

Industries and services within Rome

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Introduction

The City of Rome was an unusual place. Capital of the only world empire in European history, it was a huge city of marble in a largely agrarian society, attracting people, goods and ideas from all corners of its vast imperial hinterland. With over one million inhabitants around the time of Augustus, it was the largest city in European history until the rise of London around 1800, and of a size similar to the capitals of Song China and Tokugawa Japan.¹

The supply system of the City of Rome is already dealt with elsewhere in this volume, so here we concentrate on economic activity **in and immediately around** Rome itself. We shall mostly focus on imperial Rome, though we do occasionally cite material from the late Republic. What kind of occupational structure characterised such a pre-industrial imperial super-city? How did those million or more people gain a living, and how and where did they acquire what they needed or desired?

In what follows, we shall explore some of the main categories of economic activity **in and immediately around (within the capital and its close vicinity) imperial Rome**, i.e. (sub)urban agriculture, manufacture, construction, services, commerce and finance.² First, however, something needs to be said about one of the most striking features of the imperial capital's internal economy: the highly specialised nature of professional activity within it.

Specialisation

The degree of occupational specialisation has been a major feature of models of urbanisation ever since the archaeologist V. Gordon Childe famously included the presence of 'full-time specialist craftsmen, transport workers, merchants, officials and priests' among his ten criteria for distinguishing pre-modern cities from villages.³ Whereas in small rural societies almost anyone was able to make and grow almost anything, the densely populated environment of cities rendered a high degree of self-sufficiency impractical and encouraged the creation of myriad economic niches in which often high levels of skill were required. This feature can be traced in any of the major pre- (and post-) industrial cities and capitals.⁴

It is however a curious characteristic of Roman society that even comparatively small towns often show a remarkable degree of occupational specialisation. Thus we are aware of some 85 different trades in Pompeii, whereas for late antique Korykos in Asia Minor, some 110 (!) different professions **are on record**.⁵ By way of comparison, 101 different jobs **are on record (could be traced)** for 13th century Paris and over 99 for Florence in 1427.⁶ The high level of urbanisation (higher than in much of medieval and early modern Europe), especially in the Empire's core areas (Italy, North Africa, western Asia Minor) might well account for this phenomenon.⁷ Nowhere was this truer than in the imperial city of Rome itself with its one million-plus inhabitants, where we know of some 200 different trades, though more could no doubt be found in the city's extensive epigraphic records.⁸

Overgang...This specialisation can be explained by the capital's specific market conditions. The continuous massive demand for both ordinary commodities and luxury goods stimulated the development of a safe and stable market in the capital. The everyday needs of ordinary citizens and the more demanding spending patterns of the elite created a market in which an extremely large variety of products could be sold. Therefore, it was economically viable for artisans to focus on the production of very specific merchandise, while merchants were able to specialise in just a few commodities. Hence, nowhere in the Mediterranean world would a customer find such a concentration and diversity of specialized goods.⁹

There was, however, also a darker side to the exceptional level of occupational specialisation at Rome. The city had grown to its enormous Augustan size largely due to massive migration from mid-Republican times onwards. The excess labour generated by continuing migration created a large pool of unskilled workers ready to tap for construction-minded emperors (see *infra*), **(hier zou ik een nieuwe zin beginnen: Yet, ...)** yet in between such bouts of public building, and given the absence of organised social security (the grain dole, or *cura annonae*, only reached part of the population –resident Roman citizens- and hardly sufficed to support a family) many of the poorest created informal employment for themselves as a survival strategy.¹⁰ As in many third-world cities today 'the fantastic fragmentation of services and retail sales' at Rome therefore at least partly reflects a dysfunctional labour market, with many poor seeking refuge in informal street trading, selling low quantities of goods for low prices, mostly to equally poor customers.¹¹

Ultimately, it was the spending power of the urban-based landowning elites and the demand exercised by the mass of ordinary people gathered around them to service their needs that turned Roman cities into complex, pluriform urban economies, with the city of Rome as

the prime example. Thus, the occupational diversity serves as an important guide to the deeper economic structures of the imperial capital.

(Sub)urban agriculture

The reader might be surprised to find a section with the above title in a chapter on Rome's urban economy, but the fact is that in most pre-industrial cities, the separation between urban and rural production was not as clear-cut as is often supposed. Transport, especially over land, was slow and expensive, thus it made eminent sense to produce the most perishable commodities (e.g. fruit, certain vegetables, dairy products) in close vicinity to their main centre of consumption. Consequently, we commonly find a zone of intensive horticulture and dairy farming in the suburban areas and immediate hinterland of (larger) pre-industrial towns.¹² The Roman *suburbium* of the late Republic and early Empire, roughly defined as the area within 30 km of Rome (with a little extension up the Tiber valley) and bounded by the Monti Sabatini, Sabini and Tiburtini, the Alban Hills and the sea, fits this pattern perfectly.¹³ We have, for instance, evidence for the growing, within this region, of pears at Crustumerium (Pliny, *HN* 15.53; Columella, *RR* 5.10.18), mulberries, apples and figs at Tibur (Pliny, *HN* 15.97; Horace, *Satires* 2.4.70-1; Columella, *RR* 5.10.11), turnips at Rome (Pliny, *HN* 19.77), leeks at Ostia and Aricia (Pliny, *HN* 19.110; Martial 11.19; Columella, *RR* 10.139), cabbages, also at Aricia (Pliny, *HN* 19.140), onions at Tusculum (Pliny, *HN* 19.105), the keeping of boar (geen meervoud?) at Tusculum and Laurentum (Varro, *RR* 3.3.8; Martial 9.48, 10.45) and production of milk, also at Laurentum (Pliny, *Ep.* 2.17).¹⁴ These are but a few examples, and more could be found, but they suffice to convey the general impression.

