Luxury in Ancient Rome: Scope, Timing and Enforcement of Sumptuary Laws*

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Abstract

Between 182 BC and 18 BC, Roman lawmakers enacted a series of sumptuary laws regulating banquet expenditures. These regulations included a maximum for the number of guests and restrictions on specific foods; moreover, they were reiterated over time but were rarely enforced. Traditional explanations based on morals, protection of patrimonies and political competition do not fully account for the scope, timing and enforcement patterns of such laws. We advance and formalize a novel hypothesis, which is based on four elements: (1) luxury is a signal of wealth; (2) the senatorial class holding political power enacts sumptuary laws to restrict signaling when individuals coming from an emerging class (the equestrians) become wealthier than them; (3) enforcement of such laws would facilitate signalling of wealth and hence would be counterproductive; finally (4), the reiteration of these laws can be explained as an attempt to leverage on the expressive function of the law. The rise of sumptuary legislation occurred when the senatorial class lost economic power to the equestrians, its fall when they also lost political power to the *princeps* (and later the emperor). These arguments are discussed against the historical and legal background and presented formally.

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1 Introduction

During the Republican period, due to the expansion of the Roman power over the Mediterranean sea and surrounding territories and under the influence of the cultivated Hellenistic way of living, the Roman aristocracy acquired a taste for luxury. Livius and Pliny the Elder emphasize the foreign origin of this phenomenon and place the advent of luxury in Rome at the beginning of the second century BC, following the ceremonies for the return of the Roman army and its generals, Scipio Asiaticus, from the Syrian War (Liv., 34.6; Plin. *Nat. hist.* 33.148)[1] and Cneius Manlius Vulso from Asia Minor (Liv. 39.6).[2] Moralists did not hesitate to stigmatize the new lifestyle as being in contrast with the chaste habits of the previous generations—who were raised in a principally agricultural society—and to blame it for the ruin of prominent families and the dissipation of patrimonies. As a result of this attitude, regulations were enacted in order to limit various kinds of luxury ostentation and, in particular, banquets. Notably, sumptuary legislation is confined in the last two centuries of the Republic; the beginning of the Empire marks the end of sumptuary laws together with an escalation of luxury consumption.

Our analysis covers this period, ranging from 182 BC to 18 BC. We examine a series of nine laws voted by the *comitia* and, in only one case, the plebeian assemblies, which are called in ancient texts *leges sumptuariae* or *leges cibariae* as they regard limitation of expences on food. In addition, we will also consider one *decretum* of the senate and one *decretum* of the censors on the same matters. These regulations raise a number of questions, concerning their peculiar scope, timing, and the fact that they were often reiterated but almost never enforced. The scope of the sumptuary laws was peculiar, for they regulated expenses, invitations and food consumption related to banquets, an exercise apparently void of any practical purpose. This raises questions as to why food and dinners were seen as the eminent forms of luxury to be restricted—whereas many alternative instantiations of luxury remained unregulated—and why only some specific aspects of such banquets were targeted. Furthermore, the sumptuary laws cover a relatively short period in Roman history and seem to reiterate time and again

[1] Liv., 34.6: *luxuriae enim peregrinae origo ab exercitu Asiatico inuecta in urbem est. ii primum lectos aeratos, uestem stragulam pretiosam, plagulas et alia textilia, et quae tum magnificae supellectilis habebantur, monopodia et abacos Romam aduexerunt. tunc psaltriae sambucistriaeque et conuiualia alia ludorum oblectamenta addita epulis; epulae quoque ipsae et cura et sumptu maiore apparari coeptae. tum coquus, uilissimum antiquis mancipium et aestimatione et usu, in pretio esse, et quod ministerium fuerat, ars haberi coepta. uix tamen illa quae tum conspiciebantur, semina erant futurae luxuriae.*

Plin. *Nat. hist.* 33.148: *Asia primum devicta luxuriam misit in Italiam, siquidem L. Scipio in triumpho transtulit argenti caelati pondo mille et CCCC et vasorum aureorum pondo MD [anno conditae urbis DLXV].*

[2] Liv. 39.6: *luxuriae enim peregrinae origo ab exercitu Asiatico inuecta in urbem est. ii primum lectos aeratos, uestem stragulam pretiosam, plagulas et alia textilia, et quae tum magnificae supellectilis habebantur, monopodia et abacos Romam aduexerunt. tunc psaltriae sambucistriaeque et conuiualia alia ludorum oblectamenta addita epulis; epulae quoque ipsae et cura et sumptu maiore apparari coeptae. tum coquus, uilissimum antiquis mancipium et aestimatione et usu, in pretio esse, et quod ministerium fuerat, ars haberi coepta. uix tamen illa quae tum conspiciebantur, semina erant futurae luxuriae.*

the same empty calls for moderation, which were in fact rarely enforced. The lack of enforcement seems to suggest that there was an attempt to stigmatize certain forms of behavior while resisting the temptation to punish the violators.

In this paper, we advance and formalize a novel hypothesis, trying to fill the gaps in existing explanations and accounting for the scope, timing, lack of enforcement and reiteration of sumptuary legislation. Our approach has four key elements: (1) luxury is a signal of wealth; (2) the class holding political power enacts sumptuary laws to restrict signaling if there are individuals wealthier than them; (3) enforcement of such laws would facilitate signalling and hence would be counterproductive; finally (4), without enforcement, the reiteration of these laws can only be explained as an attempt to leverage on the expressive function of the law. In a nutshell, our argument is that sumptuary legislation originated from the unbalance between political and economic power following the military and economic expansion of Rome in the last two centuries of the Republic. During this period, the senatorial class holding political power lost part of its economic power to the emerging class of the equestrians. This unbalance was resolved at the beginning of the Empire as the senatorial class also lost its political power to the *princeps* (and later the emperor).

The paper is organized as follows. In section 2, we present the historical background to which our analysis applies, emphasizing the building blocks of our theory. In section 3, we present a formal model of signaling by luxury which explains the conditions under which sumptuary laws emerged and why they were not enforced. In section 4, we discuss the implications of our results for future historical and empirical research. In the remainder of the Introduction we account for alternative theories and illustrate our approach and its implications.

1.1 Existing theories

Existing literature advances three different explanations, holding that sumptuary laws aimed at (*i*) moralizing the Roman society, (*ii*) protecting family patrimonies, or (*iii*) restricting the political influence of the equestrian class. We will examine these three approaches in turn. The first argument, pointing to morals, has been advanced since antiquity. According to ancient authors (Macrob. *Sat.* 3.17.10), sumptuary laws were intended to counter the spread of luxury and restore the moral and physical health of Roman citizens. A similar approach, unveiling a clearly negative moral judgement on luxury expenditures and the need to limit them, was dominant in legal scholarship untill the beginning of the 20$^{\text{th}}$ century (Velleman, 1900). The moral argument only partially explains sumptuary legislation, for it is difficult to identify the moral character of at least some of the regulated matters, such as the consumption of poultry, salted fish and foreign (but not local) wine. Moreover, this explanation offers no insight as to why sumptuary legislation ended at the turn of the millennium and why such laws were not enforced.

The second explanation advanced by ancient commentators is the protection of family fortunes (Bottiglieri, 2002, p. 56). This approach fails to explain why sumptuary laws were not conditioned on individuals' wealth. In fact, this was the case for the regulation of slaves' manumissions, introduced by the laws *Fufia Caninia* (2 BC), *Aelia Sentia* (AD 4) and *Iunia Norbana* (AD 19), where the maximum number of slaves who could be manumitted by will was a regressive fraction of the number of slaves owned (Cogrossi, 1979). In contrast, the sumptuary laws implemented a one-size-fits-all measure of excessive expenditures. In addition to that, the patrimony-protection explanation gives no valid clue as to why the rich would be inclined to squander their wealth to such an extent that this should be a concern for lawmakers. Most importantly, sumptuary laws were very limited in scope and there remained many perfectly legal ways to dissipate one's fortunes. Finally, the timing and lack of enforcement of these laws cannot be explained under this approach.

