

POLITICS AND SOCIETY IN INDIA AND THE GLOBAL SOUTH

**WAGE EARNERS  
IN INDIA  
1500–1900**

**Regional  
Approaches in an  
International Context**

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**JAN LUCASSEN  
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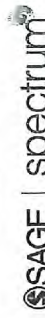


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# WAGES, INCOME AND LIVING STANDARDS IN WESTERN INDIA, 1510–1570\*

Hélder Carvalho, Paulo Teodoro de Matos  
and Jan Lucassen

## 1.1. INTRODUCTION

This chapter examines wage and income development and its effects on living standards in 16th-century Western India, for which there were no wages known prior to those recorded in the *Ain-i-Akbari* (c. 1595). The 16th century is particularly important because India underwent a great institutional renaissance during the rule of the Sur dynasty, and later under Akbar, the greatest of all Mughal emperors. It is also the century in which intensive maritime contacts between Europe and Asia were established.

\* Project Local and European Wages in the Portuguese Indian Ocean, 1500–1650: New Sources and Analytical Tools (LEW-PIO). Acknowledgments: Artur Teodoro de Matos for making available to us the transcription of manuscripts for Kannur, Calicut, Kochi and Chaul for the 1570s; Diogo Paiva for his dedicated research assistance with the data set and maps; for the clarifications and comments of Luís Filipe Thomaz, Susana Münch Miranda and Roger Lee de Jesus (also for making available transcribed sources of the Biblioteca da Ajuda, Lisbon); Pim de Zwart for providing grain wages for the 17th-century data in Table 1.12; José Gonçalves Dias for the assistance in some statistical procedures and Lisa Carvalho Silva for language editing. The authors acknowledge the financial support from the Gulbenkian Foundation for funding received under grant number 229548. Hélder Carvalho acknowledges funding from F.C.T., I.P. (UIDB/00057/2020).

- Seshan, R. (2012). *Trade and politics on the Coromandel Coast, seventeenth and early eighteenth centuries*. Primus Books.
- Shingaonkar, V. S. (2010). *Eighteenth-century Deccan. Cultural history of the Peshwas*. Aryan Books International.
- Siddiqi, N. A. (1970). *Land revenue administration under the Mughals (1700–1750)*. Bombay: Aligarh Muslim University/Asia Publishing House.
- Singh, D. (1990). *The state, landlords and peasants: Rajasthan in the 18th century*. Manohar.
- Sivramkrishna, S. (2009). Ascertaining living standards in erstwhile Mysore, southern India, from Francis Buchanan's journey of 1800–01: An empirical contribution to the great divergence debate. *Journal of the Economic and Social History of the Orient*, 52, 695–733.
- Studer, R. (2008). India and the Great Divergence: Assessing the efficiency of grain markets in eighteenth- and nineteenth-century India. *Journal of Economic History*, 68(2), 393–437.
- Studer, R. (2015). *The Great Divergence reconsidered: Europe, India, and the rise to global economic power*. Cambridge University Press.
- Subrahmanyam, S. (1994). Introduction. In Sanjay Subrahmanyam (Ed.), *Money and the market in India 1100–1700* (pp. 1–56). Oxford University Press.
- Temple, R. C. (Ed.). (1911). *The diaries of Streyghnam Master, 1675–1680*. John Murray.
- Thelen, E. (2019). Archival research in the Rajasthani zone, February–March 2019. <https://lawforms.hypotheses.org/tag/maharaja-man-singh-pustak-prakash-shodh-kendra>
- Tumbe, C. (2012). Migration persistence across twentieth century India. *Migration and Development*, 1(1), 87–112.
- Tumbe, C. (2018). *India moving: A history of migration*. Penguin.
- van Schendel, W. (1992). *Francis Buchanan in Southeast Bengal (1798)*. Manohar.
- Vink, M. (2003). 'The world's oldest trade': Dutch slavery and slave trade in the Indian Ocean in the seventeenth century. *Journal of World History*, 14(2), 131–177.
- Wallerstein, I. (1974–1989). *The modern world system* (3 vols). Academic Press.
- Weber, M. (2019). *Economy and society: A new translation*. Harvard University Press.
- Yazdani, K. (2017). *India, modernity and the Great Divergence: Mysore and Gujarat (17th to 19th C.)*. Brill.



This study aims to integrate Western India in a wider global discussion about welfare and living standards in South Asia, the so-called Great Divergence debate. We will demonstrate that there was an increase in both nominal and real wages of unskilled Indian labourers along the Indian West Coast from 1510 to 1570 (particularly around the middle of the 16th century), and we will link this to the epochal change that took place in India in that period.

After a thorough discussion of hitherto unused Portuguese-language sources regarding the economical and occupational structure of Portuguese India, and of the appropriate methodologies to adopt (grouping the available data into three sub-periods: 1510–1526, 1527–1544 and 1545–1570), we will proceed as follows: first, we will analyse the degree of integration of labour market by comparing prices and wages in three different Western Indian coastal regions: the North-West, the Centre and the South-West. Second, we will assess the nominal and real wages paid to both European and non-European workers in the period 1510–1570. This assessment will concentrate on daily income for the sub-periods of 1510–1526 and 1545–1570, for which we have the most data, and it will also attempt to include the intermediate years 1527–1544, for which evidence is very wanting (though not totally absent). In a concluding section, we will try to frame the results, both regional and temporal, in a broader framework of Indian socio-economic history, as well as India's place in global history (Allen, 2007; Allen et al., 2012; Broadberry & Gupta, 2006; Broadberry et al., 2015; Parthasarathi, 2011).

## 1.2. INDIA IN THE GREAT DIVERGENCE DEBATE

Until recently, wage developments in India before the 1590s were a total enigma. Except for some scattered data for Delhi in the 14th century, none other seemed to have been preserved. That is disappointing for two reasons. First, it complicates and even impedes the writing of the history of income and well-being in those three centuries in which the Delhi Sultanate reached its apogee and subsequently declined, the Sur dynasty rose and, finally, the Mughal Empire was restored. Second, it nearly excludes India from the debates on economic performance in Eurasia as a whole (Allen, 2007, p. 13). Fortunately, there is hope now with new research and debate, at least for the 16th century, as a plethora of Portuguese sources, so far untapped, appears to be available.

A first article using these sources was published by de Matos and Lucassen (2019).<sup>1</sup> It discussed wages in Kannur on the southwestern coast of India in the years 1516–1517 and demonstrates the feasibility of the topic. It is also the first attempt to bridge an enormous gap of nearly three centuries between 1300 and the 1590s. Most of all, this study demonstrated low wage levels around 1300 in Northern India and again around 1510 in Southern India, thus suggesting that wages must have risen substantially in the course of the 16th century until the 1590s.

Most participants in the Great Divergence debate consider that India's economic and cultural achievements at that time were on a par with Western Europe and China. Recent research suggests that this lasted for about a century. That was when the Great Divergence may have happened as far as India was concerned. In a recent article, de Zwart and Lucassen (2020) argued for a decline of the income paid to Indian workers in Northern India and a subsequent decrease in living standards from the late 17th century onwards. It implies that India had already started to diverge from Europe before the 18th century.

Our study goes back to the 16th century by asking when this long period of high achievements started: was it just before the end of the 16th century, thus reducing India's golden age to barely one century? Or did it start much earlier, spanning one-and-a-half century or more? So far, the debate has been hindered by the paucity of sources making it difficult for scholars experienced in providing solid sets of quantitative data to support their claims. This chapter will attempt to overcome this obstacle by providing and analysing a new data set based on Portuguese evidence for a number of locations in Western coastal India. The data set covers a wide area, from north to south, and has been constructed in such a way that it can be linked to earlier and later sources, thus allowing comparisons across time and space.

## 1.3. THE ESTADO DA INDIA

Our sources relate to 11 Portuguese settlements that were established on the western coast of India between 1503 (Kochi) and 1559 (Daman) in what was known as the Portuguese 'state of India' (*Estado da Índia*). Following Vasco da Gama's first landing in southern India in 1498, the Portuguese navigators gradually moved northwards and acquired commercial and territorial



concessions from Indian sovereigns or—increasingly—took them by force. This way, they established fortified settlements in Kochi, Kannur, Kollam and Calicut (between 1503 and 1513), Goa (1510) and then in what they were going to call the 'northern province': Chaul, Bassein (respectively south and north of modern Mumbai), and Daman and Diu (between 1521 and 1559).

Portugal had officially established its state of India by 1505, with D. Francisco de Almeida appointed as the first viceroy (1505–1509). These settlements then became part of a unified political structure under the Portuguese crown, though their Indian contemporaries may not have seen it in that Luso-centric way. For Portugal, the *Estado* extended far beyond India, which will be our focal point. Apart from the East African coast, and following Portugal's conquest of Goa (1510), Melaka (1511) and Hormuz (1515) during the government of Afonso de Albuquerque

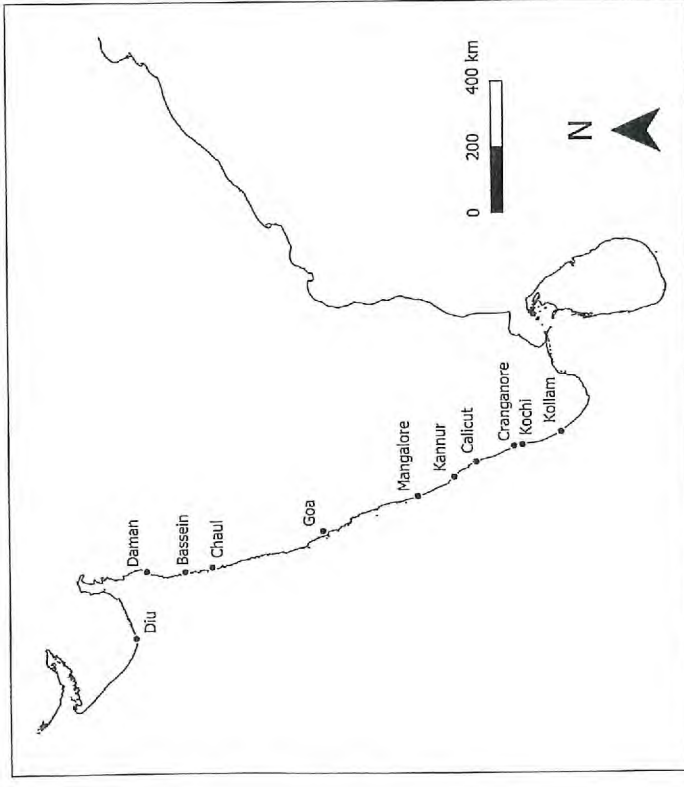


Figure 1.1 Main Portuguese Settlements in Western India, c. 1560<sup>2</sup>

Source: The authors.