Their proximity to the urban market, in which such goods would always fetch high prices, ensured suburban farmers of a steady return supply of manure, tools, labour, but above all, grain for consumption from the city, allowing them to specialise in high value cash crops.¹⁵ As mentioned earlier, the sheer size of Rome's urban market encouraged some highly specialised forms of production. Martial remarks on the roses grown at Rome in his day, stating that formerly these had to be imported from Egypt (6.80; also Varro, *RR* 1.16.3: violets and roses). Other sources point to the production of almonds (Pliny, *HN* 15.90), to beekeeping (Varro, *RR* 3.16.10-11), to aviaries for the provision of exotic birds (Varro, *RR* 3.3.7, 3.5.1-17), and especially, to the so-called *pastio villatica*, that is, for instance, the raising and fattening of thrushes, pigeons, peacocks, and the keeping of fishponds and snail enclosures, all to enliven elite dinner parties in the *urbs* (e.g. Pliny, *HN* 9.168, 10.45).¹⁶

Much (but certainly not all) of this market-oriented specialised agriculture, from cultivating fruit trees to fattening peacocks, will have taken place on the suburban villas of Rome's elite.¹⁷ However, agricultural activities in Rome were neither limited to the *suburbium*, nor exclusive to the upper classes. Like their counterparts in other pre-modern cities, many less well-off inhabitants of Rome kept their kitchen gardens, which Pliny the Elder describes as the poor man's *ager*, providing the owner with (part of) his or her daily sustenance (*HN* 19.20-1). At Pompeii, it appears that many smaller gardens were planted with fruit and nut trees and vines, while below the trees, cabbages, onions and herbs were cultivated.¹⁸ The situation at Rome is unlikely to have been different.¹⁹

Craftsmen, artisans and (work)shops

The task of just feeding, clothing and housing Rome's one million-plus inhabitants demanded huge efforts, not only from the surrounding imperial hinterland, which supplied much of the raw material (foodstuffs, wool, stone, wood, metals), but also, and especially, from the great numbers of craftsmen and workers who turned the raw materials into finished products.

Consequently, Rome was a hub of constant, relentless and frenetic activity. 'There is no place in this city', the poet Martial complained, 'where a poor man can either think or rest: one's life is denied by the clamour of schoolmasters in the morning, corn-grinders (*pistores*) at night and the hammers of bronze-smiths day and night' (12.57.3-6). His colleague Juvenal likewise despaired over the constant rattling of carts through Rome's narrow streets, providing the city with countless loads of wood (fir and pine) and Ligurian marble and numerous other products (*Satires* 3.232ff.).

Most urban artisanal production and distribution was small-scale, even in as large a city as Rome. Yet its combined economic impact was far from negligible. Roads bustled with business activities. Many streets were lined with shops and workshops, which were a very visible and familiar part of the urban commercial life. The numerous inscriptions of Roman artisans working in the famous Via Sacra testify to this thriving business life.²⁰ Most of the commodities manufactured and sold in these shops were probably destined for local use and consumption.

The workshop indeed was the typical Roman production unit, larger 'factory-style' enterprises being few and far between, and often state-sponsored (such as the *officinae* 'between the temples of Flora and Quirinus' mentioned by Vitruvius 7.9.4, which processed cinnabar ore or *minium*, the product of state-contracted mining operations in Spain, to produce

‘Pompeian red’ paint). Workshops producing the same type of goods would often cluster in specific neighbourhoods (*vici*), as in many medieval and early modern European cities. Thus in Rome we find, for instance, the *vicus materiarius* (neighbourhood of the carpenters; *CIL* 6.975), the *vicus lorarius* (harness-makers; 9796), the *vicus ...ionum ferrariarum* (iron workers; 9185), the *vicus turarius* (perfumers; Horace, *Ep.* 1.20.1; Porphyrio, *ad loc.*), the *scalae anulariae* (stairs of the ring-makers; Suetonius, *Aug.* 72.1), and so forth.²¹

Roman shops were easily recognizable by their wide entrances. Part of the merchandize was displayed at the store fronts on counters (Pliny, *HN* 10.121), where customers could handle the goods (Horace, *Carm.* 1.4.71-74). A wider selection could be found inside (Martial 9.59). Most of the shops were part of large houses and had upper levels and back rooms that were used as storage room and dwellings. The modern separation of living and working space clearly did not apply to Roman business life.²²

Signs, frescoes and small texts often indicated the identity and specialisation of the artisan. On the front of a Pompeian house, the walls on either side of the doorway are decorated with frescoes representing Venus and Mercury as protective gods and several work activities, such as wool combing and felt making. The owner too is depicted and below is written ‘Verecundus.’ This man is probably to be identified with M. Vecilius Verecundus, who in a Pompeian graffito is called ‘a textile-dealer.’²³ The woman portrayed selling clothing in a room with several shelves and textiles, was most likely his wife. The image the frescoes convey of simultaneously producing and selling no doubt revealed the most recurrent combination of business activities in Roman shops.²⁴ Moreover, Verecundus’ wife selling the workshop’s produce highlights another common feature of these small shops: production was consigned to slaves, who worked together with and/or under the supervision of their master, while he and his wife were responsible for commercializing the goods.²⁵

From a consideration of the basic structure of workshops we now turn to the goods produced and sold there, and the people who made them. We only have space to discuss some paradigmatic examples and we have therefore opted for food and textiles. Food processing and textile production both rank high among pre-industrial urban economic activities, as both were vital to the survival of the urban populace. Since grain was the staple food of ancient Rome, we turn to bakers first.

Bread could easily be baked at home, in a small earthen crock or oven.²⁶ However, as this process demanded a continuously burning fire, it was quite unsafe, as well as relatively expensive in terms of fuel, for each family to bake their own bread, especially in a fire-prone urban environment such as Rome. Hence, baking was mostly entrusted to the *pistores* or

bakers. They were probably organised in at least two *collegia* (*AE* 1994, 197 and *CIL* 6.1002: *corpus pistorum*; 22: *corpus pistorum siliginiariorum*). Part of the *pistores*' responsibility was processing the grain destined for the emperor's corn distributions.