The third explanation is advanced by modern authors, who point to the attempt by the senatorial class to control the rising political power of the equestrians. The political character of the sumptuary laws appears to be commonly accepted in both historical and Romanistic scholarship (Clemente, 1981, pp. 4-7; Bretone, 1991, p. 14). According to this interpretation, luxury was a means to gain political allies, and hence the limitation of luxury expenditures was supposed to curb political competition. However, in contrast with this line of argumentation, legal restrictions on luxury were not limited to the members of the equestrian class but also applied to members of the senatorial class. Moreover, if that was the purpose, one would expect these laws to be strctly enforced, which was not the case.

1.2 Summary of our theory and implications

In contrast with extant explanations, our starting point is a rationalization of luxury expenditures as a signal of wealth. It is commonly acknowledged that luxury can function as a signal of social status and wealth (Veblen, 1899; Bretone, 1991; Weeber, 2003, p. 7).[3] Although in Rome class membership for senators and equestrians was officially linked to objective minimum wealth requirements[4] and displayed by special garments,[5] differences within each class were relevant. For example, the *census* of 14 BC documents that the richest Roman was Cneus Cornelius Lentullus, with an estimated patrimony of 400 million sesterces (Sen. *de ben.* 2.27; Svet. *Tib.* 49.1; PIR II C 1379.), that is, 400 times as much as the official minimum for senators. In order to distinguish themselves from poorer individuals, the wealthy might signal their position by making luxury expenditures that are so high as to be too expensive for the less wealthy to emulate. This argument holds true if wealth is not directly observable and is even more pertinent for those individuals, such as the equestrians, who ascended the social ladder by accumulating fortunes through trade rather than

[3] The literature on the implications of Veblen's idea for signaling and social status is extensive. For a review see part IV of Tilman (2003).

[4] The minimum wealth was one million sesterces for the senators and 400,000 sesterces for the equestrians. In addition, different career paths in public offices (*cursus honorum*) pertained to members of the two classes (Mratschek-Halfman, 1993).

[5] Senators wore the *latus clavus*—a broad purple band on the toga—while equestrians wore the *angustus clavus*—a pair of narrow purple slips on the toga—and a ring.

for the traditional landed aristocracy (the senatorial class). Wealth accumulated by long-distance trade or financial operations was less easily observable than wealth embedded in real estates in the vicinities of the capital. Thus, the need arose to signal wealth through expenditures that were reliably observable (Glazer and Konrad, 1996, p. 1019, describe a similar mechanism).

By nature, luxury expenditures made for signaling purposes are larger than those one would make for their mere consumption value: this can be seen as the cost of signaling. Conversely, signaling allows the wealthier part of the population to capture the indirect political and financial benefits that social status brings about (Bourdieu, 1999; Veblen, 1899), a benefit of signaling. If the group of individuals holding political power—including the power to restrict luxury—and the group of individuals holding wealth overlap, it might be in the interest of the ruling class to allow signaling, as the benefits in terms of social distinction outweigh the costs. However, the Roman expansion in the second century BC brought along new economic possibilities and opened the way for newcomers with little direct political power to improve their economic status. The timing and scope of the sumptuary laws are explained by the mismatch between the interests of the wealthy and the interests of the politically powerful. In particular, signaling becomes a losing game for the traditional aristocracy when the proportion of new rich grows sufficiently large (and wealthy) so that the landed aristocracy becomes relatively poor and hence has an interest in restricting signaling.

Such a hypothesis is also confirmed by the particular goods and activities limited under the laws. On the one hand, the limits concerning consumption of expensive imported products reveals an attempt to affect activities that were mostly economically controlled by the newcomers. On the other hand, the restrictions for candidates and public officials to accept invitations from individuals of lower social standing, introduced around the year 70 BC in the *lex Antia*, reveals an attempt to hinder the political influence of wealthy newcomers—an aspect already emphasized by Clemente (1981) and Bretone (1991). Banquets had a crucial role in signaling (van der Veen, 2001) as they gave the possibility to display wealth and the extent of one's social network as well as the occasion to build one: guests were invited in one's home for a long and exclusive dinner party during which one's personal wealth, powerful friends and exquisite taste were on display along with an expensive meal. Other forms of luxury expenditures—such as the funding of public games or the daily gifts to crowds of *clientes*—had a more general signaling value and were less directly related to the building of economic and political networks than dinner invitations were. Moreover, these expenditures benefited the masses and hence their restriction would have been dramatically unpopular.

Although sumptuary laws were advanced in the interest and with the support of the ruling class, they were patently disregarded. Moreover, at times opposition against these regulations mounted and resulted in outright abolition. In general, the sumptuary laws were already perceived by ancient authors (Cic. *Att.* 13.7; Tac. *ann.* 3.52-55; Aul. Gell. 20.23) as a typical example of legislative ineffectiveness. The frequent reenactment of similar laws and the fact that the maximum allowed expenses were subject to a tenfold increase in about 150 years suggests that the laws were adapted to the situation rather than the opposite. Nonetheless, such a state of affairs does not justify the claim advanced in modern literature (Wyetzner, 2002, p. 27), that the *leges sumptuariae* were *leges imperfectae*, that is, laws without sanctions. On the contrary, they contained penalties for transgressors. Macrobius states that in the case of the *lex Diddia* not only the host, but also his guests were subjected to a penalty (Macrob. *Sat.* 3.17.6).[6] Penalties most probably consisted of fines or confiscations (Suet. *Iul.*, 43.2). Nevertheless, such penalties were rarely inflicted.

Lack of enforcement can be explained by noting that a penalty, especially a monetary one, does not hinder but rather facilitates signaling. In fact, by emphasizing the violation, the penalty makes the signal even more visible to an even larger group of individuals. Along the same lines, it has been observed that luxury taxes might improve the signalling value of consumption of a given good (Rae, 1834, pp. 369-71; Velleman, 1900, p. 530). Thus, enforcement of sumptuary laws was a self-defeating policy: the very purpose of the sumptuary laws made it necessary to refrain from enforcing them. Therefore, the only way in which such laws could be hoped to affect behavior was through their expressive function of stigmatizing certain conducts (Cooter, 1998; McAdams, 2000). In fact, the expressive function does not require enforcement, but is based on the mere existence of the law, which is what we observe with respect to the sumptuary laws. Moreover, the need continually to restate the restrictions and adapt them to the going customs is at odds with the deterrent function of laws but is perfectly in line with their expressive function.

The timing, scope, lack of enforcement, and reiteration of sumptuary legislation may hence be interpreted as the attempt by (part of) the senatorial class to avoid an ever more competitive signaling game in which the benchmark was set by the emerging *nouveaux riches*. Eventually, when political power shifted away from the senatorial class to the *princeps* and his entourage at the turn of the millennium, political power and wealth were hence realigned, and sumptuary legislation ceased. The rise of sumptuary legislation occurred when the senatorial class lost economic power to the equestrians, its fall when they also lost political power to the *princeps*.

2 Historical background

2.1 Sources

The two main ancient sources from which to gather information on the sumptuary laws are a text from the second book of *Noctes Atticae* by Aulus Gellius (middle of the second century AD) and a text from the third book of the *Saturnalia* by Macrobius (mid fifth century AD). The latter text relies at least in part on the work of Gellius (Macrob. *Sat.* 3.17.3; see also Cameron, 1966). Note that

[6] *"Ut non soli qui prandia coenasve maiore sumptu fecissent, sed etiam qui ad ea vocitati essent atque omnino interfuissent, poenis legis tenerentur".*

both texts are centuries posterior to the laws they discuss. In addition to those texts, there are sporadic references to the *leges sumptuariae* in the letters of Cicero, the annals of Tacitus, the *Divus Augustus* by Svetonius and Ammianus Marcellinus' *Res gestae*.