(1509–1515), the Portuguese also established themselves in Ceylon (1597), Timor (1596) and Macao in China (1557). For practical reasons, we end this chapter in 1570, by which time, according to Sanjay Subrahmanyam ([1993]2012, p. 113), 'the Portuguese had a presence in almost every region of Asia that they were to penetrate in the course of the sixteenth and seventeenth centuries.'<sup>3</sup>

The term 'state of India' was perhaps something of a misnomer. As Luís Filipe Thomaz ([1994]1998, p. 207) notes, it was not a well-defined geographic area, being essentially a group of 'territories, properties and establishments of the Portuguese Crown in [the region of] the Indian Ocean and adjacent seas'. That meant that there was a 'minimum degree of effective territoriality and a maximum degree of geographical dispersion' ([1994]1998, p. 210).<sup>4</sup> The political entity was a network of areas rather than a unified space, and it was mostly sustained by the circulation of goods and commodities rather than production. It was made viable by military and naval force—under the *cartazes* policy, a Portuguese fleet (*armada*) patrolled territorial waters, sinking or seizing vessels that entered without the requisite authorization.<sup>5</sup> On land, forts (or *fortalezas*) were constructed at strategic locations where trading routes converged, and they were established as hubs of supply, communications and naval repairs.

Although the Portuguese territorial 'possessions' on the Western Coast of India were nominally part of a unified political structure, they were subject to different legal regimes. In some, predominantly rural areas, such as Goa and Bassein, the Portuguese exercised effective legal sovereignty. That was not, however, the case in areas that were occupied in accordance with peace treaties entered into with Indian sovereigns or as protectorates (Thomaz, [1994]1998, p. 225).

#### 1.4. THE ECONOMIC AND OCCUPATIONAL STRUCTURE OF PORTUGUESE INDIA IN OUR PERIOD

In terms of physical structure, many of the occupied areas were essentially a hybrid combination of fortress (*fortaleza*) and factory (*feitoria*), which protected settlers and their trading routes. These settlements occupied a very small fraction of the total territory of India and, in geographical terms, differed considerably. Basically,



they were small, isolated territories connected by sea rather than by land. Only three of the settlements included a significant area of rural land which (at least in principle) guaranteed a food supply to the local population: Goa (comprising the islands of Goa, Bardez and Salcete, with a total area of 712 sq. km), Bassein and Daman, both belonging to the Northern province (*Província do Norte*). All the others were almost entirely dependent on supplies imported by sea (Disney, 2009, p. 2, 146).

The state of India was predominantly urban in character as relatively few of its settlements had any significant area of agricultural land with a rural population. Therefore, most of its inhabitants were concentrated in port towns and cities, which were relatively well fortified but had little or no control over the respective hinterlands. Goa, Diu and Chaul were most densely populated, though the demographic proportion of European/Christian settlers was negligible during the first half of the 16th century.<sup>6</sup>

The economic life of the state was centred on the *feitorias*, primarily used for the intra-Asian trade and for shipping products to Europe via the 'India Run' (*Carreira da Índia*)—the trade route from Portugal to India. Commerce was the lifeblood of these territories, including the lucrative spice trade, especially of pepper, over which the Portuguese Crown tried to maintain a monopoly.<sup>7</sup> The *feitorias* were also the centres of revenue collection for the Crown. They were under the command of the captain of the local fort, who held broad civil and military powers under the *Regimento* (Statute). These officers established the rules for administrative, fiscal, judicial, military and ecclesiastical jurisdiction. Most of the administrative positions and functions at the forts and *feitorias* were held by Portuguese settlers, but some were occupied by locals or by Indians from elsewhere.

Generally, all settlements followed the same pattern. This went for the various branches of authority: ecclesiastical (headed by the bishop—in this period one for Goa, and one for Kochi), civil (headed by the governor), military (headed by the captain general), naval and commercial (headed by the *feitor*). Each of the 11 settlements for which we have wage data in this period had a fortress supervised by a captain (*capitão*). They also included a bailiff (*meirinho*), a constable (*condestável*), one or more churches and a factory. The city of Goa was defended by four fortresses (Benastarim, Naroá, Pangim

and Bardez), as well as other defensive structures commanded by a captain. The *meirinhos*, earning in the third quarter of the century between 61 and 69 *reis* per day, clearly were ranked below the constables and captains, who earned over 80 and mostly over 100 *reis*.

The salaries of the highest echelons will not be analysed here. These pertain to 76 functionaries who received from the crown at least 80,000 *reis*, or more, per year. This is the top of society (for obvious reasons well represented in our data), which does not tell us much about the general income levels we are looking for. Not only because these are top incomes as such (the highest salary is no less than 800,000 *reis*) but also because it is most likely that the sums thus obtained by official salaries are only part of the total income of the households concerned. After all, some of these persons performed several functions (multiple office holding) and the earnings from their commercial activities are well known by historiography (Pinto, 1997, pp. 30–34; Thomaz, [1994]1998, pp. 573–577; see also Cruz, 1988).

Five settlements next to the fort were properly called towns (*cidade*) and were governed by a captain with the aid of an *alcaide* and a bailiff (both earning the above-mentioned salary). Goa, the capital, had two *alcaldes*, one for the town *intra muros* (*do dentro*) and one for the town *extra muros* (*de fora*), while the one *meirinho* of Diu articulated both town and countryside (*campo*). The three other cities were Kochi, Chaul and Bassein, of which the first was the most important because it also had a bishop who only had to obey the archbishop of Goa. The five other settlements were apparently governed directly from the fortress.

Three settlements (Goa, Daman and Bassein) were subdivided into fiscal intendancies (*tanadarias*), all under the jurisdiction of a *tanadar* (sometimes also called *meirinho*). Goa had the most complicated structure, as it was subdivided into the Island of Goa, Carambolim and a number of *passos* (literally 'passages', probably meaning districts), namely those of Vagaçaim, Naroá, Benastarim, Daugim, Pangim and Ribandar, besides the *Passoseco*.<sup>8</sup> Daman also had a number of *tanadarias*: those of Sangens, Quelime Mahim and Tarapor,<sup>9</sup> while Bassein had six: Tanã, Agaçaim, Tanar, Caranja Island, Salsete Island and Maim Island.

A customs house (*alfândega*) had been established at the Mandovi river in Goa, and two in Diu, one being at Gogallá. There were several other institutions, most of which were in the capital.



Think of dockyards (*ribeiras*: in Goa, Kochi, Bassein and Kannur), mint houses (*moeças*: one in Goa, one in Kochi; important indicators of monetization), public weighing houses and two gun foundries (one in Goa and the other in Kochi). And apart from these production centres, we find jails, hospitals (the one of the *Miseriçórdia* in Bassein and one in Kollam), as well as several ecclesiastical institutions.

Of course, most of the inhabitants of the Portuguese settlements were engaged in agriculture, but these do not appear in our sources. Luckily, we find quite a number of craftsmen employed by the types of workshops listed above, as well as huge concentrations of construction workers, especially hired to work on the fortifications of Diu. Together with the many soldiers and their officers, the result was a well-diversified set of occupations, each with their own standard of remuneration.

Apart from the structure of the administrative sector, and of the economy in general, which accounts for the existence of great wage differences, we also have to investigate the extent to which existing and emerging social categories played a role in determining wage rates. For some categories, this is possible because our sources provide more information than just personal names and/or occupational titles and wage sums. We will subsequently discuss categories that include caste, free and unfree labour, gender, age, ethnicity and a few others.

Caste indications were not only inherited by the Portuguese settlers, but they were also modified by them (*casta*, meaning 'descent', is a Portuguese, not an Indian word). Therefore, the interpretation of caste indications deserves some attention here. Most important for us, there is a strong relationship between caste and occupation, but how strong that was in these concrete cases is not easy to determine (Xavier, 2016, pp. 288–289). Most historians agree about the rigidity of the caste system in the 19th and 20th centuries. Yet, according to some, in the period prior to 1800, the system was more flexible and, thus, allowed for an increased occupational mobility (Parthasarathi, 2011, pp. 3–6, 59–60). For example, members of certain castes still could choose from different occupations instead of one, the same as their fathers had, whereby there is relevance in the question to what extent caste-bound occupations may have provided an efficient institution for the transmission of skills. Our sources allow us to add a few observations for the 16th century.<sup>10</sup>

The terms *nair* and *naiik* are particularly challenging to translate properly into modern English, more so—it seems—than other designations such as *bigarin* (carrier, usually carrying goods on his head), *mainato* (washerman), *parvu* (writer) or *nafar* (servant). *Nair* is the social category that appears earliest in Portuguese sources, that is in the *Book of Duarte Barbosa* (1512–1515). This author speaks of the 'casta de Nayres' to designate a martial group with endogamic practices. According to our sources, their status must have been high, because, apart from some *naires* without further occupational indication (indicated by us as 'high-caste member'), we find the following combinations with *nair*: manager of the elephants of the king of Kochi, supervisor of food provisioning for these elephants, person in charge of a fortress and/or factory and weighman (most likely the supervisor of the public scales). In addition, two of them bear the formal dignitary title of *Dom*, and one was a Christian convert (*nayre christão*), possibly revealing the economic and social advantages of converting to Christianity.<sup>11</sup> Another apparent caste indication is *naiik* or *nayque* (*quechenaik*, alone and in combination with *malamaique*, on one occasion also *gorcanaique*), which is invariably used in relation to commanding military positions and is also considered as a high social class (Pearson, 1973).<sup>12</sup> We therefore have translated it as 'captain of the native infantry'. What the exact relation between the much more numerous *naires* and the more elitist *naiques* was in 16th-century Goa cannot be derived from our data and needs further investigation.

