: 21-42 and more specifically, pages 39 and 42), although the latter correspond to a period of 50 years. We have therefore, for those two items of revenue, an annual average of about 1,000 talents. From such an amount (just under 44 thousand talents), 25.4 thousand concern war indemnities and 18.3 the total of the booty (which in any case would include, according to the interpretation of the data from the sources in (Frank 1933: 138, 141), the produce of the exploitation of the Iberian mines until 178 BC; this, however, is an interpretation which receives criticism in (Badian 1972: 32-3), who sees no reason to doubt the nature of the corresponding data provided by Livy, which he identifies as booty and not revenue from the mines; also (Kay 2014: 49-54), looking more into the details, does not see any reason to agree with Frank).

20 According to the calculations made in (Frank 1933: 76), based on (Polyb. 6.39.12), the annual cost with the *stipendia* of a legion (with a standard composition of 4,200 infantry and 300 cavalry) would be about 100 talents/year. However, as the author himself states (Frank 1933: 141-2), from 192 BC the number of soldiers by legion rises to 5,500 (reaching even, in some years, 6,300), which resulted in a more convincing annual average cost per legion with *stipendia* of about 121 talents, considering the 50,000 talents (1,136/year) that Frank estimated for the period of 44 years. It should be noted that, despite the high significance of the war effort in the 44 years considered, that effort was much less intense than in the period of the 2nd Punic War. In the course of 18 years of this war an average of 18.2 legions (calculated from the data contained in (Toynbee 1965: 647)) were employed, whereas in the 44 year period of the first half of the second century BC the equivalent value was only 9.4 (calculated from the data considered by Frank; in (Rich 1983: 292), a value of 8.7 is referred for the period 200-168 BC).

21 According to (Frank 1933: 126-41), the author making a synthesis of the revenue detected mainly in

If we consider now the expenditure in the 44-year period, its total reached 92.5 thousand talents[22], which means that the balance of accounts was positive, amounting to 9.3 thousand talents.

An important conclusion that it is possible to draw from this data set is that the Roman public finances in this period are overwhelmingly dominated by the war. The total expenditure incurred during the war (78,800 talents, resulting from the addition of items «*Stipendia*», «Food for Allies», «Transport, etc.» and «Navy (war and transport)») constitutes in fact 85.1 % of the total. Revenue derived directly from the war (53.6 thousand talents: «War indemnities», «Booty, etc.» and «*Tributum*») reached 52.7% of the total revenue. But if other revenue deriving indirectly from the war is added – «Revenue of the mines in Hispania from 178 to 157 BC», «Income from *ager publicus* in Italy» and «Provincial tithes on cereal crops in Sicily and Sardinia», which together account for 39.8% – that percentage rises to 92.5%. All this is the difference between an economy by and large dedicated to war and an economy of imperial domination that the latter percentages start to display. And that – as can be seen not only from the analysis of the figures that have just been presented but also from what will be said further on – tends to evolve towards a greater importance of imperial domination, the first set of revenue items decreasing its relative weight and the second increasing it.

Thus, in order to compensate for the loss of a substantial part of the revenue earned in the first half of the second century BC with war indemnities and booty, the Roman State started to count not only on the product of the mining operations but also on the taxes collected in the provinces. The latter gained more importance with the promulgation of the *lex Sempronia de Provincia Asia* in the late 120s[23]. This law, attributed to Gaius Gracchus, tribune of the plebs in 123-122 BC, has determined that taxes and customs duties should be collected in the province of Asia using the *censoria locatio* system (the farming of taxes by the censors to private interests, specifically to the publicans). Gracchus also introduced the *lex Sempronia repetundarum* to prevent the Roman magistrates from abusing their position of authority by diverting funds that should be made available to the State treasury. His ultimate objective was to ensure the necessary revenue to meet the costs of the Roman State and thus allow the Roman people to benefit from the profits of the empire. Expenditure on infrastructure and other public works, as already noted above, had gained a greater dimension during the

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the literary sources. The first of those other items is the «Revenue of the mines in Hispania from 178 to 157 BC» which was reportedly about 8.3 thousand talents. Next we have the «*Tributum* collected from citizens till 167 BC» (10,000 talents; the *tributum* ceased to be collected on that date to the Roman citizens, that being the moment at which Aemilius Paullus, after his victory over Perseus, brought to Rome a booty equivalent to 5,000 talents), the «Income from *ager publicus* in Italy» (10,500 talents), the «Provincial tithes on cereal crops in Sicily and Sardinia» (the equivalent of 21,700 talents) and a set of «Miscellaneous income» (7,700 talents) of which the customs and the taxes imposed on the Macedonians from 167 BC onwards are highlighted. With the reopening in 158 BC of the gold and silver mines of Macedonia it is of course necessary to take into account this new income (it should be noted that the accounts presented by Tenney Frank go only as far as 157 BC).