2.2 Ancient economy and social classes

Before the Punic wars (264-146 BC) the Roman social structure was quite stable, displaying a substantial difference in wealth between the senatorial and the equestrian class. The wealth of the senators was based on real estate and agricultural production (Serrao, 2006). At this stage of socioeconomic development, only very few other possibilities to gain wealth existed; therefore, it was hardly possible for a member of the equestrian class to achieve an economic status similar to that of a noble landowner. Likewise, the income of the latter, although very stable, could not be easily increased. Senators commonly had several sources of income—the participation of senatorial families is attested in brick and wool industries (Mratschek-Halfman, 1993)—but the main source of their income remained agriculture. With the expansion of the empire, long-distance trade arose as a new source of income. Trade was perceived as very risky and it was forbidden to the senators (Tac. *ann.* 11.7.1), except for the sea-trade of own agricultural products. This situation gave the equestrian class the opportunity to engage in trade and gain fortunes comparable with those of the senators (Harris, 2007, pp. 515, 521, 524-526).

2.3 Food as luxury

Food consumption, as emphasized in archeology and cultural anthropology, is one of the most relevant factors revealing social stratification (Dietler 1998; Grammer 1998, Wiessner 1998; van der Veen, 2001). Food consumption can be used to emphasize social status and enhance social distinction. From this perspective, food consumption is perceived as a system of signs that serves to display social status. It is therefore not important what is consumed, but "the signal it gives to those who cannot consume it" (van der Veen, 2001, p. 408). Such a view implies that luxury expenditures occur only in societies with strong social stratification. Interestingly, whereas in such societies special occations are marked by the quality and foreignness of the food consumed, in societies with little social stratification usually it is the quantity of food that accompanies special occasions (van der Veen, 2001, p. 412).

Sumptuary regulations may be justified by the moral or political views prevailing at the time, but they are also seen as a strive to maintain the existing social hierarchy (van der Veen, 2001, p. 410). It follows that luxury foods are desired not only in light of their intrinsic value (phisycal satisfaction, better quality) as compared to basic foods, but also and foremost for the fact that they can only be obtained by a restricted number of individuals (van der Veen, 2001, pp. 406-407). In this context, food was often used to create relations of solidarity within the elite and of hierarchy and exclusion with the rest of society. Food consumption inherently highlights a contrast between host and guests, insiders and outsiders (van der Veen, 2003, p. 413).

2.4 Sumptuary laws

Sumptuary laws were not the only regulations limiting luxury during the Republic. Modern authors (Sauerwein, 1970; Slob, 1986; Balrusch, 1989; Bottiglieri, 2002) indicate the norms XII Tables (mid fifth century BC) relative to funeral expenses as an early sumptuary law. Also the *lex Metilia de fullonibus* in the end of the third century BC—regarding materials used for the whitening of clothes for candidates to public offices (Elster 2003, 203-204)—the *lex Publicia de cereis* in 209 BC—introducing limits on gifts offered to patrons during the *Saturnalia* festival (Elster 2003, 242-243)—and the *lex Oppia* in 215 BC—regulating women's jewelry, colorful clothing as well as the use of chariots in the capital and its immediate neighborhood (Elster 2003, 217-220, 294-296). However, these regulations may be explained with purposes other than the limitation of luxury as they pertain to religious activities (funerals), political campaigns (whitening of clothes) and demeanor of women (jewelry and clothing). All such activities have direct social relevance, might generate negative externalities and hence might call for regulation or acquire specific symbolic value which has little to do with signaling (van der Veen, 2003, p. 407). In contrast, the *leges cibariae* refer to eminently private behavior of only indirect social relevance. In addition, the latter laws were already perceived by ancient writers, such as Aulus Gellius and Macrobius, as a reaction to the spread of luxury.

Before the introduction of specific legislation on this matter, conspicuous consumption fell under the authority of the censors', whose task was to preserve old Roman habits (Elster, 2003, 337-338). As magistrates responsible for keeping the public morals (*regimen morum*), censors once deprived a senator, Cornelius Rufinus, of his status for possessing 10 *librae* (about 3.3 kg) of silver tableware (Liv. *per.* 14; Aul. Gell. 4.8.7 and 17.21.39; Val. Max. 2.9.4). At the beginning of the second century BC this mechanism of control seemed to be no longer sufficient and luxury became the object of specific legislation. Most of the laws were enacted with the full support of the senatorial class (Clemente, 1981, p. 8), which was also the main luxury consumer. Such regulations might therefore strike the observer as an effort by the Roman aristocracy to tie themselves to the must. Another characteristic feature of the *leges cibariae* puts nonetheless such assumption in question: the laws were commonly regarded as the typical example of laws without enforcement (Aul. Gell. 20.23).

The sumptuary laws regulated the expenditures as well as the number of guests and the kind of foods consumed during the banquets. We have information on nine laws, one *decretum* of the senate and one *decretum* of the censors of this kind. Strictly speaking, the oldest of these laws, the *lex Orchia de cenis*, issued between 182 and 181 BC,[7] had the form of a *plebiscitum* (Sandberg 1993);

[7] According to the traditional literature, the *lex Orchia* was issued in 181 BC (Lange, 1879, p. 671; Rotondi, 1912, p. 276). More recently Elster (2003, p. 388) has argued that the law was issued in 182 BC.

it was proposed by the tribune of the plebs C. Orchius following an initiative by the senate (*de senatu sententia*) (Festus, F 242; Macrob. *Sat.* 3.17.1-3). In one of his speaches Cato criticizes the attemts to abolish the law (Fest., *s.v. obsonitavere*, p. 220, 15-17 L: *Obsonitavere saepe obsonavere. Cato in suasione <ne> de lege Orchia derogaretur: "Qui antea obsonitavere, postea centenis obsonitavere. "*). Subsequently, the senate issued a decree that obliged the *principes civitatis* to make an oath in front of the consuls promising to limit expenses made for dinners organized in the occasion of the Megalesian Games, a festival in honor of the *Magna Mater*. The decree was followed by the *lex Fannia* (161 BC), voted by the *comitia* according to the proposal of the consul C. Fannius Strabo (Aul. Gell. 2.24.3-6; Macrob. *Sat.* 3.17.4-5). In 143 BC, the regulations of the *lex Fannia* were extended to the whole Italy by the *lex Didia* (Macrob. *Sat.* 3.17.6).

Similar regulations were reintroduced by the *lex Aemilia*, proposed in 115 BC by the consul M. Aemilius Scaurus (Plin. *Nat. hist.* 8.82.223; Aul. Gell. 2.24.12). Already in 103 BC a new regulation was needed. It was embedded in the *lex Licinia* (Aul. Gell. 2.24.7-10 and 15.8.1-2), proposed by P. Licinius Crassus Mucianus Dives (Aste, 1941; in contrast, Clemente, 1981, p. 7). The law was abolished in the year 97 BC by the plebeian tribune Duronius, who was consequently removed from the senate by the censors L. Valerius Flaccus and M. Antonius. In 89 BC, censors issued an edict fixing maximal prices for Greek wine (Plin. *Nat. hist.* 14.95).

The next sumptuary law, the *lex Cornelia*, was proposed in 81 BC by the dictator L. Cornelius Sulla, connected to the conservative senatorial fraction of the *optimates* (Aul. Gell. 2.24.11; Amm. 16.5.1; Macrob. *Sat.* 3.17.11-12).The law was replaced ten years later by the *lex Antia sumptuaria*, proposed by the plebeian tribune C. Antius around the year 70 BC. Macrobius informs us that the regulation was completely disregarded in practice (Macrob. *Sat.* 3.17.13).[8] In the year 55 BC, Pompeius and Crassus proposed another regulation of this kind (*rogatio Pompeia)*, but they withdrew the proposal following harsh opposition.