Next comes the distinction between free and unfree labour. The latter, in principle, did not earn wages, but the Portuguese bookkeepers note down expenses for maintenance, so that fortunately we also catch a glimpse of food expenses for slaves.<sup>13</sup> We say 'in principle' because though all slaves received maintenance money, some of them also received wages. This, of course, was only possible with the consent and cooperation of their master, who in return might take part of their slave's wage. They are called 'escravos de ganho'. Leaving aside the precise nature of slavery in the early Portuguese settlements,<sup>14</sup> maintenance for slaves provides an important indication of what was considered to be an adequate diet for an able-bodied man, plus sometimes other needs, like clothing. As slaves occur frequently in the sources, we sometimes can compare their remunerations with those of free labourers.



Less present, though not totally absent, are women. Next to one single nurse (*enfermeira do hospital da fortaleza de Coulão*) and two native women working at the supplies warehouse of Kannur (earning half of their male colleagues), we encounter 37 *mulheres cristãs malabares para huso dos homens*. The expression 'for the use of men' clearly indicates their occupation as sex workers, for which we have seven entries for Calicut for 1514–1515.<sup>15</sup> That is not much, but it might at least give us an idea about the gendered norms for food supplies, as all Calicut women received certain amounts of rice and butter by way of maintenance.

Somewhat more is known about age, as there are 72 entries for boys. Deducting the entries referring to both wage and maintenance for the same individuals, we are left with 54 entries for no less than 24,183 individuals (see Table 1.1). This allows us to make

Table 1.1 Entries for Remunerations of Boys

English Translation of Occupation	Portuguese Original	Entries		Number of Single Individuals
		Total	for Single Individuals	
Ship's boy	Grumete	1	1	1
Water boy	Boy de água	5	5	21
Sunshade boy	Boy de sombreiro	15	15	16
Worker (from Malabar)	Moço cristão Malabar	1	1	1
Blacksmith	Moçoferreiro da terra	1	1	8
Chorister	Moço de coro	10	10	24
Caulker (slave)	Calafate (escravo)	1	1	10
Caulker (Christian)	Calafate (cristão)	1	1	13
Carpenter (boy)*	Moço(s) oficial(ais)	2	1	3
Worker	Boy da terra (Diu 1547)	34	17	24,085
Worker	Boy (Kannur 1532–1533)	1	1	1
		72	54	24,183

Source: ANTT, NA, n.º 622–623; B. A., Cód. 51-VII–8, fls. 1–197; Botelho ([1554]1868; de Jesus, 2012b; Pissurlencar, 1951).

Note: \*Boys that work for officials, responsible for carpentry work.

some comparisons between adult men and boys in a few sectors, as well as to make some comparisons between the compensation for boys and adult women.

Finally, there is supplementary information, mostly regarding ethnicity and religion but also on migration and marital status. As to ethnicity, we encounter, of course, Portuguese individuals, an occasional German, Basque and Malay, as well as Indians, either in general designations such as *indio*, *negro* (black) or (*homem*) *da terra* (native) or more specifically as Malabar, *canarim* or *Gujarathi da terra*. The term 'Christian' implied converted Indians and their offspring, whereas all Europeans were automatically considered to be Christians (including new Christians), and—we presume—all other Indians in general were classified as Hindus, unless explicitly indicated as Muslim or *mouro*, which is probably the same. On the basis of these presumptions, we can investigate whether and to what extent distinctions were made in the remuneration of Christians (European and Indian) and Hindus performing the same or similar tasks and in which occupations they dominated, respectively.

## 1.5. SOURCES FOR WAGES

Our data set benefits from a large number of primary sources, both in manuscript and in published form. They allow for a subdivision of the entire data set into three sub-periods: 1514–1526, 1527–1544 and 1545–1570, though unfortunately unevenly spread over the three regions—north-west, centre and south-west India—and even more over the 11 locations on India's western coast (Table 1.2).

This data set enables us to adopt a methodology similar to the one previously developed for Kannur 1516–1517 (de Matos & Lucassen, 2019). We will use information on prices and wages in order to reconstruct real wages by expressing the wages in rice and grain (wheat). To assemble the data set, we processed three main types of sources: receipt and expense books; budgets from the *Estado da Índia* and *Regimentos*.

The main corpus of the first sub-period (1514–1526) is the set of receipt and expense books (*livros de receita e despesa*) produced by the Portuguese officers (*feitores* and *tesoureiros*) who controlled all financial operations conducted by the royal factories (*feitorias*).<sup>16</sup> Besides the acquisition of goods and commodities for sale, they also



Table 1.2 Portuguese Settlements for Which Relevant Wage Data Are Available between c. 1514 and 1570

Settlements per Region	1514-1526	1527-1544	1545-1570
<b>North-west</b>			
Diu			x
Daman			x
Bassein			x
Chaul	x		x
<b>Centre</b>			
Goa	x	x	x
<b>South-west</b>			
Basrur			x
Kannur	x	x	x
Calicut	x		
Cranganore			x
Kochi	x		x
Kollam			x

Source: Appendix 1.1.

provide wages and maintenance to a number of individuals. In addition to the receipt and expense book, already used for the previous case study of Kannur, two incomplete books will be studied for Chaul and Calicut, both of them available as original manuscripts at the National Archives at Lisbon (*Torre do Tombo*).<sup>17</sup> There are also two single documents with payments made to local troops and servants for Goa in c. 1520 and 1526.<sup>18</sup>

The second sub-period, 1527-1544, is undoubtedly the least privileged by these early records because of a total lack of wage data. Nevertheless, it was possible to use maintenance payment books for Goa (1532) and Kannur (1532-1533).<sup>19</sup>

For the third sub-period, starting in 1545, we relied on two different types of sources. The first is the *Livro das mercês que fez o senhor Dom João de Castro*.<sup>20</sup> This document contains a highly heterogeneous set of expenses, including wages of craftsmen and

so-called *lascarins*, employed at the Goan dockyard. While most of them were Portuguese, there were a few Indians, allowing for a comparison between these two types of skilled labourers. Whatever the precise nature of the work of the *lascarins* was, they also formed an important part of the local militia. The second set of data originates from the reconstruction of the fortress of Diu in the years 1546-1547 after the second siege of this coastal town.<sup>21</sup> It consists of both a book of expenses<sup>22</sup> and a book of payments made to Gujarat workers by the royal factor António Gil.<sup>23</sup>

After 1550, new sources become available in the form of a much more standardized corpus of annual overviews of budgeted expenses, required by the Portuguese king for all his settlements east of the Cape of Good Hope. It starts with the *Tombo geral do Estado da Índia* of 1554, first published by Lima Felner in 1868. It was followed by the so-called *Regimento das fortalezas da Índia*, published by P. S. S. Pissurrenkar, for the years 1564/1565 (and soon after included several other places such as Basrur for 1570), providing data for nine of our locations. Like the former *Tombo*, the *Regimento* contains budgets for wages as well as for prices of basic commodities.<sup>24</sup> These prices and wages are estimates (based on averages of the previous 5 years) in contrast to real expenses in our sources collected from 1545 to 1548. We consider that this will not compromise the strength of the data set for our long-term comparison.

While the sub-period 1527-1544 allows for only limited conclusions about individual daily incomes, the earlier and later ones provide information on the earnings of no less than 73,189 individuals (Table 1.2).

## 1.6. METHODS OF ANALYSIS: WAGES, MAINTENANCE AND TOTAL INCOME

In our sources, we find two types of income: wages (as discussed above) and maintenance money. The most important methodological finding of our research is that these were not alternative ways of payment, but rather complementary. As a rule, in this Lusitanian context, workers employed by the *Estado da Índia* received both, as we will demonstrate. Consequently, in general, we need to combine the two in order to reconstruct the total remuneration received for waged work.



Table 1.3 Number of European and Non-European Entries of Individual Daily Income on the Data Set, per Location and Sub-period (1514-1570)

	1514-1526		1545-1570		Totals	
	European	Indian	European	Indian	European	Indian
North-western						
Diu	0	0	151	35,285	151	35,285
Daman	0	0	139	643	139	643
Bassein	0	0	120	476	120	476
Chaul	6	3	30	40	36	43
Total NW	6	3	440	36,444	446	36,447
Centre						
Goa	1	907	262	16,588	263	17,495
Total Centre	1	907	262	16,588	263	17,495
South-western						
Basrur	0	0	10	14	10	14
Kannur	13	18,300	23	11	36	18,311

Source: Appendix 1.1 and Table 1.2.