22 Further to the 50,000 talents spent with the *stipendia* of the legions, the other items of expenditure considered by Frank in the period 200-157 BC, are «Food for Allies» (10,700 talents), «Transport, etc.» (8,300 talents), «Navy (war and transport)» (9,800 talents), «Public buildings» (3,300 talents), «Reimbursement of *tributum*» (3,800 talents) and «Other expenses» (6,700 talents).

23 The province of Asia (located in the vast territory of western Anatolia) was created in 132 BC after the death of the King of Pergamum in the previous year and the bequest of his kingdom to the Roman State. In 132-129 BC the Romans were confronted with a revolt led by Aristonicus (who had assumed the title of King of Pergamum). In the ensuing years Rome dedicated itself to organise its new province, the extraction of revenue from it before 124 BC being unlikely. For details, see (Kay 2014: 61-5).

second century BC[24] with the emergence of new items that were associated with the agrarian reform – including the settlement of colonies (see below) – and the grain at a subsidised price provided to the plebs[25]. It was this economic program – a massive public spending program – that Gaius Gracchus confronted, recognising that a broader and more controlled exploitation of the Mediterranean resources by the Roman State was necessary to guarantee a regular flow of funds to the public *aerarium* (weaning it off from dependence on income of an irregular nature as booty and war indemnities). In this context, his attempt to produce a systematic state budget, based largely on the *censoria locatio*, was innovative, forward-looking (Kay 2014: 59-83, in particular 82-3).

As we have just seen, not only the warrior activity, but also the investment in infrastructure, in buildings and in other public spaces were increasingly financed in the second century BC by resources from territories, and therefore populations, located outside the Italian peninsula. Among the financial resources originated in the Peninsula, the *tributum* – since earlier times intended to cover at least partially the costs of the war – ceased to be levied from 167 BC. On the other side it is doubtful whether the only item of state revenue collected in Italy in the first half of the century – beyond the *tributum* – with significant size (the lease of *ager publicus*), remained subsequently with enough relevance[26]. On the other hand, the very livelihood of the Italian peoples, in particular that of the city (Rome) which experienced an explosive population growth, had become increasingly dependent on cereal resources produced abroad and of which a significant portion was appropriated by the Roman State in the form of taxes on agricultural production.

If there are no grounds for believing that the majority of farms in the Italian peninsula had ceased to operate under a regime of self-sufficiency, it is not possible, on the other side, to overlook a development that had probably been initiated in the second half of the previous century. It is a development that consisted in the emergence of estates turned toward the creation of surpluses – therefore dependent on sales in the markets, in particular outside the Peninsula itself – and their appropriation in the form of money.

Part of these estates was constituted of medium-sized farms, most of them having as primary objective the production of wine or olive oil. Such estates belonged to the Roman elite – including senators and *equites* – or to the Italian elites and were mostly located in the midwestern region of the Peninsula (Campania and southern Etruria). Except in the case of Sicily, it does not appear that they had spread to the provinces before the end of the second century BC. It was a type of exploitation – considered by Cato in his *De Agricultura* – that counted on a workforce coming mainly from prisoners of war reduced to slavery and aimed, as mentioned, at selling its products on the market. Another type of farm that also produced for the market (but in this case for urban areas in expansion, which leads one to think immediately about areas near Rome and Campania)

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24 It is likely that Gaius Gracchus had the perception, or even the desire, that infrastructure expenses – hitherto largely financed by commanders of armies from booty associated with military victories (see in this respect (Frank 1933: 126-38) – tended to be supported by revenue of a regular nature.