Only in 46 BC did Julius Caesar manage to introduce a new regulation on luxury (*lex Iulia Caesaris*; Cic. *Att.* 13.7.1; Cass. Dio. 43.25.1-2; Suet. *Iul.*, 43.2). The law is said to be the most strict of all Roman sumptuary laws, but nonetheless it did not succeed. The last sumptuary law was issued in 18 BC by Augustus (Aul. Gell. 2.24.14; Suet. *Aug.* 34.1). Tiberius put an end to sumptuary legislation in 22 AD when the *aedile* C. Bibulus requested the senate to issue a new regulation. The senate referred the question to the emperor, the latter answered in the negative, because of the contempt for former regulations of the same kind (Tac. *ann.* 3.52-54). It seems significant that most of the laws were issued during the republican period, whereas only the last one occurred during the Empire, but still at a time when Augustus retained, if only formally,

[8] "*Quam legem, quamvis esset optima, obstinatio tamen luxuriae et vitiorum firma concordia nullo abrogante inritam fecit. Illud tamen memorabile de Restione latore ipsius legis fertur, eum quoad vixit foris postea non recoenasse, ne testis fieret contemptae legis quam ipse bono publico pertulisset*"

republican institutions. In the following, we will analyze in details the scope of such regulations.

2.4.1 Restrictions on guests

The regulation of the expenses on dinners started with limits on the number of invited guests (*lex Orchia*) in 182 BC. Twenty years later, in 161 BC, the same issue was the object of a new regulation limiting the number of guests to maximum three on normal days and five on market days. Moreover, a new criterion, the social standing of guests, was added. Another similar regulation took place only after a century, when the *lex Antia* forbade magistrates and candidates to public offices to accept invitations from individuals of lower social standing. Characteristic is the new strategy, similar to that used in the *lex Diddia*, in which not only the organizer, but also the guests were discouraged from attending dinners. The number and social standing of guests were regulated again by the *lex Iulia Caesaris*, whose details are unfortunately unknown. These regulations tried to contain the newcomers' expansion of their social and political networks.

2.4.2 Restrictions on expenses

The *decretum* of the senate relative to the Megalesian Games put for the first time limits on banquet expenses. The nobles were obliged to an oath not to spend more than 120 asses on dinners. Subsequently, the *lex Fannia* prescribed a maximum of 100 asses during festivities, 30 asses on ten indicated days in a month, and 10 asses on regular days. Around sixty years later the strict limits of the *lex Fannia* were amended by the *lex Licinia*. The law introduced limits also on wedding receptions in the amount of 200 asses. Furthermore, it allowed to spent 100 asses on festivities and 30 asses on regular days.

More generous limits on expenses were introduced sixteen years later by the *lex Cornelia*. It was allowed to spend up to 300 sesterces (1 sesterce $= 2\frac{1}{2}$ asses) on festivities and 30 sesterces on regular days. After ten years, the *lex Antia sumptuaria* introduced new regulations of expenses. The last limitations on expenses are due to Augustus, allowing 1000 sesterces on weddings, 300 sesterces on festivities and 200 sesterces on regular days. Later he increased the maximal expenses on all festivities to 2000 sesterces.

To have an idea of how these limits compared with other prices, consider that the allowance of a Roman legionary at the time of the Punic wars amounted to 3 asses per day and it grew up to 10 asses per day around 14 AD (Alston 1994, p. 114). Since it is not probable that military wages would grow more slowly than the inflation, this comparison suggests that the growth of the limits on expenses might have been much larger than the inflation.[9]

[9] As a caveat, extant literature has it that the numbers given by ancient Roman authors have symbolic character. In particular Scheidel (1996) has argued that all numbers can be divided into three paterns of stylization: powers of ten, multiples of thirty and tenfold multiples of 400. The numbers appearing in context of the sumptuary laws belonge either to the first or

Table 1: Sumptuary laws in Ancient Rome

Law	Date	Limits on expenditures	Other restrictions	Source
Lex Orchia sumptuaria	182-181 BC		Number of invited guests	Festus 242, Schol. Cic. Bob. (Stangl) p. 141
Decretum of the senate on Megalesian Games	Before 161 BC	120 asses (during the Megalesian games)		Aul. Gell. 2.24
Lex Fannia sumptuaria	161 BC	100 asses (during festive days) 30 asses (specific days) 10 asses (regular days)		Macrob. *Sat.* 3.17 Athen. Deipnos. 6.274c (S 108) Aul. Gell. 2.24 Gell. 2.20 Plin. *Nat. hist.* 10.139
Lex Didia sumptuaria	143 BC		Extension of the Lex Fannia sumptuaria to the whole Italy; Extension of punishments to guests	Macrob. *Sat.* 3.17
Lex Aemilia sumptuaria	115 BC		Prohibitions of determined food products	Aul. Gell. 2.24 Plin. *Nat. hist.* 8.82.
Lex Licinia sumptuaria	103 BC	200 asses (weddings) 100 asses (festivities) 30 asses (regular days)	Quantity of meat and smoked meat	Aul. Gell. 2.24; 15.8
Censorial decree	89 BC		Maximum price on Greek wine (8 asses per 0.25 sextarius)	Plin. *Nat. hist.* 14.95
Lex Cornelia sumptuaria	81 BC	300 sesterces (festivities) 30 sesterces (regular days)	Maximum prices on luxury goods	Macrob. Sat. 3.17 Aul. Gell. 2.24 Amm. Marc. 16.5
Lex Antia sumptuaria	70-68 BC		Restriction on who could invite a magistrate to a banquet	Macrob. *Sat.* 3.17 Aul. Gell. 2.24
Lex Iulia Caesaris	46 BC			Cic, Att. 13.7 Cass. 43.25 Svet. *Div. Iul.* 43
Lex Iulia sumptuaria	18 BC	1000 sesterces (weddings) 300 sesterces (festivities) 200 sesterces (regular days)	Expences on banquets	Aul. Gell. 2.24 Svet. *Div. Aug.* 34.1

2.4.3 Restrictions on food and tableware

The *lex Fannia* limited for the first time consumption of certain kinds of foods. It generally banned poultry, except for one hen per day, and restricted the

to the second category with three exceptions: 120 asses which were conventionally allowed for the dinner during Megalesian Games, 200 asses allowed by the *lex Licinia* for weddings and 200 sesterces allowed by the *lex Iulia* on regular days, as well as 2000 sesterces allowed on festivities by Augustus. These considerations and the absence of hard evidence on price levels suggest some caution in the quantitative interpretation of such limits.

consumption of meat up to the value of 150 talents per year (1 talent is approximately equal to 27 kg.). Thirty years later, the *lex Licinia* established limits also on the consumption of smoked meat (around 1 kg per day) and salted fish (around 0.3 kg per day). There was nevertheless no limit with respect to fruit, vegetables and local wine.

Limits on the kind of food served at dinners were subsequently introduced by the *lex Aemilia* (Aul. Gell. 2.24.12).[10] The *decretum* of the censors from the year 89 BC fixed a maximal price on Greek wine at 8 asses for 0.25 *sextarius* (1 *sextarius* equals 0.521 liter; Frank, 1931). Other imported exotic delicacies were for the first time subject to regulation in 81 BC. The *lex Cornelia* did not put limits on quantity, but following the preceding decree prescribed maximum prices, which were supposed to be low enough as to make the import of these luxuries unprofitable and consequently limit their consumption. A *decretum* of the senate of around 150 BC limited the quantity of silverware that could be displayed on the occasion of Megalesian Games to 100 *librae* (about 33 kg.).

3 Formal analysis

In this section, we provide a formal model of signaling through luxury expenditures and address the questions proposed in the introduction. The model first describes luxury as a signal of wealth and then explains how a mismatch between the distribution of wealth and the distribution of political power between senators and equastrians triggers sumptuary legislation. Further, we address the question why the scope of sumptuary legislation was limited; finally, we explain why sumptuary laws were reiterated but not enforced.