So far, no bakeries have been discovered in Rome (they may have been situated close to the large *horrea* where the grain was stored), but we can safely assume that bakers' workshops were comparable to the ones found in Ostia. Today, eight bakeries have been identified there, yet on the basis of a calculation of the production rate of the millstones found scattered throughout the town, Bakker assumes there must have been at least twenty.²⁷ Given that during Ostia's heyday the population amounted to some 40,000 inhabitants, theoretically one bakery would fulfil the needs of 2,000 people. If we can justifiably apply this ratio to Rome, the capital would have numbered at least 500 bakeries.

The jurist Gaius informs us about the required production rate of a baker working for the *annona*: 'Trajan constituted that if a Latin would run a bakery in the city for three years, which processed each day not less than 100 *modii* [875 kg] of grain, he would attain the Roman citizenship' (*Inst.* 1.34). According to the Elder Pliny, a single *modius* will yield about 16 to 27 Roman pounds of bread, depending on the origin and quality of the grain (Pliny, *HN* 18.88-89). These figures correspond to a yield between 5.3 and 9 kg of bread, which implies that a bakery's output may have fluctuated between half a ton and a ton of bread a day. Thus, 500 bakeries may have provided the capital with a daily ration of 250-500 tons of bread. These figures need not surprise us: if 500 bakeries each processed 875 kg of grain per day, this would make 437,500 kg for all bakeries together. Since 1 kg of grain provides about 3040 kCal²⁸, the grain processed in the bakeries would amount to 1,330,000,000 kCal. Average minimum subsistence needs for Romans can be set at 2082 kCal per person/day, which implies that, at maximum, the bakeries alone were able to feed approximately 640,000 Romans.²⁹ As no one dines on bread alone, the figures for the total amount of kCal and daily bread production in the capital may well be a reasonable guesstimate for a population of over one million people.

Next, we turn to textile manufacture, which in pre-industrial society came second only to the production **and distribution** of food.³⁰ Producing plain clothes was quite a laborious process: spinning, washing, carding and weaving required significant effort (for literary descriptions, see Catullus 64.311-19 and Ovid, *Met.* 6.53-128). Additionally, clothes could be dyed. Since this process involved the use of urine and soda (Pliny, *HN* 28.174; 35.196 and 198), fulling was entrusted to specialist *fullones*.³¹

We can safely assume that, in the city of Rome as elsewhere in the Empire, some unknown part of an individual family's needs were covered by spinning and weaving in the household (for spinning and weaving on urban and rural *villae* see Vergil, *Georg.* 4.347; Martial 9.65.11; Columella, *RR* 12.3.6 and *Digest* 33.7.16.2 where the *mulieres lanificae* are considered to belong to the *instrumentum* of an estate for inheritance purposes). Both freeborn and slave women engaged in textile production, which doubtlessly was a crucial part of the female household economy (Livy 1.57.9; Tibullus 1.3.83 ff.; 1.6.77).

Obviously, not every family was able to produce all the clothing its members needed and many will have had to buy clothes (Dio Chrysostom, *Or.* 7.105). Since evidence for the manufacture of textiles from raw material for sale in the urban market is extremely scanty at Rome (only three inscriptions mention weavers: *CIL* 6.6361-6362 and 9290)³², it seems likely that plain cloth was brought to the capital from Italy and the provinces and subsequently processed in shops.³³ Several authors mention the import of the famous black wool from Spain (Martial 12.65; Strabo 3.2.6) or linen from Egypt (Cicero, *Rab. Post.* 40). Those cloths were then manufactured into clothing by the numerous *lanarii* (*CIL* 6.9489-9494), *sagarii* (6.9864-9872) and *vestiarii* (6.9961-9978 and 28629-28635) active in the city. It seems likely however that Rome also imported some finished clothing. This, at least, is suggested by the presence of a textile merchant from Gaul (6.9962: *vestiarius Narbonensis*) in the capital. Furthermore, a few cities in the Roman empire such as Patavium, Tarsus and Laodicea were renowned for their high quality textiles (Strabo 5.1.7; Dio Chrysostom, *Or.* 34.21-3).³⁴ Those **luxury** clothes could no doubt be found on the Roman market too.

Merchants-producers, who most likely ran their own workshop, also specialized in niche markets **of the textile industry**, such as slippers (*CIL* 6.9284 and 9404; Martial 2.17.3), women's shoes (6.9897), boots (6.9225), fur clothing (6.9431), feather-embroidered clothes (6.7411 and 9813) or silk (6.9678 and 9890) More luxurious, gold-embroidered clothes could be bought from an *aurivestrix* (6.9214).

Construction

Construction was probably the largest sector of production in imperial Rome, and one of the most visible. Its remains still surround the modern visitor to the city. The emperor Augustus famously boasted of having turned Rome from a city of brick into a city of marble (Suetonius, *Aug.* 28), and later emperors followed suit. Public construction, in Rome, was truly an imperial affair, and the city profited from publicly sponsored building programmes the likes

of which were not seen again until the early modern era or later. No expense was spared, either in terms of funds, manpower, or materials, in providing the imperial capital with its aqueducts, bath houses, temples, fora, palaces and monuments, many of which belonged to the largest or most splendid of their kind.

A good illustration of the extent of imperial outlay on public building, and its impact on the city's economy is provided by the Baths of Caracalla, the largest of their kind when completed in AD 217. Their total cost of construction has been estimated as the equivalent of 120-140,000 tons of wheat, enough to feed 500,000 people for a year, i.e. about half the capital's entire population.³⁵ During the main period of construction, between AD 212-216, some 16,000 people in and around Rome are likely to have been engaged in work connected to the Baths.³⁶ If we factor in other public construction projects taking place in Rome and its surroundings during Caracalla's reign (among others, the baths at *Castra Albana*, the *Porticus Severi*, and repairs to buildings on the Palatine, the *Horti Sallustiani*, the Pantheon, the Praetorian Camp and the Tiber wharves and banks), the total number of individuals active in the building trade or professions connected to it rises to between 20,000-30,000, or about 15-24 per cent of all adult males in and around the city.³⁷ Given that episodic large-scale public building projects were a structural feature of early and high imperial Rome (think, for instance, of Nero's Golden House, the Colosseum, Domitian's *Domus Augustana*, Trajan's Baths and Market and so forth), it seems justified to project the Severan situation back in time, and argue that this level of employment in the building trades is in the right order of magnitude for first and second century AD Rome as well. This, in turn, suggests the continuous presence in the capital of a large and flexible workforce, both skilled and unskilled, that could be mobilised quickly and effectively (the Baths of Caracalla were built in just six years time).³⁸ Who were these people, what did their work consist of, and how were they organised?