25 The *lex frumentaria* enacted in 123 BC by Gaius Gracchus, states that the grain would be sold to the plebs at 6 1/3 asses for one modius (Liv. per. 60). In (Kay 2014: 300) it is assumed that about 40 thousand citizens had benefited from a supply of 5 modii/month at that price (which on average would amount to about half the price in the market) for a long period spanning from 123 to 62 BC. This subsidy would therefore have led to an average yearly funding from the state budget of about 250 talents.

26 According to (Frank 1933: 229), in the period 150-90 BC «the Italian tithe-land was largely disposed of by the Gracchi», which would have meant – if Frank's perspective is correct – that in case it had kept some importance, it would have been only up to about 130 BC.

– and probably where smaller units predominated – was that dedicated to horticultural production, to the creation of chickens and other small animals, to apiculture and to floricultural products. According to Philip Kay, this development due to the expansion of the markets – both the export and the internal (urban) markets – would have been the main determinant of the land demand (hence, the importance attached to its location) (Kay 2014: 166).

The estates held by the Roman elites (besides integrating, certainly in many cases, their ancestral lands) have been – with the development of the conquests or in the sequence of the disturbances during the 2nd Punic War (and in this case such disturbances were particularly strong in Campania and in the territories located in the south of the Peninsula) – expanded or created at the expense of the land that entered the public domain[27] (the so-called *ager publicus*: confiscated land to the defeated or to those who had supported Hannibal, «betraying» Rome). That was land the *occupatio* (a regime of land tenure that was not full ownership but entitled the occupier to benefit from the fruits thereof) of which the Roman State allowed when exercised by the mentioned elites or the elites of the allied peoples (and in principle against the payment of a *vectigal* to the *aerarium*). But the condition of growing deracination[28] of the free peasants – which took place especially in situations of lengthy absences multiplied by an extension of military service to countless years and without interruptions in the military campaigns that allowed going back home even if only for short periods – meant that, in the decades that followed the 2nd Punic War, the small farms that belonged to the soldiers became the target for the expansion plans of the elites[29].

An example of the development of farms of «capitalist» type, turned very likely to sales of wine and olive oil in the domestic and the external markets, has been the one which resulted from the privatisation of the *ager publicus* at the end of the 2nd Punic War as a means of settlement of loans made by citizens in the difficult hours of the war[30].

But, if the development of a market-oriented agricultural sector added complexity to the Roman economy and provided high returns to the owners of the estates, two consequences cannot be ignored which led to situations that have come to reveal themselves frankly negative to the lower social strata, to the economy in general and ultimately to the internal political situation of the Roman State. On the one hand is the already mentioned condition of deracination that significantly contributed to the rural exodus of free peasants, above all towards the large city (which however led to a major stimulation of the urban economy, both in terms of market growth and labour availability, particularly with regard to the construction sector). The conditions created by the wars of the second century BC – in which the free rural population, the basis of military recruitment, was unavailable to be hired as salaried labour – led, on the other hand, the landowners to prefer slave labour for fieldwork[31].

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27 This certainly was a high value input, nevertheless not recorded as revenue, as deduced from its absence in the corresponding figures mentioned above and which were given by Tenney Frank.

28 See in particular (Toynbee 1965: 36-105).

29 Before, when the soldiers did service in Italy, it was possible for them to return to their lands during the winter months; but after several years of service overseas, their families were in danger of going into debt, which could lead to their farms being acquired by the creditors (Hopkins 1978: 30).

30 Three such situations have been identified in Livy, the first of which related to 215 BC (Liv. 23.48), the second to 214 BC (Liv. 24.18) and the third to 210 BC (Liv. 26.35-6).

31 See in particular (Hopkins 1978: 11-13, 56).

The investment that was made, especially after the 2nd Punic War, by the Roman oligarchs in the agricultural exploitation was intended, as already mentioned above, to commercial purposes. Part of this investment was oriented to the fruticulture and horticulture, etc. (the so-called *pastio villatica*) – this being an area in which predominated smaller units – and intended to the consumption of urban areas nearby the farms. On the other hand, production of wine and olive oil, which were also sold in large quantities in the internal market, came to have a significant outflow into foreign markets, particularly the western provinces. Assessments based on amphorae found in Mediterranean contexts – both on land along the coasts and on sunken ships – lead to the conclusion that exports of one and another product already took place in the course of the third century BC although in amounts much lower than those observed from 150 BC onwards. Exports that took place from 300 to 150 BC, identifiable through the types of amphorae that were used, had been addressed to various regions situated in the Mediterranean context, those directed to Sicily (originated from Campania) assuming some relief in particular after the 2nd Punic War. The wines bound for Gallia Narbonensis (especially after the territory became a Roman province in 121 BC) – besides those, now in continental contexts, for other regions of Gaul and their neighbours (including Germania) as well as for the legions in Numantia (Hispania) – stand out after 150 BC. Some of the destinations – like Britain – suggest potential Atlantic routes. On the other hand, the strong growth of Italian exports coincided with the sharp decline in sales in the western Mediterranean of Rhodian wine. The Italian exports to the Adriatic region seem to have included the wine of Apulia (southeast Italy), as evidenced by the type of amphorae found there (Kay 2014: 141-7).