	19,242		53,947		73,189	
Totals (per sub-period)	20	19,222	833	53,114	853	72,336
Crananore	0	0	6	19	6	19
Calicut	0	12	0	0	0	12
Kochi	0	0	71	31	71	31
Kollam	0	0	21	7	21	7
Total SW	13	18,312	131	82	144	18,394
Totals	20	19,222	833	53,114	853	72,336



Most Europeans were recruited to serve in India under the condition of receiving their wage (*soldo*) from the enrolment list (*matrícula*) of the treasury of the Estado. This *soldo* varied heavily according to occupation, social status, conditions of enlistment and also to the political and military Indian context. For the higher offices, another term to designate 'wage' appears as *ordenado*. The term itself is an equivalent of *soldo*, albeit, according to early modern dictionaries, *ordenado* could also mean 'what you give for an individual's sustenance {...}' (Bluteau, 1712–1728, p. 6, 106).<sup>25</sup>

Apart from other non-regular forms of income (e.g., extra donations of edibles, non-edibles such as cloth, or money), our sources show that, in addition to their wage or salary, all waged workers—Indian and European alike—received a second type of remuneration, that is, their daily *manutimento* (maintenance; for Indians sometimes called *batta*).<sup>26</sup> Payable either in kind, cash or both, this maintenance was based on the daily amount deemed necessary for an adult working man. Similar subsidies can be found, for instance, in Mughal India in the 17th century (where *batta* meant—and still means—allowance) (Haider, 1996, pp. 334–335).

Two examples of such payments in kind may illustrate this practice, one from Diu in 1546–1547, and the other from Basrur in 1570. Portuguese workers and several Indian converts, recruited in Goa to work in Diu, received not only rice (both white and *giraçal*) and fish but also *biscoito*, butter and olive oil as maintenance.<sup>27</sup> Likewise, local/Indian *canarins* masons and diggers would receive black rice and fish, exceptionally supplemented with butter.<sup>28</sup> The maintenance provided in Basrur in 1570 to native sailors consisted of 2 *medidas* (approximately 1 kilo) of black rice (*Oryza Sativa*, Lin.) per day together with one king fish (*Scomberomorus Cavallo*; Cuvier, 1829) per month. Their taskmasters received twice as much (Pissurlencar, 1951, p. 438). While there is no evidence that this portion of edibles entirely covered their diet per se, we can assume that it did cover their subsistence needs. According to de Zwart and Lucassen (2020), a normal-sized Indian adult male in the 1840s would need 2,000 calories per day in order to provide enough nutrients to survive and to work for their subsistence. With a daily maintenance portion of a kg of black rice and 330 g of fish, each sailor would obtain 3,877 calories.<sup>29</sup> Although this was more

than sufficient for his upkeep, we must bear in mind that on many occasions there was a household to sustain, which could represent a total of 8,000 calories (representative of a couple and two children). We believe, though, that additional income provided by the wage component would be enough to meet these needs.

On the other hand, some Europeans—like the soldiers of the *armada*—enjoyed, as maintenance a subsistence allowance of 25.5 *arrátéis* (each approximately 0.47 kg) of *biscoito* per month, 2 *medidas* of white rice per day and 1 *canada* (approximately 1.4 litre) of butter also per month (Pissurlencar, 1951, p. 437). This would represent a daily content of 5,854 calories, thus 51 per cent more than their non-European counterparts.<sup>30</sup> Although with a presumably higher body mass, a European would consume a little more than 2,000 calories, it still would enable him to sustain a household of four persons. As wages paid to Europeans were much higher than for Indians (see Tables 1.5 and 1.6), the real total income of Europeans exceeded several times that of Indians with the same occupations (de Zwart & Lucassen, 2020; Humphries & Weisdorf, 2019).

Most recordings of maintenance payments can be observed for the sub-period of 1545–1570 (see Table 1.4: 34,944 entries, approximately 90% of the total). In contrast to the first sub-period 92.5 per cent of these payments are made to Indian workers.<sup>31</sup> Most important for us are the maintenance data for 1527–1544 (though only for Goa and Kannur) because not much else is known about remunerations in this central sub-period.

Recently, Humphries and Weisdorf (2019, p. 2876; cf. Beck et al., 2014) have also pointed to this phenomenon of combined income of cash on top of an ordinary wage remuneration in medieval and early-modern Europe, which they call 'board wages'. These are the wages we have reconstructed in our data set and which we will use for our analysis.

## 1.7. DAYS WORKED

Although the two income components (wage plus maintenance) were paid to the majority of all workers (compare Tables 1.3 and 1.4), a substantial number of Indians were only paid a wage (sometimes called *musara* from the Marathi word for 'salary'; originally Persian



Table 1.4 Number of European and Non-European Entries of Individual Daily Maintenance on the Data Set, per Location and Benchmark (1507-1570)

	1507-1526		1527-1544		1545-1570		Totals
	European	Indian	European	Indian	European	Indian	
North-western	0	0	0	17	34,766	17	34,766
Diu	0	0	0	1	3	1	3
Daman	0	0	0	1	1	1	3
Bassein	0	0	0	14	1	14	1
Chaul	20	9	0	3	1	23	10
Total NW	20	9	0	35	34,771	55	34,780
Centre							
Goa	1	9	55	94	55	111	103
Total Centre	1	9	55	94	55	111	103
South-western							
Basrur	0	0	0	23	4	23	4
Kannur	2,584	145	35	32	3	4	181

Source: Appendix 1.1 and Tables 1.1 and 1.2.

	3,764		216		34,944		38,924	
	European	Indian	European	Indian	European	Indian	European	Indian
Cranganore	0	0	0	1	0	1	1	0
Calicut	1	885	0	0	0	0	1	885
Kochi	72	38	0	0	15	31	87	69
Kollam	0	0	0	2	0	2	2	0
Total SW	2,657	1,068	35	32	44	39	2,736	1,139
Totals	2,678	1,086	90	126	134	34,810	2,902	36,022



*mushahra* for monthly salary or wages) for the days they were actually employed. This was especially true in the army and in the navy (Rodrigues, 1990, pp. 21–22, 28–57). It is therefore important to know how many days they were actually employed.

As stated by a number of historians, it is not at all obvious that each individual worked 250 days per annum, as is conventionally assumed in discussions about living standards. In late 17th-century Surat, a mint worker would work an estimated 20 days per month or 240 per year (Haider, 1996, p. 337). Some estimates for Western Europe suggest 165 days for medieval labourers, rising to 330 days with the advent of the Industrial Revolution (Allen, 2001; Allen, 2007; Allen et al., 2012; Blanchard, 1978; Humphries & Weisdorf, 2019; Voth, 2001). Regarding the case of Portuguese settlements in India, no information is available so far. Yet we may have to take into account that the three- to four month-long monsoon season (i.e., June, July and August) in the coastal regions reduced maritime labour activities substantially. On the other hand, it is to be expected that non-naval (or 'non-coastal') activities increased at the same time, particularly in agriculture. In the anticipation of further detailed research in this field, we will refrain from reconstructing annual incomes and will restrict ourselves to monthly and, preferably, daily remunerations.

## 1.8. REGIONAL VARIATIONS AND MARKET INTEGRATION

To what extent can we speak of a 16th-century integrated labour market in Western coastal India? This is an important question to support the argument that Luso-Indian wages may be taken as representative for a much wider region and, in fact, insofar as no other evidence becomes available for India as a whole. We will first analyse the skilled and then the unskilled occupations. Table 1.5 compares nominal income for skilled occupations for each region (north-western, central and south-western coastal India) in the period 1514–1570. Some tendencies are clear at first sight.

The first is that—as seen in the caloric value of maintenance—European skilled incomes tended to be at least double of their Indian counterparts. Compare the European scribe with the Indian interpreter, and the European blacksmith and cooper with

Table 1.5 Nominal Average Income for Skilled Occupations of European and Indian Workers in Western India, 1514–1570 (Reais per Day)

European		NW	N	Centre	N	SW	N
Blacksmith							
1514–1526	–	–	–	–	–	–	–
1545–1570	73.2 (Diu)	2	71.2 (Goa)	6	101.9 (Kochi)	1	
Cooper							
1514–1526	–	–	–	–	–	–	–
1545–1570	59.2 (Chaul)		58.4 (Goa)	9	72.5 (Kochi)	2	
Scribe							
1514–1526	–	–	–	–	43.5 (Kannur)	3	
1545–1570	94.6 (Chaul)	4	95.8 (Goa)	29	100.9 (Kannur)	3	
Watchman							
1514–1526	–	–	–	–	–	–	–
1545–1570	55.9 (Chaul)	2	70.7 (Goa)	2	62.5 (Kannur)	2	
Indian		NW	N	Centre	N	SW	N
Carpenter							
1514–1526	–	–	–	–	18.8 (Kannur)	7,973	
1545–1570	25.1 (Diu)	40	32.0 (Goa)	5	–	–	
Interpreter							
1514–1526	–	–	–	–	–	–	–
1545–1570	39.5 (Chaul)	2	39.5 (Goa)	1	44.4 (Kochi)	2	
Military caste ( <i>naique</i> )							
1514–1526	–	–	11.3 (Goa)	114	28.8 (Kannur)	26	
1545–1570	27.0 (Diu)	4	24.5 (Goa)	37	25.1 (Kannur)	6	
Rifleman							
1514–1526	–	–	–	–	–	–	–
1545–1570	19.7 (Bassein)	4	23.7 (Goa)	54	19.1 (Cranganore)	13	

Source: Appendix 1.1 and Table 1.2.

Note: Criteria = Locations and occupations were chosen based on their share in the data. N stands for the number of individuals per occupation.



the Indian carpenter; likewise, compare the unskilled the European watchman with the Indian *naique* and rifleman. Second, European nominal income tends to be slightly higher in the south-west than in the centre (Goa) and north-west, with the exception of the case of the few watchmen in Goa. This difference is not too consequential, and the fact that it does not show clearly among the Indian workforce may be because they are averages. Also, there were relatively more masters in our south-western sample.