During the Republic, public building work was farmed out by the censors to private contractors (*redemptores*) who functioned as, and were in fact organised as, the *publicani* who farmed Rome's taxes in her provinces. Upon winning a contract, they subcontracted the work to professional builders, who either had their own staff of specialist (slave) craftsmen and/or sublet the work still further.³⁹ Under the Principate, public building, both construction and repair, increasingly came to be controlled by the imperial bureaucracy. From Augustus onwards, maintenance of the roads, the water system (aqueducts) and public buildings and shrines was the responsibility of permanent boards, each under a curator (the *curatores viarum*, *aquarum* and *operum publicorum* respectively). Eventually, and possibly by Domitian, a permanent office for public construction was established, the *opera Caesaris*. To

each of these boards or offices, a permanent corps of public skilled or semi-skilled slave workmen, and an office staff of freedman or freeborn administrators was attached.⁴⁰ Thus, the *curator aquarum* had under his command a corps of 700 public slaves, among whom could be found various classes of workmen: *vilici* (overseers), *castellarii* (reservoir keepers), *cicitores* (inspectors), *silicarii* (pavers), *tectores* (plasterers) and others (*alii opifices*). These were deployed at the water reservoirs and fountains in the various regions of the city. The office staff or *apparitores* (attendants) consisted of *architecti*, *scribae* (secretaries), *librarii* (clerks), *accensi* (assistants) and *preaones* (heralds) (Frontinus, *Aq.* 98.3-99.1, 100, 117, 119).⁴¹

It is clear, however, that despite their permanent workforce the imperial boards and offices could by no means avoid contracting out part or even most of their work (see e.g. Frontinus, *Aq.* 119: it is up to the *curator aquarum* to decide what part of the work is to be carried out by public contractors and what by his own workforce; see also *Aq.* 124). This was either because the amount of work exceeded the capabilities of the curator's own workforce or because the work required specialist skills not found among the curator's staff, or both. The *curatores* could then turn to numerous specialised contractors (*redemptores*), each of whom would usually take on some (small) part of the building work planned.⁴² These were men such as L. Paquedius Festus, who was a *redemptor operum Caesar(is) et puplicorum* (sic) and worked on the Claudian aqueduct (*CIL* 14.3530) or Ti. Claudius Celadus, who was a *redemptor intestinarius*, arranging for the carpentry needed to complete a building (*AE* 1925, 87). Contractors such as these are likely to have employed their own small *familia* of skilled workers, but would probably often have sublet part of the work again to skilled builders and their teams, the sort of men that could be found, for instance, in the *collegium fabrorum tignuariorum*, the association of builders.⁴³ It has been plausibly suggested that the membership of this *collegium*, about 1300 men strong, consisted of master builders (freedman or freeborn), each of whom headed a small team or 'firm' of 8-10 skilled (slave) craftsmen or even fewer, and would hire extra day labourers as and when the job required (though of course *redemptores* and *curatores* could hire temporary unskilled labour as well).⁴⁴ Other *collegia* associated with the building trade at Rome, such as the *marmorarii* (marble workers), the *fabri ferrarii* (blacksmiths), the *mensores aedificiorum* (building surveyors) and the *pavimentarii* (pavement layers), may have been organised along similar lines.⁴⁵ Both written evidence (Vitruvius 7.1.3, 7.3.10; Statius, *Silv.* 4.3.40-58) and archaeological research on individual buildings would suggest that construction workers generally worked in small groups or gangs, often termed *decuria* (though this need not imply that all gangs consisted of

just ten men), an observation that reinforces the picture just sketched of organisation and deployment of construction workers via *collegia*.⁴⁶

The rationale behind all this contracting and subcontracting, and the small size of permanent (slave) workforces kept by the various leading actors at different levels of the construction ‘hierarchy’ was of course that public building projects, though often large-scale, were episodic in nature. It made little economic sense for *curatores*, contractors or builders to keep on a very large, permanent workforce that could only be employed to its full extent occasionally, especially not one consisting of slaves, who needed to be housed, fed and clothed on a permanent basis. Moreover, contractors or master builders could never predict in advance how much labour they were going to need for the next project in which they became involved. Better then to have a flexible system that would quickly enable one to hire the necessary manpower and expertise when and where this was needed. It is this line of argument that has also led scholars to the conclusion that the bulk of unskilled labour on major building projects was in fact provided by the mass of poor free inhabitants of Rome (occasionally supplemented by convicts), who were hired as temporary wage-labourers on building sites. Keeping on permanent large slave gangs for the purpose would simply have been too expensive, and would have kept the *plebs* out of work (the *locus classicus* here is Suetonius, *Vesp.* 18).⁴⁷

Private building continued unabated, occasioned by both the insatiable demand for ever more luxurious living spaces among Rome’s elite and the sheer necessity of providing cheap housing for the urban masses, often in *insulae* (blocks of flats) let by elite owners at great profit. Here, contracting flourished as well, and much the same system of subletting probably operated (see Cicero, *ad Att.* 12.18.1, 12.36.2 on contracting for private projects, *ad Att.* 12.32.2 and 15.26.4 on *insulae* Cicero owned; see also *Digest* 45.1.137.3 (Venuleius) on the construction of *insulae*).⁴⁸