The production of amphorae, on the other hand, is a strong sign of the importance of other economic sector – ceramics – which, at a first approach, might be termed industry but that, given its relative technical and organisational incipient stage, it is commonly denominated as craft production. This sector was strongly associated with the production of olive oil and especially wine, with the result that the locations of the respective facilities have been fundamentally Etruria, Latium, Campania and the southeast of the Peninsula (Kay 2014: 142). Of course, the existence of the raw materials needed for pottery production was another key factor to such a setup, a factor nevertheless that did not reveal itself as too constricting given its wide distribution in the territory. Particularly significant on the other side, has been the «size» factor concerning the facilities – for which not only technical expertise but also the existence of kilns possibly in common to several workshops were important – which probably explains the production at the same sites of a whole range of ceramic products. Philip Kay refers to the existence of leased potteries set up in land dedicated to vineyards, where the lessor (the landowner) provided the necessary tools, the raw materials and allowances of wine and the lessee provided the manpower; of course in all this the lessee received wages in exchange for delivering large numbers of vessels. This model of «concession contract» seems to have been applied to other areas of manufacturing activity – for example to the textile industry, in particular the cases of wool and dyeing – although it is difficult in all identified cases to place them in the 2nd century BC. It is a model that Kay classifies as «vertically unintegrated» (no integration of the agricultural and livestock estates and the associated undertakings of raw materials and their derivatives) (Kay 2014: 228-9).

Other industries or craft activities – other than those that, because of the referred association to raw materials, were in principle located in rural areas – of course

existed. However, due to the difficulty in finding their artefacts in the archaeological record – as for instance with the case of cloth, leather, wood, metal, basketwork – it is not possible to advance significantly in their qualitative and quantitative characterisation.

In the course of the two centuries of conquests in the East, foreign exports invade Italy or, rather, they «are sucked into Italy by the desire of the conquerors». Behind this process, that received the criticism of some of the contemporaries, is of course, as already mentioned, «the appetite for luxury goods». A phenomenon nevertheless that reveals a social diffusion of luxuries far beyond the elite and that had a crucial role in the construction of social identities in a rapidly changing world. That is to say, behind the Italian imports and eventually the appropriation of eastern production is the social impact of a consumer revolution. According to Wallace-Hadrill, «luxuries and their downward derivatives or 'sub-luxuries' played a central role in redefining the social order of the Empire». In fact the elite was not restricted to the Roman political class, it also included the political elites of Italian cities. Already «at a time when they stood outside Roman citizenship, luxury spending was a way of asserting equality of standing, just as ambitious municipal building programs asserted the dignity of the cities themselves» (Wallace-Hadrill 2008: 436-8).

It is in this context that the increasing use of mosaics in the floors of private and public buildings should be understood. As expensive luxury items[32], mosaics were in fact employed in the wealthiest buildings of, above all, the cities in Campania and around Rome, the regions where the influence of the Greek civilization and the availability of monetary resources coming from the east wars were larger. Actually, the decorative art, of which mosaics constitute an important example, had a significant development in the Hellenistic period, first of all with painting, precisely an essential source of inspiration behind the progress of *opus tessellatum*[33]. The imitation of the effects of painting was in fact a characteristic feature of the mosaics in that period and was already present before 211 BC in Morgantina (House of Ganymede), a Sicilian town of the interior (Dunbabin 1999a: 21-22)[34]. Another item, the Thmuis mosaic, from the collection of the Graeco-Roman Museum in Alexandria and probably from the first half of the second century BC, "shows, fully developed, the technique which modern scholars call *vermiculatum*: minuscule fragments of stone, so small that the eye hardly distinguishes them as separate entities… [t]heir use permit[ing] the artist genuinely to rival the effects of painting, assembling his colours as if they were strokes of the brush, and drawing on as wide a palette as that available to the painter" (Dunbabin 1999a: 25-26). It was a domain in which "Italy in the last two centuries BC absorbed the full impact of Hellenistic influence", that being particularly evident in the case of the Alexander Mosaic from the House of the Faun in Pompeii (probably the best known mosaic to have survived from antiquity, in the opinion of Katherine Dunbabin). It is a mosaic which "shows