The model describes the behavior of the upper class (senators and equestrians) as trying to signal wealth in order to establish profitable social connections. The establishment of connections yields political, economic or social advantages, which in turn depend on the wealth of the parties' involved; that is, there are benefits in connecting to rich individuals. Since wealth is not always easily observable individuals rely on luxury as a signal in order to figure out each other's wealth.

The model is based on some simplifying assumptions. As explained in the following, these assumptions make the analysis simpler without qualitatively affecting our results. A first simplification we make is to consider luxury as a purely worthless commodity, with no consumption value.[11] In fact, as is commonly accepted in sociological literature, luxury foods are those that are not essential for human nutrition, but are consumed exclusively to display status (van der Veen, 2003, pp. 405-406). That is to say that people only buy luxury goods in order to signal wealth and that, absent signaling, they would not spend on luxury. This is not to deny that there is an intrinsic value to luxury

[10]"*Praeter has leges Aemiliam quoque legem inuenimus, qua lege non sumptus cenarum, sed ciborum genus et modus praefinitus est.*"

[11]This assumption is common in the economic literature on signalling, see for instance Glazer and Konrad (1996).

goods (for instance, deriving from calories and good taste); to the contrary, we acknowledge this intrinsic value and simply normalize it to zero, as it is both unaffected by signaling behavior (does not depend on luxury expenditures) and likely to be quite homogeneous across the upper class (does not depend on wealth). Therefore, our main results would not change if we took the intrinsic value of luxury explicitly into account.

Second, the model is static in nature; thus, the interaction between individuals is modelled as a game in which each individual freely chooses his connections. In reality, political and economic ties tend to display some stickiness over time due to loyalty and family relationships, so that it is not inexpensive to alter one's relational network. In a dynamic version of the model, such switching costs would have to be considered. Moreover, over time social connections are likely to have an effect on wealth, which our statiuc analysis does not capture. Also this aspect should be taken into acount in a dynamic version of the model.

3.1 Model setting

In the model, we consider the upper class' efforts to establish a network of profitable social connections by signaling their wealth. The interaction between individuals from the upper class seeking to convey information about their wealth and members of the upper and lower class trying to infer such information is modelled as a standard signaling game (Spence, 1970; Cho and Kreps, 1987, pp. 208-214), from which we obtain a separating equilibrium.

3.1.1 Distribution of wealth and utility functions

The upper class consists of individuals with different levels of wealth who, without loss of generality, are otherwise identical. Later we will introduce a distinction within the upper class based on political power. The individual utility function of money $u(w)$ is concave, with $w \in [0, \infty)$, $u^{'} > 0$ (utility increases in wealth) and $u^{''} < 0$ (wealth gives decreasing marginal utility). There are n different types of individuals depending on their initial wealth w_i, with

$$w_1 < w_2 < ... < w_n$$

A fraction β_i of the population has wealth w_i; that is, an individual has a probability β_i of being of type w_i, with $\Sigma_{i=1}^{n} \beta_i = 1$. The distribution of wealth is common knowledge (that is, the probabilities β_i are known) but an individual wealth w_i is not observable by other individuals. Thus, wealthy individuals signal their wealth through an observable monetary expenditure $l \in [0, \infty)$ in luxury goods in order to affirm his social position. For simplicity, we normalize the intrinsic value of luxury to zero; hence we assume that wealthy individuals use luxury merely as a means to an end (luxury provides no other benefit). An individual i's payoff is given by a sum of the costs and benefits of luxury expenditures:

$$\Pi_i (l) = t (l) - c_i (l) \tag{1}$$

where $c_i(l)$ and $t(l)$ are the costs and benefits of signaling and are defined below in sections 3.1.2 and 3.1.3, respectively. An individual i chooses a level of expenditure in luxury l_i in order to maximize (1).

3.1.2 Costs of signaling

An individual i's payoff negatively depends on the disutility $c_i(l) \equiv u(w_i) - u(w_i - l)$ of spending l, with $c_i^{'}(l) = u^{'}(w_i - l)$. Since the utility of money is concave, it follows that

$$c_1^{'}(l) > c_2^{'}(l) > ... > c_n^{'}(l), \text{ for all } l$$

These inequalities imply that wealthier individuals face a lower marginal cost of signaling and guarantee single crossing; consequently, poorer individuals find it more cumbersome to spend on luxury than wealthier ones. Note that, since we have $c_i(l = 0) = 0$ for all i, the previous inequalities imply

$$c_1(l) > c_2(l) > ... > c_n(l), \text{ for } l > 0 \tag{2}$$

That is, at the same positive level of expenditure in luxury, the absolute burden is higher for poorer individuals.

3.1.3 Benefits of signaling

The social and economic benefits $t(l)$ that individuals from the upper class (senders of the signal) derive from signaling depends on the relationships they establish. For simplicity, we take $t(l)$ to be the number of social relationships (think of the number of political supporters or the number of business associates). In turn, the number of social relationships depends on what other individuals from the upper and the lower class (the receivers of the signal) believe about the sender's wealth. Receivers earn a benefit r_i from establishing a social relationship with one individual i belonging to the upper class, with

$$r_1 < r_2 < ... < r_n$$

and pay a cost equal to $t(l)$ due to overcrowding. We call $t(l)$ the support given to an individual spending l.

In expectation, the payoff of a representative receiver is the benefit he expects to receive from an individual spending l minus the overcrowding cost (that is the number of relationships an expenditure l induces): $\pi(l) = r(l) - t(l)$. If there are enough individuals in the population, it is reasonable to assume that receivers will join a network of relationships until the payoff is zero; that is, in equilibrium we must have $r(l) = t(l)$.

Receivers have unbiased priors β_i over each sender i's type. After observing a sender i's choice of l_i, the receivers' beliefs are $\beta(w|l_i)$. Thus, a representative receiver's expected benefit from establishing a new connection with a sender i spending l_i is given by

$$r(l_i) = \sum_{j=1}^{n} \beta(w_j|l_i) r_j = t(l_i)$$

3.2 Luxury as signaling

The problem that this game poses is to find levels l_i of expenditure in luxury for each sender i, which simultaneously make sense for the senders and the receivers, maximizing their payoffs and conveying reliable information. In order to find such levels of l_i, it is standard to adopt the notion of Perfect Bayesian Equilibrium (PBE).

In our framework, a PBE is characterized as follows:

1. Each sender i observes w_i and chooses to spend an amount l with probability $p_i(l)$ in luxury as to maximize his payoff in (1), given that the receivers observe l and will infer that he has wealth w_j with probability $\beta(w_j|l)$ (their beliefs). Thus, for all l such that $p_i(l) > 0$, sender i's choice of l maximizes

$$\Pi_i(l) = \sum_{j=1}^{n} \beta(w_j|l) r_j - c_i(l) \tag{3}$$

2. In turn, each receiver observes the expenditure in luxury l_i of individual i and rationally forms his belief (the probability that the individual has wealth w) according to his priors:

$$\beta(w|l_i) = \frac{p_i(l_i)\beta_i}{\sum_{j=1}^{n} p_j(l_i)\beta_j}$$

and selects t_i (the support that he wis willing to give individual i) so that

$$t_i = \sum_{j=1}^{n} \beta(w_j|l_i) r_j$$

The conditions above imply that, in any PBE, senders behave as receivers expect them to behave and that receivers do not expect any sender to take an action that is contrary to his own interest. There are many solutions to these types of games. In particular, we have equilibria in which all individuals invest the same amount in luxury—polling equilibria—equilibria in which individuals with different wealth invest different amounts—separating equilibria—and mixed cases—semi-separating equilibria. Those equilibria are supported not only by the equilibrium beliefs described above, but also by out-of-equilibrium beliefs, that is, a set of counterfactuals: what receivers think a sender would do if he were not to take the action he is actually taking. Such counterfactuals are important because the action of a sender can be rationalized only if one has an idea of the alternatives that the individual has, given the behavior of others. Applying the Universal Divinity criterion proposed by Banks and Sobel (1987), it is possible to exclude all those equilibria that collapse if receivers can predict which of the senders would be better off in an other equilibrium. In fact, only one equilibrium survives this test (Cho and Kreps, 1987, p. 210), which is a separating equilibrium having the following characteristics (Riley, 1979):

- Each sender i chooses a single level of expenditure in luxury l_i with probability 1 (and attaches probability 0 to any other level of expenditure), that is, there is a perfect correspondence between the level of an individual's wealth and his expenditure in luxury.