Services⁴⁹

In dealing with the mass of service-providers in the capital, we need to distinguish between those operating on the free market and those associated with large households. As the living standards of wealthy Romans required flocks of servants, many service activities were in fact carried out by their *familiae* of slaves and freedmen (Juvenal, *Satires* 1.64-68; Martial 3.82). Joshel claims that in Rome, nearly 75 per cent of the slaves with an occupational title can be linked to a wealthy household. The famous *columbarium* of the Statilii lists nearly 120 slaves

working in the household as teachers, architects, surveyors, doctors, midwives, barbers, hairdressers, masseurs, oilers, readers, entertainers, bath attendants, child nurses, bodyguards, room and table servants, cooks, provisioners, caretakers, gardeners, social organizers, animal tenders, runners and bearers, financial agents, administrators, secretaries and copyists (*CIL* 6.6243-6381).⁵⁰

The same occupational diversity is visible in the inscriptions of service providers working outside the household. It is obviously impossible here to cover in its entirety the wide range of economic activities that can be qualified as services, but we shall mention some of the most important sectors.

We can start with Juvenal's famous attack on Greek influences on Roman *mores*, where he provides a quick list of Greek trades, many of which can easily be considered as services: 'Grammarians, orators, geometricians, painters, masseurs, soothsayers, rope-dancers, doctors or magicians: a hungry Greek claims to be a professional in every science. Let him go to hell!' (*Satires* 3.76-78). Education (Plutarch, *Cato the Elder* 22.5; Vergil, *Aeneid* 6.847-853; Horace, *Ep.* 2.1.156-160)⁵¹, theatre and entertainment⁵², and body care and medicine (Pliny, *HN* 29.6.12-21; Cicero, *Off.* 1.42.151;)⁵³ were indeed all important sectors of the urban service economy. In the leisure sector, special mention should be made of the Roman libraries and bath houses. Although officially belonging to the emperor's private property, the use of libraries was perceived as a public service. The personnel, mainly slaves and freedmen belonging to the *familia Caesaris*, were responsible for arranging volumes, acquiring new books, making and checking copies and assisting readers.⁵⁴ However, the most famous public service, offered by successive emperors from Nero to Constantine, were (misschien beter "was providing") the thermal baths (*thermae*).⁵⁵ Apparently conceived as wellness centres, baths also included gardens, libraries, sports halls, rooms for body care and various shops offering food and drinks. Roman literature offers a few descriptions of the variety of service-providers and paints a vivid picture of swarming stokers, water pourers, anointers, masseurs, trainers, doctors, hawkers and cloakroom attendants (Juvenal, *Satires* 6.419-423; Seneca, *Ep. Mor.* 56.1-2; for an inscription of a cloak attendant in the Baths of Caracalla, see *CIL* 6.9232).

We next turn to (overgang wat bruusk) the various services providing the capital's inhabitants with food and drinks, viz. the pubs and bars. A small Roman pub usually consisted of three guest facilities, that is, an L-shaped stone or sometimes wooden counter, often stuccoed and decorated with paintings and marble, a small eating area, and a latrine. Behind the counter, food and drinks were stored on shelves and in additional niches. Wine was served straight from the *amphorae*, stacked horizontally in large racks. Dry foodstuffs like vegetables,

grain, beans, nuts and dried fruit, were conserved in large *dolia* (storage vats), which were encased in the counter. The proprietor and his assistants used a stove and other cooking facilities to serve hot meals like soup, porridge and meat (Suetonius, *Tib.* 34; *id.*, *Nero* 16; Cassius Dio 60.6.7 and 62.14.2). Larger and more luxurious taverns were equipped with dining rooms, gardens, bedrooms and a separate kitchen (*CIL* 4. 807 advertises the presence of a *triclinium* in a Pompeian bar).

In Roman literature, inns had a bad reputation: as the upper classes usually relied on family and friends to find lodgings, inns were said to attract poor and even untrustworthy tenants (Juvenal, *Satires* 8.171; Petronius, *Sat.* 95-98; Ammianus Marcellinus 14.6.25 for poor people in the capital spending the night drinking in pubs). Consequently, there was no need for luxurious accommodation or quality food and drinks (Pliny, *HN* 9.154: parasites; Martial 5.70: stools and chairs instead of couches to recline on; *CIL* 4.4957: ‘no chamber-pot’; 4.3948: wine of poor quality).⁵⁶

The actual number of pubs and hotels spread throughout the city is difficult to gauge. However, by making use of the Pompeian excavations, a guesstimate is possible. A recent count of Pompeian inns and taverns lists 94 *tabernae* offering food and drinks, and 51 businesses serving overnight guests.⁵⁷ Assuming a comparable distribution in the 40 per cent of the city that has not yet been excavated, Pompeii should have numbered approximately 156 *tabernae* and 83 houses offering lodgings for a population of some 15,000 people.⁵⁸ If the same population-businesses-ratio did apply to Rome, the capital might have counted at least 10,000 *tabernae* and 5,500 hotels. To contemporary city dwellers, a number of one *taberna* for every 100 citizens may sound astonishingly high, but this compares rather well to sixteenth- and seventeenth-century figures for English cities, which often had one alehouse per 12-20 households or 90-110 inhabitants.⁵⁹

We should also take into account the economic role of prostitution in bars and brothels (*lupanaria*), especially in the Subura district (Seneca, *Contr.* 1.2; Martial 1.34.8; 6.66.1-2).⁶⁰ Prices advertised in Pompeian graffiti seem very modest: everyday prostitutes offered their services for only a few asses (*CIL* 4.4023-4024; 4259; Martial 2.53).⁶¹ The majority of these prostitutes were slaves (Juvenal, *Satires* 3.62-66). Prices of more high-class prostitutes are scarcely known, as they no doubt did not have to advertise publicly on the city walls (Juvenal, *Satires* 3.132-136; the price of half a pound of gold for Tharsia’s services, mentioned in *Hist. Apoll. Tyr.* 33 is clearly fictitious). We have also no indication of the amount of money prostitutes were allowed to keep for themselves and the part they had to give to the brothel owner or pimp (*leno*; for the pimp’s proverbial greed, see Dio Chrysostom, *Or.* 7.133 and 77-

78.4). Yet, McGinn estimates that prostitutes were able to earn about 10 sesterces a day, which amounts to twice the daily wage of a non-skilled labourer.⁶²

Finally, we take a look at the providers of ‘dirty’ services, that is, the collectors of garbage and refuse. Services connected to the hygiene of a capital the size of imperial Rome were evidently of great importance, because the population produced about 40 to 50 tons of body waste each day.⁶³ As Roman law forbade throwing excrement and corpses out into the street (*Digest* 43.10.1.5, but see Juvenal, *Satires* 1.131), waste management was a vital service.