32 This connection to opulence is very soon recognized by the elder Cato who attacked pavements as examples of Carthaginian luxury. Some time later in the same century, the satirist Gaius Lucilius was attracted by the meticulous process of fitting the tesserae together, comparing it – in a way not intended as a compliment but rather as a mockery – to the "over-elaborate or artificial diction of an orator" (Dunbabin 1999b: 739-40).

33 An expression that in Latin refers to mosaics made with *tesserae*, the small near-cubic pieces of stone that were set into mortar.

34 Another example is mentioned in (Dunbabin 1999b: 740), concerning a ship of Hieron of Syracuse (3rd century AC) whose floors were described in a passage of Moschion (quoted by Athenaeus). This passage – Athenaeus (5.206d-209e): «[the ship] had floors of mosaic work, of all kinds of tesselated stone. In this mosaic the whole story of the "Iliad" was depicted right marvellously» – is discussed in (Dunbabin 1994: 26, n. 2).

the decisive battle between Alexander the Great and Darius King of Persia … [and] …it is universally acknowledged that it must be a very close copy of a painting made shortly after the actual event". Like other items in the House of the Faun and in other rich houses in Pompeii, this mosaic (or its laying) is dated from the end of the second century BC. Due to the fact that the majority of these fine mosaics were made in the artists' studios before being brought to their final destinations, the question was raised whether they were made in Pompeii itself or imported ready-made from elsewhere. It appears nevertheless likely that artists producing mosaics that present repeated versions of the same scene worked in local workshops (Pompeii and the neighbouring towns) while *emblemata*, in particular, could be articles of commerce coming from cities out of the country[35].

With specific regard to the profitability of the investment on estates, many authors tend to put in perspective its ability to lead to high revenues – especially when taking into account the strong wealth inflows that the Roman elite became habituated to in the course of the first half of the second century BC – which could nevertheless be characterised in general as safe. Among the different opinions on the subject, those that argue that investment in rustic properties – and in particular in the development of commercial estates – would have been a privileged way to apply any significant revenue resulting from the wars of that period (beyond the motivations of social prestige that were presupposed in such investment) and should be highlighted. But of course there were other feasible investments that, although possibly less secure, could lead to more significant financial income[36].

Such opportunities began to appear more noticeably when, following the unclear position of Rhodes in the conflict mentioned above with Perseus (see note 21), Rome decided, as punishment, to give in 166 BC the control of Delos (an Aegean island that up to then, due to its shrine status, had attracted some trade) to the Athenians (Athens had clearly been on the side of Rome in the Third Macedonian War) and a duty-free status to its port. This resulted in the explosive commercial development of Delos (however associated with a recrudescence of the activity of Cilician pirates, out of control because of a lower activity of the Rhodian patrols on the waterways), its counterpart being, according to Polybius, a fall of 85 % in custom duties collected by Rhodes. Delos then began to be inhabited mainly by traders originating in the regions of western and southern Asia Minor and also from further east and from the Italian peninsula and Sicily. But it was especially after the destruction of Corinth in 146 BC, says Strabo, and with the move to the island of *negotiatores* that operated in that city, that the growth of its trade had become more intense. Situated on the waterway that connected the Italian peninsula to Asia Minor, soon – as is attested by inscriptions found – many *Romaioi* and *Italikoi* settled on the island[37]. It was the slave trade, fuelled mainly by the Roman wars and the pirate activity, that formed the basis of a significant share of the activity taking place in Delos[38]. Furthermore, with the enactment of the *lex Sempronia de Provincia Asia*, Delos became also a transit point for Roman magistrates and publicans, traders and bankers who went

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35 (Dunbabin 1999a: 38-42). *Emblemata* are central panel mosaics with figure representations, usually executed in *opus vermiculatum*.