- Wealthier senders invest more in luxury:

$$l_1 < l_2 < ... < l_n$$

- The level of expenditure in luxury chosen by each sender is such that a poorer sender will not try to imitate a richer sender by mimicing his luxury expenditure and, vice versa, a richer sender will not try to imitate a poorer sender. That is, sender $i-1$ will not choose l_i, because this choice would be too expensive and reduce sender $i-1$'s payoff; likewise, sender i will not choose l_{i-1}, because this choice would reduce the benefit of signaling and hence sender i's payoff:[12]

$$\begin{array}{c} \Pi_{i-1}(l_{i-1}) \geq \Pi_{i-1}(l_i) \\ \Pi_i(l_i) \geq \Pi_i(l_{i-1}) \end{array} \tag{4}$$

- Given the above behavior, receivers can perfectly discriminate among wealthy senders by simply looking at what they invest in luxury and hence their beliefs are simply $\beta(w_i | l_i) = 1$ and $\beta(w_i | l \neq l_i) = 0$; it follows that a representative receiver expects to earn a benefit r_i when he establishes a social relationship with a sender i who spends l_i in luxury.

- Finally, given $r_i = t(l_i)$, wealthier individuals establish more profitable connections than poorer ones

$$t(l_1) < t(l_2) < ... < t(l_n)$$

  and receive larger payoffs than poorer ones:

$$\Pi_1(l_1) < \Pi_2(l_2) < ... < \Pi_n(l_n) \tag{5}$$

We will use this last result in the following section. The fact that wealthier individuals receive larger payoffs follows from the fact that, if this were not the case, they would find it advantageous to reduce their level of expenditure in luxury as to imitate poorer individuals and the equilibrium would break down. It goes without saying that the poorest individuals invest nothing in signalling.

[12] From the following inequalities on can obtaion (by substituting and rearranging) the following condition

$$u(w_{i-1} - l_{i-1}) - u(w_{i-1} - l_i) \geq u(w_i - l_{i-1}) - u(w_i - l_i)$$

which follows from the concavity of the utility function.

3.3 Sumptuary laws

The previous section describes the behavior of supporters and upper-class members in a framework in which the upper class are allowed to signal their wealth through expenditures in luxury. However, a subset of the upper class, the senatorial class, could either allow or try to disallow signaling by forbidding or restricting expenditures in luxury through a sumptuary law. Building on this framework we can ask the further question whether it is in the interest of the senatorial class to do so.

3.3.1 The senatorial class

The senatorial class is defined as a subset all individuals, that is, only some among the wealthy individuals are part of the ruling class. Moreover, from a static perspective, being part of the senatorial class only requires a minimum wealth of one million sesterces; thus, the senatorial class could be made of the wealthiest individuals, of relatively poor individuals (as compared to other members of the upper class) or of a mix. Obviously, from a dynamic perspective, on the one hand, acquiring wealth and supporters could be a way into the senatorial class; on the other hand, being member of the senatorial class could improve one's wealth in the next period. Our model does not consider these dynamic aspects.

The senatorial class can choose between two alternatives. Allowing signaling yields the equilibrium we have seen above. Disallowing signaling yields a different equilibrium, in which one cannot distinguish between wealthier and poorer individuals. For the sake of the argument, let us consider the extreme case in which with no signalling one cannot infer anything about another's wealth; then, without signalling social connections are established at random yielding an expected benefit of $\bar{t}$ to anyone. Thus, a sumptuary law leaves all individuals with the same number and quality of connections and, hence, the same expected payoff $\bar{\Pi}(l=0)=\bar{t}$, since they spend nothing on luxury. It is easy to see that from the decision of the senatorial class originate two proper subgames, thus the analysis carried out above is still valid here. Do members of the senatorial class prefer one or the other outcome? That is, would a sumptuary law be in their interest?

3.3.2 Effects of a sumptuary law

Let us consider a member j of the senatorial class. The individual j is indifferent between a sumptuary law and signaling if and only if

$$\bar{\Pi}(l=0)=\Pi_j(l_j)$$

From (5) we know that wealthier individuals obtain larger payoffs under signaling. Thus, all individuals who are wealthier than j prefer signaling, while all individuals that are poorer than j prefer the sumptuary law.[13]

[13]This argument can be related to Aghion and Hermalin (1990), showing that signalling in contracts can be detrimental for the parties.

3.3.3 Decisionmaking by the senatorial class

The decision of the senatorial class between allowing and forbidding signaling is modelled following the Median Voter Theorem (MVT: Black, 1948; Downs, 1957). According to the MVT, the ruling class adopts the decision that its median voter finds more advantageous. In our framework, the median voter is identified with the median senator, that is, the member of the senatorial class who divides the senatorial class in two equal halves, with equal numbers of members who are wealthier than the median senator and members who are poorer than him. For simplicity, we assume that there is an odd number of members in the senatorial class.

The logic behind the MVT applies in the following sense. If a decision is advantageous for the median voter and all members of the ruling class "before" him, then that decision has a majority of at least half of the members plus one. If instead, a decision is advantageous for the median voter and all members of the ruling class "after" than him, then again it has a majority of at least half of the members plus one. Thus, if preferences over a decision can be correlated with the way in which the distribution is divided in two by the median voter, then we can infer the decision of the ruling class by simply looking at the preference of the median voter. This is the case in our framework.

This framework does not assume that there is an actual simple-majority vote, but simply that the will of the majority will prevail through the political process. The results would not change if we replaced the notion of median voter with that of a member of the ruling class who is pivotal in some other sense.

In the previous section, we have seen that if the sumptuary law is more advantageous for an individual, than it is also advantageous for all individuals poorer than him. Conversely, if signaling is advantageous for an individual, than it is advantageous for all individuals wealthier than him. The MVT can be applied to our problem yielding that the ruling class will adopt a sumptuary law if and only if it is advantageous for the median senator m. Thus, a sumptuary law will be enacted if

$$\bar{\Pi}\left(l=0\right) > \Pi_m\left(l_m\right)$$

In contrast, signaling will not be forbidden—there will be no sumptuary law—if

$$\bar{\Pi}\left(l=0\right) \leq \Pi_m\left(l_m\right)$$

The decision whether to enact a sumptuary law depends on the wealth of the senatorial class and on its distribution. If the senatorial class is composed of the relatively wealthier individuals within the upper class, the median senator is likely to be wealthy enough to prefer signaling. Thus, there will not be any sumptuary law in this case. Otherwise, a sumptuary law will be enacted.

3.3.4 The timing of sumptuary legislation

With the expansion of the Roman power over the Mediterranean sea, new sources of income arose, such as long distance trade, which yielded greater but more volatile gains than the traditional sources of income of the senatorial class. This sources of income were officially forbidden for the senators and therefore mostly landed in the hands of the equestrians, leading to a change in the distribution of wealth.

This development affects the relative position of the senatorial class, which is now competing for supporters with wealthier individuals. However, the equestrians lack political power which they begin to gain at the end of the Republic. Thus, while the upper class is reshaped as regards the distribution of wealth, the ruling class remains identified with the senatorial class. Since some newcomers (*homines novi*) who climb the social ladder and manage to obtain public functions of some importance would automatically also acquire senatorial status, there is a change both from without and from within the senatorial class. Those new members of the senatorial class upset the previous equilibrium as much as equestrians do.