Perhaps the most striking tendency is that, both among European and Indian occupations, there are no clear or significant regional differences in payments, which demonstrates a certain integration of the labour market. The exception is payments made to members of the military caste (*naiques*) in the earliest sub-period. They show Goan incomes that are less than half that of their Kannur counterparts (11.3 against 28.8 *reis* per day). Yet we have to bear in mind that the minimum daily income paid to *naiques* in Kannur is quite close to the Goan average (13.8 *reis* per day), which is important if we also take into account that Goa provides four times more cases than Kannur (113 over 26 entries).

When observing nominal average unskilled wages for coastal India (Table 1.6), a similar situation is found. The data for Europeans are so scarce that the results seem inconclusive. The real point in favour of the existence of an integrated labour market along the west coast of India comes from unskilled Indian occupations.

Torch men seemed to be paid similar sums everywhere, including in Goa 1545-1570, where the median is 11.9 *reis* per day. The higher average is probably related with the fact that by then Goa had become the political capital of the *Estado* (its best paid torch man peaked at 26 daily *reis*). In fact, differences that ask for an explanation lie much more in the relatively low incomes of servants and peons (pawns), which we observe in Goa, as compared to all other unskilled Indian incomes in the first and last sub-periods in other places. At this moment, we cannot offer a plausible explanation for this phenomenon. Less enigmatic is the comparatively low average income for servants in Diu (7.44 *reis* per day, with a maximum of 23.04 and a median of 3.69), which can be explained by the high numbers of individuals (almost 35,000), mostly employed in the coarsest type of earthwork with the reconstruction of the

Table 1.6 Nominal Average Income for Unskilled Occupations of European and Indian Workers in Western India, 1514-1570 (*Reais* per Day)

European	NW		Centre		SW	
		N		N		N
Prison guard						
1514-1526	-	-	-	-	-	-
1545-1570	42.7 (Chaul)	1	46.0 (Goa)	1	49.3 (Kochi)	2
Gatekeeper						
1514-1526	-	-	-	-	-	-
1545-1570	42.7 (Chaul)	1	104.8 (Goa)	5	52.9 (Kannur)	1
<b>Indian</b>						
Boy						
1514-1526	-	-	13.4 (Goa)	4	-	-
1545-1570	11.9 (Diu)	3	11.9 (Goa)	3	-	-
Man/Servant						
1514-1526	-	-	8.87 (Goa)	158	12.6 (Kannur)	10,277
1545-1570	7.4 (Diu)	34,514	-	-	-	-
Peon						
1514-1526	-	-	9.2 (Goa)	573	-	-
1545-1570	15.3 (Diu)	94	12.3 (Goa)	277	15.3 (Kannur)	4
Torchman						
1514-1526	-	-	13.2 (Goa)	12	-	-
1545-1570	11.9 (Diu)	11	17.3 (Goa)	14	-	-

Source: Appendix 1.1 and Table 1.2.

Note: Criteria as in previous table.

fortress of Diu during 1546-1547. Likewise, we can hypothesize that these low incomes were a form of Portuguese retaliation against the natives after the siege of Diu (1546).<sup>32</sup>

An interesting point is that labour migration may be an indicator of an integrated labour market. In the above-mentioned episode in Diu, a small part of the labour force of slightly more than a



Table 1.7 Average Income of Labour Migrants Recruited for the Reconstruction of the Fortress of Diu, 1547 (in Reais per Day)

	Origin (with Distance by Sea to Diu)						Total
	Bassein (200 km)		Chaul (400 km)		Goa (750 km)		
	R/d	N	R/d	N	R/d	N	
<b>Unskilled</b>							
Bigarin (Indian)	14.2	31	16.5	57	17.9	6,654	7,742
Digger (Indian)	-	-	12.0	12	22.0	1,100	1,112
<b>Skilled</b>							
Mason (European)					65.7	77	77
Mason (Indian)			24.2	34	22.0	1,112	1,146
Taskmaster (Indian)			32.0	1	32.0	22	3
<b>Total</b>		31		104		8,875	11,010

Source: Table 1.2 and de Jesus (2012b).

Note: R/d is reais per day.

thousand individuals had been recruited from Goa, Bassein and Chaul (Table 1.7).

In general, large-scale labour migration is a sign of labour market integration, but for the unskilled Indian labour force this table also reveals a geographical logic behind wage differences: the farther away they were from Diu, the higher the wage was (see Figure 1.1). Thus, ordinary labourers (*bigarins*) who travelled 750 km to get to Goa agreed to come for 17.9 reais per day; those who came from nearly half that distance (Chaul) settled for slightly less (16.5 per day) and those who came from nearby Bassein were hired for 14.2. Local *bigarins* could be recruited for a mere 13 reais per day. For diggers, we observe similar differences on the basis of geography. Only in the case of skilled masons did distance not seem to have any influence on wages.

Market integration cannot be analysed merely by comparing average income in different places; it also requires a geographical comparison of price levels, particularly staple commodities (Table 1.8).

Table 1.8 Average Prices for Basic Commodities in Western Coastal India, 1514-1570 (in Reais per Kg)

	North-western		Centre		South-western/South	
	Diu N	Bassein N	Chaul N	Goa N	Kannur N	Calicut N
Rice (per kg)	-	-	-	4.7	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	12.2	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-	-	3.8	4.9	5.6	-
Olive oil (per litre)	-	-	-	10.7	-	-
Butter (per litre)	-	-	29.3	22.6	-	-
1545-1570						
Rice (per kg)	1.4	2.5	4.8	-	-	-
Olive oil (per litre)	14.3	20.5	41.3	-	-	-
Chicken (per unit)	-	-	-	100	-	-
1514-1526						
Rice (per kg)	-	-	2.8	6.6	6.1-8.5*	2.9
Wheat (per kg)	-					



For this kind of comparison, long and detailed price series are needed, as it is well known that annual variations in crop yields cause prices to vary considerably. Even within the same year, seasonal fluctuations matter. Such series are lacking and therefore the significant disparity of prices in Table 1.8 is not surprising. Where we can compare, however, grain prices between different places within the same calendar year (but not necessarily within the same season), we observe the lowest prices in the north and the highest in the south with Goa in between.

During the reconstruction of the fortress of Diu in 1547, there were clear differences in the purchasing price of rice. A total stock of a little over 27,000 kg, consisting mostly of normal rice, comprised the following: one part of local rice, bought for about 5 *tangas* per *candil* or 1.4 *reis* per kg; another part purchased by the royal factor of Bassein at 1.9 *reis* per kg (minimum price, against an average of 2.5, see Table 1.8); a third part from Goa at a cost of no less than 4.9 *reis* per kg. Similar price differences apply to the *c.* 17 per cent of cheaper varieties (*arroz preto* or 'black' rice and *giraçal*). The difference in prices can explain why most of the rice (*c.* 72%) was imported from Bassein, with local rice representing over 26 per cent of the total, leaving an insignificant percentage for the high-priced Goan supply (1%).<sup>33</sup>

It is no wonder that contemporaries found Bassein to be 'extremely affordable' by contrast with Goa, where edibles were considered very expensive.<sup>34</sup> One of the main reasons for such high prices was the inherent difficulty of producing consumables in Goa, whereby many had to be imported (Cunha, 2011).

The substantial price variations in staple grains that occurred systematically from north to south along the west coast applies to both cross sections of 1515–1516 and 1547, but unfortunately there is a dearth of information for later years. Much more important than local price variations is the understandable reaction of merchants, who shipped grain and rice from the cheapest to the most expensive places promoting market integration. We saw this phenomenon in our previous research for Kannur in 1515–1516, where rice was imported in large lots from places where it was more affordable, such as Kochi, Diu and Chaul (de Matos & Lucassen,

2019, p. 122). The location of all these places along the Indian Ocean made integration feasible, but we can assume that the high cost of transportation further inland would have (somewhat) slowed down integration.

Assuming an integrated labour market with more or less the same nominal wage levels all along the coast, but with generally lower commodity prices in the north than in the south, we may expect that real wages of unskilled Indian labour in the north were more favourable than in the south. In the next section, we will see whether that really is the case.

## 1.9. LONG-TERM TRENDS IN WAGES AND INCOME

Besides a tendency towards labour market integration, which we concluded from Tables 1.5 and 1.6, we now return to these data (as summarized in Appendix 1.1) in order to study long-term trends by comparing the same or similar occupations, in the same cities, between the first and last sub-period (respectively, 1514–1527 and 1545–1570). If we concentrate on the most robust nominal wages in the same places (according to numbers in the data), we observe a clear hike in the nominal wages of skilled, but especially of unskilled Indian labour in Goa (see in Table 1.6, for Goa, the hundreds of wage data for peons and the much lower wages for torch men). This is corroborated by a similar tendency among skilled Europeans in Chaul and Kannur, and though supported by much less data, by skilled Indians in Kannur and, to a certain extent, all over the south-west. The rest of the evidence is very weak, but it is fair to say that the few comparable recorded wages of unskilled Indians in the south seem to have stayed fairly stable over time.

Assuming that there was a tendency for nominal wages to increase around the middle of the 16th century, beginning in the 1530s, we now can turn to their significance for real incomes. We will do so by first focusing on the development of maintenance money, and then on income at large.

The data on maintenance money are especially important for us because they also shed some light on incomes in the intermediate



sub-period and thus on long-term developments between the three sub-periods.