36 See what is said about it in (Kay 2014: 151-5).

37 (Strab. 10.5.4); (Green 1997: 473, 491); (Kay 2014: 197-200).

38 The sectors of the Italian and Sicilian economies managed by the Roman oligarchy had become increasingly dependent, according to William Harris, on the inflows of slave labour that occurred after the last phase of the Hannibalic War, inflows that were mainly fuelled by the victories of the armies commanded by that oligarchy (Harris 1979: 81-3).

to and returned from the province. It must be borne in mind however that a very large part of the Romans and Italians established on the island were freedmen and slaves who represented their patrons there (Kay 2014: 200-2).

A good indicator of the increasingly ostentatious spending of the Roman elites is the set of sumptuary laws enacted in the first half of the second century BC[39]. It was some time afterwards – and leaving in the shadows apparently unimportant expenses such as those the sumptuary laws were targeting – that luxury *villae* such as those prevailing in the Campania region began to multiply. With Delos, a trade in luxury goods developed – purple, incense, myrrh, perfumes, jewellery, linen fabrics, Greek wines – the main actors for which were Syrian and Phoenician traders. Although there are indications that some luxury goods were manufactured on the island itself, their production required in principle imports of oriental raw materials (Kay 2014: 202-6).

A set of circumstances – the intention to punish Rhodes for its dubious position in the war against Perseus, the destruction of Carthage and Corinth, the creation of the province of Asia, the sudden collapse of the Seleucid empire and a favourable geographical position – led to the rapid growth of the commercial importance of Delos[40]. But it cannot be ignored that behind this development was the enormous availability of financial resources concentrated in a relatively limited area close to Rome and whose origins have been mentioned above. This availability was yet more enhanced by the development of credit which – besides being supported by family and friendship connections among individuals who had funds and others who needed them for purely personal purposes or to start or develop a business – came to assume wider proportions and were professionalised through the gradual emergence of financial intermediation. This intermediation[41] had the effect to connect, on the one hand, the individual who had the funds and the entity that acted as a bank of deposits in our days and, on the other hand, that bank and the investor who intended to use the loan obtained in a purchase or more generally in a business[42]. There are indications in the literary sources and in the epigraphical record that allow us to conclude that such intermediation had assumed high levels in the second half of the second century BC, in particular associated with the development of the *emporion* of Delos[43]. The development of credit, promoting the mobilisation of resources that otherwise would have remained inactive, treasured, thus contributed significantly to the dynamisation of economic activity. A dynamisation indeed that was simply reinforced thereby, since it was inserted in a historical period of strong expansion in the availability of precious metals – as happened at the beginning of the

39 See (Rosivach 2006). The first of these laws was the *lex Orchia* in 181 BC (which introduced restrictions on spending on banquets), then the *lex Fannia*, which in 161 BC sought to strengthen and give consistency to the former, and finally the *lex Didia* (in 143 BC), which extended the restrictions to the whole of Italy.

40 A sign of the affluence that this activity brought to the island itself can be seen in the pavements that were concentrated in the rich houses (dated with a high degree of probability between about 130 and 88 BC) where, beyond the normal *opus tessellatum*, the much finer *opus vermiculatum* – which used tesserae less than four millimetres square – could be found. For example the *emblema* with tiger-rider in the House of Dionysus that "exploits to the full the colouristic possibilities of the technique, with minute tesserae (many less than one millimetre square) in an extraordinarily wide range of colours". See (Dunbabin 1999a: 30-35).

41 Intermediation assumed by the *argentarii*, ancestors of the modern banks, the first manifestation of which in Rome (Andreau 1987: 340) took place between 318 and 310 BC with financial techniques seemingly inspired by the *trapezitai* (Cohen 1992: 7-11) of the Greek.

42 But the intermediation not only made easier the connection between the available funds and the needs but changed also the nature of the risks involved and increased the overall availability of financial resources available to the economy through the creation of the multiplier effect of the bank credit.

43 See in particular (Kay 2014: 107-28, 211-3).

Hellenistic period, when the conquests of Alexander led to the mobilisation of the treasures held by the Persian lords and by temples, and later, in the sixteenth century, when the huge influx of gold and silver from the "New World" took place – which, by causing a revolution in prices and boosting the global demand, brought greater dynamism and complexity to economic activity.

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