As a result, the median senator becomes poorer as compared with the new distribution of wealth. Even if his nominal wealth does not change, the presence of wealthier individuals makes him relatively poorer. One identifiable effect of the presence of wealthier equestrians is that the average benefit for supporters becomes larger and is now $\check{r} > \bar{r}$. This also implies that the payoff obtained when signaling is not allowed becomes $\check{\Pi}(l = 0) > \bar{\Pi}(l = 0)$. Thus, now it becomes convenient for the median senator to enact a sumptuary law and forbid signaling. The formal condition for the reversal being

$$\bar{\Pi}(l = 0) \leq \Pi_m(l_m) < \check{\Pi}(l = 0)$$

Note that $\Pi_m(l_m)$ does not change as equestrians enter the game, because the equilibrium of the game does not depend on the probability attached to each type nor is affected by the addition of wealthier types as long as there are enough supporters to clear all groups of supporters.

The effect of the rise of the equestrians is a reversal in the policy of the median senator and hence of the senatorial class. While earlier the senatorial class was better off signaling their wealth through luxury in order to distinguish themselves from the ranks of poorer individuals, now signaling distinguishes the senatorial class from wealthier individuals. In the latter scenario, forbidding signaling allows the senatorial class to capture an average payoff which is higher than what they would obtain through signaling. It also follows from these findings that sumptuary legislation stops being desirable if the political power is reallocated away from the senatorial class and in the hands the wealthiest individuals in the upper class, as was the case during the Principate.

3.3.5 The scope of sumptuary legislation

In the previous subsection, we have assumed that signaling can be forbidden by means of a sumptuary law. In reality this is a hard task, as it is difficult to identify all the dimensions in which signaling can take place. In our model, signaling is a simple monetary expenditure l; in fact, signaling might have multiple dimensions.

As we have emphasized in section 2, the *leges cibariae* were very selective in identifying the types of luxury expenditures to forbid. We have also observed that the regulated forms of luxury were usually those which were comparatively more expensive for the senatorial class than for the equestrian class. These observations can be formalized in the model by noting that the *leges cibariae* in fact also raised the cost of signaling $c_i(l)$ for the equestrians relative to the senators. It follows directly from the model that this policy changes the relative payoffs in equilibrium in (5), advancing the positions of senators relative to equestrians.

3.4 Enforcement

So far we have analyzed the sumptuary laws as if they were perfectly enforced. Here we relax this assumption and consider enforcement issues more in details. We restrict our attention to monetary penalties, as this is the type of penalties to which ancient writers seem to refer. An enforcement policy consists of a fine $f(l) > 0$, with $f(l = 0) = 0$ and $f' \geq 0$, and a probability of apprehension $0 < q \leq 1$. For simplicity, we assume that $q = 1$ and hence the expected fine equals the fine.

The fine is a monetary cost, triggered by the expenditure l, hence it enters the cost of signaling as an argument. With fines, the cost of signaling for the individual i becomes $c_i(l + f(l))$. Assuming that the fine is as observable as the expenditures in luxury, also the benefit of signaling can be rewritten as a function of the fine, $t(l + f(l))$. Since $f(l)$ is an increasing function, it is easy to see that an individual i can set l_i^e such that $l_i^e + f(l_i^e) = l_i$. This implies that, since the prospect of paying a fine signals wealth just as much as an expenditure in luxury, individuals can use fines as signals. They can reduce their expenditures in luxury accordingly in order to compensate for the payment of fines, without altering total expenditure and, hence, without altering the equilibrium. A sufficient condition for this result to obtain is that the minimum fine be continuous and increasing, starting from zero. Enforcement does not result in compliance.

In order to overcome this problem the fines should be set higher than an individual's equilibrium level of l and should be discrete rather than continuous. However, since the aim of the sumptuary law is to prevent signaling on the part of the wealthiest individuals, the fine should be higher than the highest expenditure in luxury that the wealthiest individual is willing to make. This is plausibly too high a fine to be applied.

Ineffective enforcement does not come without costs. Although there is no effect on behavior, there are cost attached to enforcing a rule, in terms of costs of apprehension and fining. Thus, if enforcement produces no behavioral effect it is not worth pursuing. This leave open only one possibility: relying on the expressive function of the sumptuary laws, that is, rely on the fact that, by stigmatizing the regulated behavior, the sumptuary laws will induce some compliance even without enforcement. Although there is some consensus on the fact that the sumptuary laws did not produce any effect at all, this observation might explain why they were reiterated so often without being enforced.

4 Conclusions

At the initial stage of the development of the Roman society, land was in hand of only one social class, whereas commercial activities were not well developed yet. As private property emerged, wealth was mostly embedded in real estate and held firmly by a class of noble landowners. Under these circumstances, distinction by means of conspicuous consumption was not too costly for the aristocracy. From the III century BC onwards new ways of socioeconomic development emerged. Slavery and the accumulation of commercial capital (Serrao, 2006) made it possible for newcomers to amass impressive fortunes.

These changes were mainly due to the booming economic activities following the Punic wars, which influenced also the Roman social structure. Next to land ownership, wars brought new possibilities to gain wealth and paved the way toward international trade. As a consequence, it became possible for the members of the equestrian class not only to catch up, but even to surpass the senators in wealth and luxury. Therefore, it became ever more expensive for the senators to distinguish themselves as a social class by means of luxury. Detaining still the political power, the members of the senatorial class were interested in putting an end to the vicious circle of conspicuous consumption as a signal of class membership. These laws, however, were self-defeating: enforcing them would have provided an even clearer signal of wealth, frustrating the purpose of the laws. Thus, they were reiterated over two centuries, trying to leverage their expressive value in stigmatizing excessive luxury expenditures. They did not succeed and ceased as political power concentrated in the hand of the emperors, away from the senatorial class. This shift in power paralleled the shift in wealth started two centuries earlier and realigned the interests of the wealthy with the interests of the politically powerful, putting an end to sumptuary legislation.

References

[1] Alston, R. (1994), Roman Military Pay from Caesar to Diocletian, *Journal of Roman Studies* 84, 113-123.

[2] Aghion, P., and Hermalin, B. (1990), Legal Restrictions on Private Contracts Can Enhance Efficiency, *Journal of Law, Economics and Organization* 6, 381-409.

[3] Aste, G. (1941), Autore e tempo della lex Licinia de sumptu minuendo, *Aevum* 15, 581-588.

[4] Bagwell, L.S., and Bernheim, B.D. (1996), Veblen Effects in a Theory of Conspicuous Consumption, *American Economic Review* 86, 349-373.

[5] Balrusch, E. (1989), *Regimen morum. Die Reglementierung des Privatlebens der Senatoren und Ritter in der römischen Republik und frühen Kaiserzeit*, München: Beck.

[6] Banks, J., and Sobel, J. (1987), Equilibrium Selection in Signaling Games, *Econometrica* 55, 647-662.

[7] Basmann, R., Molina, D.J., and Slottje, D.J. (1988), A Note on Measuring Veblens Theory of Conspicuous Consumption, *Review of Economics and Statistics* 70, 531-535.

[8] Black, D. (1948), On the Rationale of Group Decision-making, *Journal of Political Economy* 56, 23-34.

[9] Bottiglieri, A. (2002), *La legislazione sul lusso nella Roma repubblicana*, Napoli: Edizioni Scientifiche Italiane.

[10] Braun, O.L., and Wicklund, R.A. (1989), Psychological Antecedents of Conspicuous Consumption, *Journal of Economic Psychology* 10, 161-187.

[11] Bretone, M. (1991), Il tempo e la norma, in M. Pani (ed.), *Continuità e trasformazioni fra Repubblica e Principato. Istituzioni, politica, società*, Bari: Edipuglia.