A clear distinction between the public and private sector needs to be made. Rome provided basic public facilities such as latrines (*foricae*) and a sewer system, the upkeep of which clearly was an imperial duty.⁶⁴

Yet, keeping the capital clean was also partly a private business. Private sewers and latrines were obviously to be cleansed by the owner’s slaves (Petronius, *Sat.* 27.3-5 and 47.5; Martial 3.82; *Digest* 43.23.1-2). Human excrement was gathered by *stercorarii* (*Digest* 33.7.12.10). A graffito from Herculaneum mentions 11 asses as the price for emptying a cesspit (*CIL* 4.10606). The manure was then sold to farmers and used as fertilizer in urban and suburban agriculture (Columella, *RR* 10.84). Urine, necessary for dyeing textiles, was collected by fullers, who placed small vessels in the street. (Martial 6.93.1).

Commerce

Her (The?) Italian hinterland and provinces provided Rome with most of the products she needed, either as raw materials or as finished commodities. This constant stream of goods turned Rome into a hub of commercial activity. Countless merchants ensured the supply of consumer goods: more than 25 per cent of all Roman inscriptions mentioning a *negotiator* were found in the capital and by adding the Ostian documents, this figure increases to 35 per cent. Inscriptions set up by *mercatores* display a similar pattern: 25 per cent are from Rome, while Ostia adds another 30 per cent.⁶⁵

The sale of goods took place on various markets, which often specialised in particular foodstuffs. There were a number of open-air markets, such as the *forum boarium* (cattle market: Ovid, *Fast.* 6.477-478; Livy 10.23.3; 21.62.3; 22.57.6; 24.10.7), *holitorium* (vegetable market; Varro, *Ling. Lat.* 5.146), *piscarium* (fish market; Livy 26.27.2; Varro, *Ling. Lat.* 5.146-7; Plautus, *Curc.* 474), *suarium* (pork market; *CIL* 6.3728 and 9631) and *vinarium* (wine market; *CIL* 6.9181-9182). Distribution was also facilitated by the construction of

market halls and arcades, such as the *basilica Iulia* (Cassius Dio 56.27; Suetonius, *Aug.* 29; Pliny, *Ep.* 6.33; Suetonius, *Cal.* 37) and the *macellum magnum*, built by Nero (CIL 6.1648 and 9183; Cassius Dio 62.18). Furthermore, merchandise was sold in warehouses and storage rooms which functioned as markets, such as the *horrea Galbana* (CIL 6.9801, 33886 and 33906), *horrea Agrippiana* (CIL 6.9972 and 10026) and *horrea Nervae* (CIL 6.33747).

Secondly, goods were sold at auctions (*ad hastam*). Auctions were used for the sale of slaves, real estate, bulk commodities and small samples of luxury items. Depending on what exactly was being sold and the possibilities for display of the goods, auctions could be held in various settings. A simple street corner would suffice for small sales (Horace, *Ep.* 1.7.63-6; Juvenal, *Satires* 7.9-11), while bulk commodities were usually offered up for sale on the forum, at markets or in auction halls (Cicero, *Leg. Agr.* 1.7; Quintilian 25).⁶⁶

Lastly, no doubt temporary stalls were set up daily, providing passers-by with a variety of goods and services. Ambulant hawkers usually sold snacks and refreshments in public places (*Digest* 14.3.5. 9) or offered their goods door-to-door (*Digest* 14.3.5.4). Seneca was much bothered by the constant shouting of ‘the cake-seller with his various cries, the sausage-man, the confectioner, and all the food-sellers hawking their wares’ at the public baths (*Ep. Mor.* 56). Another lively picture of Roman hawkers is given by Martial, who claims that a certain Caecilius is no better than ‘such a thing as strolls around in the quarters beyond the Tiber, and barter pale-coloured sulphur matches for pieces of glass; such a one as offers boiled peas and beans to the idle crowd; a master and keeper of snakes; or a common slave of the salt-meat-sellers; or a hoarse-voiced cook carrying around smoking sausages in steaming shops’ (1.41).

Yet, Rome was not only a major consumer city, but also functioned as an export and transit centre. Merchants supplying the Roman market evidently tried to find a decent return cargo and ensured both the export of Roman and Italian merchandise, and the re-export of surplus imports. The transport activities of shippers working for the governmental grain supply system (*annona*) were crucial here. Since the trip to the capital was more or less subsidised by the government, and since shippers had to return for the next cargo of Baetican oil or African grain anyway, they might as well take a load of goods for sale back with them. If necessary, shippers even traded in bricks and tiles, which were easy to pile up and increased the ship’s stability. Although provincial demand for building materials would never be sufficiently high to justify specialisation, shipping bricks and tiles from the capital as an (additional) retour cargo was a quick and easy solution to fill the hold. Profits would be modest, but not negligible. Thus, major concentrations of bricks produced in the workshops

around Rome are found in the Spanish, Gallic and African provinces, especially in large provincial ports such as Carthage and Tarraco.⁶⁷ The same ‘spontaneous redistribution’ mechanism explains why large quantities of western commodities destined for Rome were re-exported to *annona*-provinces.⁶⁸