Five out of six categories of workers in the north-west and centre received enhanced maintenance money over time, while for the south we find more or less stagnating figures. Most important is the information about the pace of this development. It shows that it took place between both 1507-1526 and 1527-1544, as well as between the second sub-period and 1545-1570. Unfortunately, we cannot determine in which decades maintenance monies increased most. It may be safe to say that we see a gradual development throughout the 1530s, 1540s, 1550s and 1560s. Realizing that maintenance is only a subsidy to supplement a worker's daily subsistence, we deduce that wage components of income had a more decisive role in the increase observed over that time. Finally, let us turn to real income as the total sum of both real wages (nominal wages, see Tables 1.5 and 1.6, adjusted, as much as possible to local prices, see Table 1.8) and maintenance (Table 1.9), first for skilled (Table 1.10) and then for unskilled labourers (Table 1.11).

When analysing real income for both European and Indian skilled workers, expressed in rice, it is obvious that the comparatively higher cost of living in Goa throughout 1514-1570 (see Table 1.10), reduced their purchasing power considerably. Real European skilled income in Goa was often more than three times less compared to Diu or Chaul, as we can see in the cases of blacksmiths, coopers and scribes. Likewise, because of lower rice prices in the north-west, real income of Indian skilled workers is much higher there than in the centre and even more than three times higher for interpreters and *Naiques*. Also noteworthy is the apparent increase of purchasing power of Indian skilled labour in the case of *Naiques* (1.7 kg of rice per day in 1514-1526 to 5.1 in 1545-1570). While further confirmation is needed for other categories of labour, this evidence supports the main thesis of our research: the hike in real wages started somewhere in the 1530s-1540s.

The evidence for unskilled European labour is not strong enough to establish a trend. However, for the real unskilled Indian

Table 1.9 Evolution of Average Nominal Maintenance Paid to European and Indian Skilled and Unskilled Workers, 1507-1570 (Reais per Day)

European	NW (Chaul)		Centre (Goa)		SW (Kannur)	
	N	N	N	N	N	N
<b>Skilled labour</b>						
1507-1526	22.6	8	6.0	1	19.3	1,429
1527-1544	-	-	17.5	43	17.8	28
1545-1570	16.4	1	25.5	52	18.1	2
<b>Unskilled labour</b>						
1507-1526	14.3	12	-	-	15.0	1,155
1527-1544	-	-	15.0	12	15.9	7
1545-1570	19.7	2	19.7	3	13.2	1
<b>Non-European</b>	NW		Centre		SW	
	N	N	N	N	N	N
<b>Skilled labour</b>						
1507-1526	14.2	12	15.7	9	-	-
1527-1544	-	-	16.3	71	16.5	30
1545-1570	19.7	1	-	-	-	-
<b>Unskilled labour</b>						
1507-1526	-	-	-	-	2.0 <sup>35</sup>	145
1527-1544	-	-	13.4	23	14.0	2
1545-1570	2.0*	34,440	-	-	9.9	4

Source: See Tables 1.1 and 1.2.

Note: \*Maintenance paid in Diu, 1547.

incomes, long-term developments are much clearer. Whereas, again due to the high price level, Goans were much worse off than their northern colleagues, the overall trend for the centre is positive: wages increased gradually during the 16th century, most clearly illustrated for the many Goan peons. Again, for the south, there are data lacking that would enable us to determine whether it was also a factor in this improvement.



Table 1.10 Real Income of European and Indian Skilled Labour Expressed in Rice, 1514-1570 (Purchase Power of Kg per Day)

European		NW	N	Centre	N	SW	N
Blacksmith							
1514-1526	-	-	-	-	-	-	-
1545-1570	52.3 (Diu)	2	14.8 (Goa)	6			
Cooper							
1514-1526	-	-	-	-	-	-	-
1545-1570	42.3 (Chaul)*		12.2 (Goa)	9			
Scribe							
1514-1526	-	-	-	-	9.3 (Kannur)	3	
1545-1570	67.6 (Chaul)*	4	20.0 (Goa)	29			
Watchman							
1514-1526	-	-	-	-	-	-	-
1545-1570	39.9 (Chaul)*	2	14.7 (Goa)	2			
Indian		NW	N	Centre	N	SW	N
Carpenter							
1514-1526	-	-	-	-	4.0 (Kannur)	7,973	
1545-1570	17.9 (Diu)	40	6.7 (Goa)	5			
Interpreter							
1514-1526	-	-	-	-	-	-	-
1545-1570	28.2 (Chaul)*	2	8.2 (Goa)	1			
Military caste (Naique)							
1514-1526	-	-	1.7 (Goa)	114	6.1 (Kannur)	26	
1545-1570	19.3 (Diu)	4	5.1 (Goa)	37			
Rifleman							
1514-1526	-	-	-	-	-	-	-
1545-1570	7.9 (Bassein)	4	4.9 (Goa)	54			

Source: See Tables 1.1 and 1.2.

Note: \*Price of rice used proxy from Diu (1547).

Table 1.11 Real Income of European and Indian Unskilled Labour Expressed in Rice, 1514-1570 (Purchase Power of Kg per Day)

European		NW	N	Centre	N	SW	N
Prison guard							
1514-1526	-	-	-	-	-	-	-
1545-1570	30.5 (Chaul)*	1	9.6 (Goa)	1			
Gatekeeper							
1514-1526	-	-	-	-	-	-	-
1545-1570	30.5 (Chaul)*	1	21.8 (Goa)	5			
Indian		NW	N	Centre	N	SW	N
Boy							
1514-1526	-	-	2.0 (Goa)	4			
1545-1570	8.5 (Diu)	3	2.5 (Goa)	3			
Man/Servant							
1514-1526	-	-	1.3 (Goa)	158	2.7 (Kannur)	10,277	
1545-1570	5.3 (Diu)	34514	-	-	-	-	-
Peon							
1514-1526	-	-	1.4 (Goa)	573			
1545-1570	10.9 (Diu)	94	2.6 (Goa)	277			
Torchman							
1514-1526	-	-	2.0 (Goa)	12			
1545-1570	8.5 (Diu)	11	3.6 (Goa)	14			

Source: See Tables 1.1 and 1.2.

Note: \*Price of rice from Diu (1547) used as proxy.

## 1.10. TRENDS IN WAGE DEVELOPMENT IN INDIA IN THE LONG RUN

Finally, after all these exercises and considerations, we can now try to integrate the results for the first three quarters of the 16th century in the greater debate about welfare developments in India.



Table 1.12 Wage and Income Development of Unskilled Indian Workers, 1311–1650 (Expressed in Kg of Rice and Grain per Day)

Year	Locality	Rice Income and Wage	
		Total Income	Wage
1311	Delhi		3.00
1514–1526	Kannur	2.70	2.22
1514–1526	Goa	1.40	0.82
1545–1570	Goa	2.60	1.45
1545–1570	Diu	5.30	3.89
1595	Agra/Lahore		0.50
1610–1619	Surat		1.04
1620–1629	Surat		3.63
1630–1639	Surat		0.84
	Agra		2.22
1640–1649	Surat		3.11
1650–1659	Surat		8.76
1690	Surat		3.01
	Agra		1.99
	Bengal		3.43

Source: See Table 1.11 and de Zwart and Lucassen (2020, Table 6).

Note: For comparison purposes, recalculated as equivalents of grain instead of a full basket of goods.

Therefore, we first have to distinguish between the availability of two types of cereal grains in India: due to climatic and environmental factors, sorghum, millet and wheat were the dominant diet of the common man in the north/north-west and rice that in the north-east, south and west.<sup>36</sup> That is why in Table 1.12 we have indicated the preferred local type of grain used by ordinary people. Taking this into account, as well as the higher nutritional value of rice, we clearly see that somewhere in the 1530s–1540s a substantial improvement in wages took place, except for possibly in the deep south.

How long this lasted is the big question for future research. Unfortunately, the data for the period between 1595 and 1690 are

full of uncertainties.<sup>37</sup> First, unlike previous data derived from Portuguese sources, they pertain only to wages, not to total income. Second, they are based on fewer observations and may thereby be rather volatile. Third, the provisional results of ongoing research in Portuguese sources for the period 1570–1640<sup>38</sup> do not reveal a clear continuation of the positive trend observed in the mid-16th century when there was a hike in real income. Therefore, we will refrain from drawing any firm conclusion regarding the follow-up of the trends found in this chapter. Until new Indian, Dutch, Danish, French or English sources become available for before the end of the 17th century, we will have to explore the as yet untapped but rich Portuguese-language sources for that period.

In this chapter, we cannot go deeper into the fascinating topic of skill premium, skills and their acquisition and the narrowly related apprenticeship and social mobility questions. However, this may lead us in the future to some possible explanations about income growth in mid-16th century India.

### 1.11. DISCUSSION AND CONCLUSION

Before suggesting possible backgrounds, and explanations for the welfare hike described above, we must briefly go back to our research methods. Without losing our excitement over the discovery of so many valuable sources for the reconstruction of income levels in South Asia in the 16th century, we must not forget the many steps that were taken to reach this point. And the more steps, the more chances there are for mistakes to occur: in transcriptions, in translations, in metrology and so on. We hope, however, that by publishing our results in this way, and by making our database available for other researchers, we have opened an interesting debate.

Finally, we want to address here briefly the possible background of the welfare growth that we believe to have demonstrated for mid-16th century India. In the available literature, we discern two lines of argument: the increased world trade and the favourable economic policy of the Sur dynasty and their Mughal successors. Both may have had positive effects on the economy that also included affected wage earners. Awaiting more detailed research, we will briefly sketch what we mean by this.