[12] Bourdieu, P. (1984), *Distinction: A Social Critique of the Judgement of Taste*, London: Routledge & Kegan Paul.

[13] Cameron, A. (1966), The Date and Identity of Macrobius, *Journal of Roman Studies* 56, 25-38.

[14] Campbell, C. (1995), Conspicuous Confusion? A Critique of Veblen's Theory of Conspicuous Consumption, *Sociological Theory* 13, 37-47.

[15] Cho, I.K., and Kreps, D. (1987), Signaling Games and Stable Equilibria, *Quarterly Journal of Economics* 102, 179-221.

[16] Clemente, G. (1981), Le leggi sul lusso e la società romana tra III e II secolo A.C., in Giardina, A. and Schiavone, A. (eds.), *Società romana e produzione schiavisticha. Modelli etici, diritto e trasformazioni sociali*, Roma, Bari: Laterza, 1-14.

[17] Cogrossi, C. (1979), Preoccupazioni etniche nelle leggi di Augusto sulla "manumissio servorum"?, in Sordi, M. (ed.), *Conoscenze etniche e rapporti di convivenza nell 'antichità*, Milano: Vita e pensiero, 158-177.

[18] Cooter, R. D. (1998), Expressive Law and Economics, *Journal of Legal Studies* 27, 585-608.

[19] Dietler, M. (1998), Feasts and Commensal Politics in the Political Economy. Food, Power and Status in Prehistoric Europe, in Wiessner, P. and Schiefenhövel, W. (eds), *Food and the Status Quest. An Interdisciplinary Perspective*, Oxford: Berghahn Books, 87-125.

[20] Donhaue, J.F. (2003), Toward a Typology of Roman Public Feasting, *American Journal of Philology* 124, 423-441.

[21] Downs, A. (1957), *An Economic Theory of Democracy*, New York: Harper & Row.

[22] Elster, M. (2003), *Die Gesetze der mittleren römischen Republik. Text und Kommentar*, Darmstadt: Wissenschaftliche Buchgesellschaft.

[23] Frank, T. (1931), "Pliny, N.H. XIV, 95, quadrantal", 52 *American Journal of Philology*, 278.

[24] Friedman, D. (2005), Conspicuous Consumption Dynamics, *UCSC Working Paper #609.*

[25] Glazer, A. and Konrad, K. A. (1996), "A Signaling Explanation for Charity," 86 *American Economic Review*, 1019-1028.

[26] Goyal, S. (2007), *Connections*, Princeton: Princeton University Press.

[27] Grammer, K. (1998), Systems of Power. The Function and Evolution of Social Status, in Wiessner, P. and Schiefenhövel, W. (eds), *Food and the Status Quest. An Interdisciplinary Perspective*, Oxford: Berghahn Books, 69-85.

[28] Grignon, C. (2001), Commensality and Social Morphology: An Essay of Typology, in Scholliers, P. (ed.), *Food, Drink and Identity. Cooking, Eating and Drinking in Europe Since the Middle Ages*, Oxford, New York: Berg, 23-33.

[29] Harris, W. V. (2007), "The Late Republic", in Scheidel, W., Morris, I. and Saller, R., *The Cambridge Economic History of the Greco-Roman World*, Cambridge: Cambridge University Press, 511-539.

[30] Hopkins, E., and Kornienko, T. (2004), Running to Keep in the Same Place: Consumer Choice as a Game of Status, *American Economic Review* 94, 1085-1107.

[31] Lange, L. (1879), *Römische Alterthümer*, vol. II, Berlin: Weidmannsche Buchhandlung.

[32] Ljungqvist, L., and Uhlig, H. (2000), Tax Policy and Aggregate Demand Management under Catching up with the Jonses, *American Economic Review* 90, 356-366.

[33] Martschek-Halfman, S. (1993), *Divites et praepotentes. Reichtum und soziale Stellung in der Literatur der Prinzipatszeit*, Stuttgart: Steiner.

[34] McAdams, R. H. (2000), "A Focal Point Theory of Expressive Law," 86 *Virginia Law Review*, 1649-1729.

[35] Purcell, N. (1985), Wine and Wealth in Ancient Italy, *Journal of Roman Studies* 75, 1-19.

[36] Riley, G.J. (1979), Informational Equilibrium, *Econometrica* 47, 331-359.

[37] Rotondi, G. (1912 [1966]), *Leges publicae populi Romani*, Milan: Società editrice libraria [Hildesheim: G. Olms]

[38] Sandberg, K. (1993), The *concilium plebis* as a Legislative Body during the Republic, in Paananen, U., Heikkilä K., Sandberg, K., Savunen, L. and Vaahtera, J. (eds.) *Senatus Populusque Romanus. Studies in Roman Republican Legislation*, Helsinki: Helsinki University Press Printing House, 74-96.

[39] Sauerwein, I. (1970), *Die leges sumptuariae als römische Maßnahme gegen den Sittenverfall*, Hamburg: Urlaub.

[40] Savio, E. (1940), Intorno alle leggi suntuarie Romane, *Aevum* 14, 174-194.

[41] Scheidel, W. (1996), Finances, Figures and Fiction, *The Classical Quarterly* 46, 222-238.

[42] Serrao, F. (2006), *Diritto privato economia e società nella storia di Roma*, Napoli: Jovene.

[43] Slob, E. (1986), *Luxuria. Regelgeving en maatregelen van censoren ten tijde van de Romeinse Republiek*, Zutphen: De Walburg Pers.

[44] Tilman, R. (ed.) (2003), *The Legacy of Thorstein Veblen*, vol I., Chentenham: Edward Elgar.

[45] Veblen, T. (1899), *The Theory of the Leisure Class*, New York: Macmillan.

[46] Veen, M. van der (2003), When is food a luxury?, *World Archaeology* 34/3, 405-427.

[47] Velleman, A. (1900), Der Luxus in seinen Beziehungen zur Sozialökonomie, II. Teil: Die volkswirtschaftspolitische und finanzielle Behandlung der Luxuskonsumption, *Zeitschrift für die Gesammte Staatswissenschaft* 56(3), pp. 498-549.

[48] Venturini, C. (2004), Leges sumptuariae, *Index* 32, 355-380.

[49] Weeber, K.-W. (2003), *Luxus im Alten Rom. Die Schwelgerei, das süße Gift*, Darmstadt: Wissenschaftliche Buchgesellschaft.

[50] Wiessner, P. (1998), Introduction. Food, Status, Culture, and Nature, in Wiessner, P. and Schiefenhövel, W. (eds), *Food and the Status Quest. An Interdisciplinary Perspective*, Oxford: Berghahn Books, 1-18.

[51] Wyetzner, P. (2002), Sulla's Law on Prices and the Roman Definition of Luxury, in Aubert, J.-J. and Sirks, B. (eds.), *Speculum iuris. Roman Law as a Reflection of Social and Economic Life in Antiquity*, Ann Arbor: The University of Michigan Press, 15-33.

Sources

Aul. Gell.	Aulus Gellius, *Noctes Atticae*
Amm.	Ammianus Marcellinus, *Res gestae*
Cass. Dio.	Cassius Dio, Roman history
Cic. *Att.*	Cicero, *Epistulae ad Atticum*
Festus	Festus, *De verborum significatu*
Liv.	Livius, *Ab urbe condita*
Liv. *per.*	Livius, *Periochae*
Macrob. *Sat.*	Macrobius, *Saturnalia*
PIR	*Prosopographia Imperii Romani*
Plin. *Nat. hist.*	Plinius Maior, *Naturalis historia*
Sen. *de ben.*	Seneca Minor, *de beneficiis*
Suet. *Aug.*	Svetonius, *divus Augustus*
Suet. *Iul.*	Svetonius, *divus Iulius*
Svet. *Tib.*	Svetonius, *divus Tiberius*
Tac. *ann.*	Tacitus, *annales*
Val. Max.	Valerius Maximus, *Facta et dicta memorabilia*