Finance

Rome was the single largest financial centre in the Western Mediterranean. Over half the inscriptions of Roman money-changers, bankers and money-lenders were found in the capital.⁶⁹ The various banking services were necessary to support the city’s thriving business life. Indeed, Cicero was well aware of the bankers’ crucial role in the Roman economy, as he claims that they were enjoying favours from ‘all orders’ (*omnes ordines*)(*Off.* 3.8)

In Rome, professional bankers worked in little shops or at trestle tables. Many were situated in the immediate vicinity of the forum, close to the capital’s commercial centre.⁷⁰ Others set up their business wherever clients required their services. We can trace bankers operating on the markets (*macella*) or the *fora* where specific merchandise was sold, like the *forum vinarium* or the *forum boarium*.⁷¹ No doubt they were lending and collecting money and offering credit to merchants and buyers. Bankers, however, were not only dealing with professional businessmen. They also engaged in assaying coins, money exchange and the reception of deposits.

We are rather well informed about the actual functioning of Roman banking. Evidence on interest rates on loans is quite abundant: rates fluctuated between 4 and 12 per cent per year. Since bankers were supposed to make a living, we can safely assume that interests on loans were mostly higher than those on deposits. Each client had a separate deposit account (*ratio*), on which all operations were recorded. However, bankers did not keep up-to-date records nor sent their clients information on the accounts. One had to pay a visit to the banker, who would then calculate the balances. Overdraft was possible, until one of the parties – the banker or his client – decided to close the account.⁷²

Conclusion

‘The occupations and trades in the city, if all are considered, are many and of all kinds, and some of them are very profitable (...) But it is not easy to name them all separately on account of their multitude, and equally because that would be out of place here.’ (Dio Chrysostom, *Or.* 7.109-10).

Like many of his contemporaries, and like modern historians, the Greek orator was struck by the wide range of professions that could be found in the cities of the Roman Empire. Yet their sheer variety meant that Dio could not find space to discuss all of them in his oration, and we have found ourselves in similar straits in this chapter. The examples we have given, however, attest to the remarkable occupational diversity that once existed in the imperial capital. In this respect, Rome was in principal no different from other pre-industrial capitals. What was different, at Rome, was the scale. If Rome was indeed the ultimate consumer city, it required a complex urban economy consisting of myriad different activities to sustain that unprecedented level of consumption.

Further reading

Joshel 1992 is the essential survey of occupations at Rome, mainly based on epigraphic sources. See also Treggiari 1980. For occupational specialisation see Petrikovits 1981, Wissemann 1984. On suburban agriculture see Morley 1996, chapter 4. MacMahon and Price eds. 2005 on crafts, trades and services and the structures of the workplace. On the building industry see Anderson 1997, DeLaine 2000. For finance and banking, see Andreau 1999.

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We would like to thank Koen Verboven for his help with some aspects of this chapter.

¹ Scheidel 2007, 79.

² We shall not deal systematically with associations of craftsmen and traders (*collegia*), for which see Liu, this volume.

³ In his classic paper on ‘The Urban Revolution’, see Childe 1950, 11.

⁴ Britnell 1991; Clark 2000, 14-15 and 180-184.

⁵ Though it should be noted that sometimes individuals are recorded as having carried out several professions. For the data see Hopkins 1978, 72 ff; Jongman 1991, 185-6.

⁶ Treggiari 1980, 56, with reference to de Lespinasse and Bonnardot 1879 and Herlihy 1971.

⁷ See Jongman 2003 for this argument in the context of a discussion of the textile industry in Roman Italy.

⁸ Treggiari 1980, 56; Jongman 2001, 1079-81.

⁹ See Petrikovits 1981; Wissemann 1984. Some examples of very specialised crafts and services: *CIL* 6.8173: *faber intestinarius* (specialist in finish carpentry and interior woodwork); 8756-8757: *corintharius* (worker in Corinthian brass); 9812: *pistor similaginarius* (baker using the finest wheat flour); 9104: *abietarius* (dealer in fir); 9141: *alipilus* (a slave who plucked the hair from the armpits of the bathers); 9143: *anatarius* (dealer in ducks); 9210-9211: *brattearius* (dealer in thin plates of metal and gold-leaves); 9214: *aurivestrix* (woman making and selling gold-decorated luxury clothing); 9402: *faber ocularius* (specialist in inserting artificial eyes in statues); 9443: *glutiniarius* (glue-boiler); 9456: *harundinarius* (dealer in limed twigs); 9476: *iatriptia* (ointment-doctor); 9611-9613: *mulomedicus* (mule-doctor); 9793: *pictor quadrigularius* (painter of little four-horse teams); 9810: *pistor magnarius pepsianus* (dealer in bread that promotes digestion); 9819: *plutearius* (maker of balustrades); 9935: *tibiarius* (flute-maker); 9943-9949: *topiarius* (ornamental gardener); 9981: *vestiplicus* (clothes-folder or ironer).

¹⁰ Holleran (forthcoming) develops this argument in considerable detail. We would like to thank Claire Holleran for making her paper available to us prior to publication.

¹¹ Hopkins 1978, 107, n. 19 for the quote; Holleran (forthcoming) discusses comparative evidence as well.

¹² This observation is based on Von Thünen’s famous model of ‘The Isolated State,’ see Hall 1966, applied to Rome by Morley 1991.

¹³ See Morley 1996, Map 2.

¹⁴ Morley 1996, 83-90, 107 lists and discusses in detail all the evidence, of which only a fraction is cited here. Note that the fact that a certain product is attested as having been produced at a certain locality does not necessarily imply that that locality *specialised* in the production of the commodity in question.

¹⁵ Morley 1996, 86.

¹⁶ On *pastio villatica* and its profitability in the vicinity of Rome see Rinkewitz 1984, 13-20.

¹⁷ Morley 1996, 86-90. See Cato, *Agr.* 7.1, 8.2; Varro, *RR* 1.16.3.