The increase of trans-oceanic shipping between India and Europe in the 16th century is a well-known fact, but its consequences for general income levels are less known. There is a strong tendency in world history to focus on its negative effects for non-European countries. This is, however, anachronistic for the 16th century. Without denying the greed and the brutalities of the Portuguese and their successors in densely populated South Asia, they were actually

merely a group of merchants among many and had to abide by the rules of the market and/or the constraints dictated by {...} strong states that were controlling the region. In these areas, where the additional money supply generated by this trade did not lead to inflation, the results could be positive (although often small as compared to the large size of these agricultural economies). (de Zwart & Van Zanden, 2018, p. 26; Palat, 2015, pp. 176–190)

This long quote seems to apply well to the west coast of India, where the remunerations structure of Portuguese settlements has been analysed herein. In particular in the north, the emphasis on a strong state applies. Although in the earlier years of the 16th century this still also goes for the Vijayanagar Empire in the south and the somewhat more northern Bijapur and other sultanates, it does apply most to the highly successful Suri Empire in the north (Asher & Talbot, 2006; Palat, 2015). Especially Sher Shah Suri (1538–1545)—nevertheless in his short reign—restructured the former Delhi Sultanate in a fundamental way. Among his important innovations were a fair administration of the land revenue, an efficient organization of the army, a sound uniform coinage based on the silver rupee and the copper paisa, the construction of great highways across the empire with regular caravanserais, grain stores, wells, milestones, etc., and planted with fruit trees. This was successful and far-sighted economic policy in *optima forma*. What is more, it was maintained and extended by his successors, the Mughals, among whom Akbar (1556–1605) was the most important.

A combination of these two fundamental changes in the Indian economy may well have had such positive effects on the economy as we see reflected in the increased real income of ordinary unskilled and skilled Indian labourers around the middle of the 16th century.

Appendix 1.1 Average Nominal Income Entries for Skilled and Unskilled Workers in Western Coastal India, 1514–1570 (in Reals per Day)

Centre		North-western									
	N	Goa	N	Chaul	N	Bassein	N	Daman	N	Diu	N
Skilled (European)											
1514–1526	1	36.0	6	47.6	-	-	-	-	-	90.8	65
1545–1570		178	28	66.4	109	77.9	63	82.1	86	41.6	86
Unskilled (European)											
1514–1526	-	-	-	-	-	-	-	-	-	-	-
1545–1570	84	80.0	2	42.7	11	38.8	76	34.1	86	41.6	86
Skilled (Local)											
1514–1526	140	21.3	3	57.3	-	-	-	-	-	-	-
1545–1570	134	27.3	3	36.5	26	36.8	411	35.7	405	24.5	405
Unskilled (Local)											
1514–1526	767	9.6	-	-	-	-	-	-	-	-	-
1545–1570	16,454	21.3	37	14.0	450	11.9	232	12.7	34,880	15.7	34,880

(Appendix 1.1 Continued)



## NOTES

1. Some small modifications will be explained below; in addition, we have supplied income estimates.
2. In this figure, and in this study, we have not used the Portuguese names, but rather the modern spelling, with two exceptions where we have maintained the conventional historical name as the divergence with the modern name is rather wide: Calicut (now Kozhikode), and Kochi (Port. Cochim, now Kodungallur).
3. In a further study, we will explore the very rich archival evidence on wages after 1570, available from Portuguese sources. For comparative reasons, we also will consider wage data for the Portuguese settlements on the coast of East Africa available from the early 16th century onwards.
4. In the original: *um mínimo de territorialidade efectiva e um máximo de âmbito geográfico abarcado*.
5. Under the legal principles of *mare clausum*.
6. According to Disney, the population of Goa in the early 17th century was approximately 75,000 individuals, with a maximum of 5,000 Portuguese individuals, including the *casados* (Portuguese settlers), military officers and clergy. In smaller possessions the Portuguese population was far less, usually comprising no more than a few hundred persons or even a few score, who lived clustered round the fort. Everywhere the overwhelming majority was non-Portuguese' (Disney, 2009, p. 2, 149).
7. With the exception of Bassein, where local income was largely based on farming (Disney, 2009, p. 2, 156).
8. 'Seco' means dry, referring to a 'passo' situated inland, in contrast to the others, located next to rivers.
9. An extensive report of these *tanadarias* and its several villages for the end of the 16th century is to be found at *O Tombo de Damão 1592* online at <http://cvc.instituto-camoes.pt/conhecer/biblioteca-digital-camoes/historia-1/2419-2419/file.html>.
10. Images that illustrate our point can be found at [https://en.wikipedia.org/wiki/File:Codice\\_Casanatense\\_Maynatos.jpg](https://en.wikipedia.org/wiki/File:Codice_Casanatense_Maynatos.jpg)
11. *Naire* was a member of the noble class and a military. Possibly *iti* is a subdivision of the *naire* caste, see the following entries: *itinaire, itiquila, itiuirama* and *ity*. (Dalgado, 1983)
12. Research needs to be carried out to determine if one or more of these contain a personal name.
13. There is also one entry for a forced sailor (*forçado*).
14. In our sources, slaves are mostly employed by the government, but sometimes we also encounter private slave owners, which,

Source: ANTT, NA, n.º 622-623, 755, 760, 876; ANTT, CC, Part II, mc. 136, doc. 19; B. A., Cód. 51-VII-8, fls. 1-197; B. A., Cód. 51-VII-19, fls. 262-265v; Botelho ([1554]1868); de Jesus (2012b); de Matos and Lucassen (2019); Pissurlencar (1951).

South-western		Basur		Kannur		Cranganore		Calicut		Kochi		Kollam	
	N		N		N		N		N		N		N
Skilled (European)	1514-1526	33.2	13	82.0	5	82.0	5	82.0	5	82.0	5	82.0	5
Unskilled (European)	1514-1526	-	-	-	-	-	-	-	-	-	-	-	-
Skilled (Local)	1514-1526	-	-	49.5	2	32.9	1	32.9	1	32.9	1	32.9	1
Unskilled (Local)	1514-1526	-	-	8.005	-	15.09	6	15.09	6	15.09	6	15.09	6
Skilled (Local)	1545-1570	30.0	2	25.1	7	51.6	16	51.6	16	51.6	16	51.6	16
Unskilled (Local)	1545-1570	-	-	16.8	10,295	16.8	10,295	16.8	10,295	16.8	10,295	16.8	10,295
Skilled (European)	1545-1570	10.3	12	15.3	4	15.7	3	15.7	3	15.7	3	15.7	3
Unskilled (European)	1545-1570	-	-	-	-	-	-	-	-	-	-	-	-
Skilled (Local)	1545-1570	18	18	18	18	18	18	18	18	18	18	18	18
Unskilled (Local)	1545-1570	15.3	4	15.3	4	15.3	4	15.3	4	15.3	4	15.3	4

(Appendix 1.1 Continued)



remarkably, are nearly always sailors and caulkers apart from an occasional master cooper and copper smith. In our analysis, we assume that these private slaves assisted their masters in their respective occupations.

15. We prefer this interpretation because otherwise they would have been called *mulheres para serviço dos homens*. Note that the Portuguese authorities, on the one hand, condemned prostitution by Christian women but, on the other, preferred sexual service to soldiers by Christians over non-Christians (Hindu, Muslim) women.

16. About these institutions, see Miranda (2007, pp. 33–55).

17. ANTT, *Contos do Reino e Casa*, Núcleo Antigo, n.ºs. 755 [for Calcut, 1514–1515] and 760 [for Chaul, 1514–1516]; de Matos and Lucassen (2019).

18. ANTT, NA, n.º 876. doc. 35 [c. 1520]; ANTT, CC, Part II, mç. 136, doc. 19 [1526].

19. ANTT, NA, n.º 622 [Goa, 1531]; ANTT, NA, n.º 623 [Kannur, 1532–1533].

20. B. A., Cód. 51-VII-8, fls. 1-197 (Book of *mercês* made by Dom João de Castro, governor of *Estado da Índia*, 1545–1548).

21. About the context of the siege, see de Jesus (2012a).

22. B. A., Cód. 51-VII-19, fls. 234–244. Published in de Jesus (2012b, pp. 233–243).

23. B. A., Cód. 51-VII-19, fls. 262–265v (*Trelado das fereças que ho feitor Antonio Gill [...] pagou a jemie da terra guzarates*). Transcribed within the project LEW-PIO (1500–1650).

24. For instance, the wage of an officer in the year of 1565 would consider at least the last five years (i.e., since 1560).

25. For the importance of the terms used to indicate different types of remunerations in contemporary Europe (including Portugal), see Beck et al. (2014).

26. Besides regular workers and officials, *manimento* was also given to slaves and to a variety of dependents, including prostitutes and children (de Souza, 1994, p. 156). Batta in Kannada is 'paddy' (in Portuguese *bate*).

27. Biscoito was mainly produced with wheat flour, as mentioned by Guinote et al. (1998, pp. 56–57). It was boiled three or four times in a row in order to be preserved longer than bread. We do not know whether this process affected the caloric content of wheat and, therefore, we have left this out of consideration here. For 1 kg of biscoito, 1.45 kg of wheat are needed.

28. B. A., Cód. 51-VII-19, fls. 234–244. This food cost 2 *reis* per day, the same sum that was spent for slaves in Kannur in 1517 (see

Table 1.9 and the adjoining note on this issue). As Table 1.11 makes clear, this represents totally different amounts of rice.

29. Black Rice (*Oryza Sativa*, Lin.) contains 854 calories per 100 g; see Saunders and Betschart (1979). King fish (*Scomberomorus Cavallo*, Cuvier, 1829) contains 101 calories per 100 g; see <http://www.catalogueoflife.org>.

30. Calculations based on ANTT, CC, I, mç. 30, n.º 96; mç. 31, n.º 146; these daily rations contain 1971 calories for *biscoito*, 3,560 for white rice and 323 for butter. See Saunders and Betschart (1979) and Muehlhoff et al. (2013, p. 67 [Table 3.7]).