¹⁸ Jashemski 2008. The shape of the roots can still be studied because casts were made of them by filling up the spaces they left in the earth, in a manner similar to the way cement casts were made by filling up the cavities left by decayed human corpses.

¹⁹ Holleran, forthcoming argues that the pressure on land in imperial Rome ‘rendered gardens the preserve of the wealthy’ yet the existence of small kitchen gardens of the poor and horticultural activities in many overcrowded pre-industrial and modern third world cities would suggest otherwise, see Horden and Purcell 2000, 110-12 for ancient and medieval comparative evidence.

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- ²⁰ Inscriptions mention goldsmiths (*CIL* 6.9207), engravers (9221), garland-dealers (9283), metal-casters (9418-9419), jewelers (9434-9435), pearl-dealers (9546-9549), wholesale traders (9662), dealers in paint and unguents (9795), flute-makers (9935) and honey-dealers (*AE* 1971, 42).
- ²¹ Frank 1940, 223, n. 15 lists the evidence.
- ²² DeLaine 2005 for shops in Ostia; MacMahon 2005(a) for Britain; Pirson 2008 for Pompeii.
- ²³ *CIL* 4.3130 (*M(arcus) Vecilius / Verecund(us) vestiar(ius)*).
- ²⁴ Clarke 2003, 105-112.
- ²⁵ Another example of this distribution of labour can be found in the production and selling of fish sauces by A. Umbricius Scaurus. See Curtis 1984-1986.
- ²⁶ Cubberly 1995.
- ²⁷ Bakker 2001.
- ²⁸ Prell 1997, 204.
- ²⁹ An estimated minimum subsistence ration of 250 kg wheat equivalent per person/year, for which see Hopkins 1980, 118, translates into 2082.192 kCal per day.
- ³⁰ Horden and Purcell 2000, 359-61; Jongman 2000, 188-9.
- ³¹ Bradley 2002; Flohr 2003.
- ³² See Jongman 1991, 163-5 for a Pompeian parallel.
- ³³ Jongman 1991, 157.
- ³⁴ Rougé 1977.
- ³⁵ DeLaine 1997, 219; Jongman 2001, 1079-81.
- ³⁶ DeLaine 1997, 193, 196: that is, the 13,100 men required in the peak year 213 (referred to by Graham, this volume) but with 1600 decorators required at a later stage of the building process, 500 skilled quarry workers producing *selce* required at the early stages and extra ox-cart drivers needed in 212 added.
- ³⁷ DeLaine 1997, 197-201. DeLaine 2000, 132, 135-6 estimates 20,000 on average for Rome, but suggests higher estimates are plausible.
- ³⁸ We should of course allow for an element of geographically mobile skilled craftsmen, travelling from city to city and project to project.
- ³⁹ Anderson 1997, 79-88, 95-107.
- ⁴⁰ Anderson 1997, 88-95.
- ⁴¹ Brunt 1980, 84-6; Anderson 1997, 92-5.
- ⁴² See e.g. *Digest* 50.10.2.1, where it is stated that the *curator operum publicorum* transacts business with the *redemptores* on behalf of the state, implying that this was a normal course of affairs.
- ⁴³ Anderson 1997, 88-95, 108-18. Some *redemptores* might themselves have been members of *collegia*, as was Ti. Claudius Onesimus, *redemptor operum Caesaris* and *magister quinquennalis* of the *collegium fabrorum tignuariorum*, see *CIL* 6.9034.
- ⁴⁴ DeLaine 1997, 199-200, 202-5; DeLaine 2000, 121, 132; See also Brunt 1980, 84-8.
- ⁴⁵ It should be noted that not all (master) craftsmen need to have been members of *collegia*. Some no doubt operated autonomously.
- ⁴⁶ DeLaine 1997, 172-3, 204; Lancaster 1998 on the construction of Trajan's Markets.
- ⁴⁷ Brunt 1980; Anderson 1997, 117-18, 119-27; DeLaine 1997, 201.

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- ⁴⁸ Anderson 1997, 75-9, 95-112; DeLaine 2000, 123-8.
- ⁴⁹ Definitions of this sector are tricky, as it is so diverse. In a glossary of economic terms provided on its website, *The Economist* newspaper defines the broad category of services as ‘products of economic activity that you can’t drop on your foot’, which seems as good a description as any.
(<http://www.economist.com/research/economics/alphabetic.cfm?term=services#services>).
- ⁵⁰ Joshel 1992, 74-5.
- ⁵¹ Bonner 1977.
- ⁵² Easterling & Hall 2002.
- ⁵³ Kudlien 1986; Nutton 2004.
- ⁵⁴ Houston 2002.
- ⁵⁵ Heinz 1983; Nielsen 1990; DeLaine 1997.
- ⁵⁶ MacMahon 2005(b); DeFelice 2008.
- ⁵⁷ DeFelice 2008, 483, n. 1.
- ⁵⁸ For the population of Roman cities, see Duncan-Jones 1982, 259-287.
- ⁵⁹ Clark 1983, 39-63.
- ⁶⁰ Flemming 1999.
- ⁶¹ McGinn 2004.
- ⁶² McGinn 2004, 50-52.
- ⁶³ Scobie 1986, 413.
- ⁶⁴ Pliny the Younger states that the public sewer system was cleansed by convicted criminals, see *Ep.* 10.32.2.
- ⁶⁵ Verboven 2004 and Broekaert 2010.
- ⁶⁶ García Morcillo 2005.
- ⁶⁷ Tomber 1987; Rico 1995.
- ⁶⁸ This might account for the concentration of Spanish olive oil *amphorae* found in the Alexandrian harbour. See Lyding Will 1983.
- ⁶⁹ Andreau 1999, 35.
- ⁷⁰ Andreau 1987.
- ⁷¹ *CIL* 6.9183 (*argentarius macelli magni*); 9181 (*argentarius de foro vinario*); 1035 (*argentarii et negotiantes boarii huius loci qui invehent*).
- ⁷² Andreau 1999, 36-45 and 90-99.