31. The slight change in the chronology is due to the inclusion of the maintenance book for Kochi, 1507.

32. Regarding the siege of Diu, see de Jesus (2012a).

33. Prices calculated from B. A., Cód. 51-VIII-19, fls. 235v-242.

34. (...) Esta terra [Bassein] he tam barata [...]. Letter of António Gomes S. I. to Simão Rodrigues, General of the Portuguese Jesuits [20th December 1548] in *Documenta Indica*, ed. Joseph Wicki (Rome: Monumenta Historica Societatis Jesu, 1948-1988), vol. I, pp. 409–426 [doc. 59].

35. A careful check of the data as represented in de Matos and Lucassen (2019, p. 123, Table 4) reveals that there are, in fact, two different entries for maintenance money, the first time paid out to 70, and the second time to 75 enslaved sailors, respectively, 2.02 and 20.03 *reis* per person per day.

36. Mahajan et al. (2017, pp. 53–91). Historians of real wages and income can safely take the lowest priced grain in any particular situation as the prevailing staple food.

37. That is also why we have recalculated only a small selection of the data from de Zwart and Lucassen (2020) only to provide a first impression for what was happening in the 17th century.

38. By the authors of this chapter, together with Pim de Zwart (Wageningen University).

## REFERENCES

- Allen, R. (2001). The great divergence in European Wages and prices from the Middle Ages to the First World War. *Explorations in Economic History*, 38, 411–447.
- Allen, R. C. (2007). India in the great divergence. In T. J. Hutton, K. H. O'Rourke, & A. M. Taylor (Eds.), *The new comparative economic history. Essays in honor of Jeffrey G. Williamson* (pp. 9–32). MIT Press.
- Allen, R. C., Murphy, T., & Schneider, E. B. (2012). The colonial origins of the divergence in the Americas: A labor market approach. *The Journal of Economic History*, 72(4), 863–894.



- de Zwart, P., & Van Zanden, J. L. (2018). *The origins of globalization. World trade in the making of the global economy, 1500–1800*. Cambridge University Press.
- Disney, A. R. (2009). *A history of Portugal and the Portuguese Empire* (Vols. 1–2). Cambridge University Press.
- Guinote, P., Frutuoso, E., & Lopes, A. (1998). *Naufrações e outras perdas da 'Carreira da Índia', séculos XVI e XVII*. Grupo de Trabalho do Ministério da Educação para as Comemorações dos Descobrimentos Portugueses.
- Haider, N. (1996). Precious metal flows and currency circulation in the Mughal empire. *Journal of the Economic and Social History of the Orient*, 39(3), 298–364.
- Humphries, J., & Weisdorf, J. (2019). Unreal wages? Real income and economic growth in England, 1260–1850. *The Economic Journal*, 129(623), 2867–2887.
- Mahajan, G., Kumar, V., & Chauhan, B. S. (2017). Rice production in India. In B. S. Chauhan, K. Jabran, & G. Mahajan (Eds.), *Rice production worldwide* (pp. 53–91). Springer.
- Miranda, S. M. (2007). *A administração da Fazenda Real no Estado da Índia (1517–1640)* (Unpublished doctoral dissertation). New University of Lisbon.
- Muehlhoff, E., Bennett, A., & McMahon, D. (Eds.). (2013). *Milk and dairy products in human nutrition*. FAO.
- Nunes, A. (1868). O livro dos pesos, medidas e moedas. In R. de L. F. (Ed.), *Subsídios para a História da Índia Portuguesa* (pp. 3–64). Academia Real das Ciências (Original work unpublished 1554). <http://purl.pt/26821>
- Palat, R. (2015). *The making of an Indian. Ocean world-economy, 1250–1650. Princes, paddy fields, and bazaars*. Palgrave MacMillan.
- Parthasarathi, P. (2011). *Why Europe grew rich and Asia did not: Global economic divergence, 1600–1850*. Cambridge University Press.
- Pearson, M. N. (1973). Wealth and power: Indian groups in the Portuguese Indian economy. *South Asia: Journal of South Asian Studies*, 3(1), 36–44.
- Pinto, P. (1997). *Portugueses e Malaios. Malaca e os Sultanatos de Johor e Achém, 1575–1619*. Sociedade Histórica da Independência de Portugal.
- Pissurlencar, P. S. S. (1951). *Regimentos das fortalezas da Índia*. Cartório Geral do Estado da Índia.
- Rodrigues, V. (1990). *A Organização Militar do Estado Português da Índia (1500–1800)* (Unpublished dissertation fulfilled as a

- Asher, C. B., & Talbot, C. (2006). *India before Europe*. Cambridge University Press.
- Beck, P., Bernardi P., & Feller L. (Eds.). (2014). *Rémunérer le travail au Moyen Âge. Pour une histoire sociale du salariat*. Picard.
- Blanchard, I. (1978). Labour productivity and work psychology in the English mining industry, 1400–1600. *Economic History Review*, 31(1), 1–24.
- Bluteau, R. (1712–1728). *Vocabulário português e latino* (Vols. 1–10). Colégio das Artes da Companhia de Jesus.
- Botelho, S. (1868). Tombo do Estado da Índia. In R. de L. Felner (Ed.), *Subsídios para a História da Índia Portuguesa* (pp. 1–259). Academia Real das Ciências (Original work unpublished 1554). <http://purl.pt/26821>
- Broadberry, S., Custodis, J., & Gupta, B. (2015). India and the great divergence: An Anglo-Indian comparison of GDP per capita, 1600–1871. *Explorations in Economic History*, 55, 58–75.
- Broadberry, S., & Gupta, B. (2006). The early modern great divergence: Wages, prices and economic development in Europe and Asia, 1500–1800. *Economic History Review*, 59(1), 2–31.
- Cruz, M. R. T. B. A. (1988). *O Sistema de Distribuição das Cargas nas Armadas da Índia*. Instituto Nacional de Investigação Científica.
- Cunha, J. T. E. (2011). Goa: A construção, ascensão e declínio de um império português na Ásia, ca. 1510-1750. In J. M. dos Santos & J. M. A. E. Silva (Eds.), *Goa. Portugal e o Oriente: História e Memória* (pp. 81–144). Palimage.
- Cuvier, G. (1829). *Le Règne Animal* (2nd ed). Deterville
- Dalgado, S. R. (1988). *Glossário Luso-Asiático* (Vols. 1–2). Academia das Ciências de Lisboa (Original work published 1919–1921).
- de Jesus, R. L. (2012a). O segundo cerco de Diu (1546): Estudo de história política e militar (Unpublished master's thesis). University of Coimbra.
- de Jesus, R. L. (2012b). As despesas da reconstrução da fortaleza de Diu em 1546–1547. *Revista de História da Sociedade e da Cultura*, 12, 217–243.
- de Matos, P. T., & Lucassen, J. (2019). Early Portuguese data for wage developments in India: Kannur (Cananor), 1516–1517. *Ier História*, 75, 113–131.
- de Souza, T. (1994). *Goa medieval. A Cidade e o Interior no Século XVII*. Estampa.
- de Zwart, P., & Lucassen, J. (2020). Poverty or prosperity in northern India? New evidence on real wages, 1590s–1870s. *The Economic History Review*, 73(3), 644–667.



# WAGES AND PRICES IN MADRAS C. 1650–1720

Radhika Seshan

This chapter is a preliminary exercise into examining the English factory records of Madras, particularly of the 17th century, to see what kind of information regarding prices and wages can be gleaned from them. It has often been assumed that these records have been so extensively used that there is nothing much more that can be got from them; but here too, a different perspective yields a great many results. For example, Broadberry and Gupta (2006, p. 12) while pointing to the need to rely in some years on data for unskilled and skilled weavers' do not explain what is meant by an unskilled weaver, nor the primary sources on which this statement is based. Both the Dutch and the English records for the 17th century give some details on wages given to the weavers in the region around Masulipatam and Pulicat (Dutch), and near Cuddalore and Kumimedu (English). A comparison of this data would perhaps be helpful to fill out the picture a little more. It is also noticeable that, while for North India much of the information is for the 16th century, for South India, it is mainly for the post-1740 period. This chapter therefore takes a fairly narrow time span and concentrates on the earliest fort of the English in India, Fort St. George and the town of Madras/Chinnapatnam adjoining it; or, as termed in the records, 'Our fort and city of Madras'.

The English got the grant for the area that became Fort St. George in 1639 from the Nayak (the ruler) of the region. Late in

requirement to the career of assistant researcher). Instituto de Investigação Científica e Tropical.

Saunders, R. M., & Betschart, A. A. (1979). Rice and rice foods: Chemistry and nutrition. In G. E. Inglett & G. Charalambous (Eds.), *Tropical foods: Chemistry and nutrition*, Vol. 1 (pp. 191–216). Academic Press.

Subrahmanyam, S. (2012). *The Portuguese empire in Asia, 1500–1700. A political and economic history*. Wiley-Blackwell (Original work published 1993).

Thomaz, L. F. (1998). *De Ceuta a Timor*. Difel (Original work published 1994).

Voth, H. (2001). *Time and Work in England, 1750–1850*. Clarendon Press.

Xavier, Á. B. (2016). Ser cidadão no Estado da Índia (séculos XVI–XVIII). Entre o local e o imperial. In Á. B. Xavier & C. N. da Silva (Eds.), *O Governo dos Outros. Poder e Diferença no Império Português* (pp. 267–292). Imprensa de Ciências Sociais.



The study of wage levels and the purchasing power of wages is often viewed as a specialized academic topic of little concern to the wider public. This is far from being the case, as this book demonstrates. The study of wages opens up vistas of the daily life of the working people, of their standards of living and, therefore, addresses questions of larger economic developments and unequal power relationships in a region.

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- demonstrates the trends in wages over the period under review
- stresses the need to take women into account for the reconstruction of household income

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