
500 Years of Housing Rents in European Cities

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Abstract

In this thesis, I study 500 years of housing rents in seven cities in four different European countries. The thesis considerably expands the universe of cities for which long run quality-adjusted rent indices exist. Besides an index for Paris, I estimate new repeated-rent indices for Antwerp, Bruges, Brussels, and Ghent for the 1500-1940 period and significantly improve existing indices for London (1500-1895) and Amsterdam (1550-1854). Moreover, by carefully combining these series with existing market rent series, I create annual time series of rents from 1500 until 2015 for these seven cities. A comparison with the level of consumer prices and wages, partially based on newly developed indices, puts rents in a broader macroeconomic perspective. Additionally, I construct the first long-run index of housing consumption and quality.

The indices reveal that real rents in Western Europe have developed similarly in the long-run, but reflect differences in local economic and political conditions in the short run. While long-run growth in real rents has been very limited, housing quality and consumption have risen considerably. This implies that most of the increases in housing expenditures relative to income can be attributed to increasing housing consumption, rather than rising market prices. For most of the 20th century, and for the first time in known history, wage growth has significantly outpaced growth in rental prices, implying improved housing affordability.

Topic: Economic History, Housing markets

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1. Introduction

Understanding housing markets is a central issue for private households, property investors, and policy makers alike. Housing markets are very dynamic though, and have changed drastically in the past two centuries. Due to relentless urbanization since the beginning of the industrial revolution, urban agglomerations have expanded substantially, both in area and in population numbers. In the wake of this rapid urbanization, housing markets have had to readjust continuously to new equilibria. Until the end of the 19th century, these markets could do so without much government interference, but that began to change in the first decades of the 20th century, when governments started to introduce rent ceilings and home buying incentives, and began to interfere more intensively with urban planning, so affecting the demand and supply of housing. The extent to which this meddling has taken place varies significantly, but there cannot be much doubt that government involvement has left its traces in the market.

Most economic studies on housing markets, both for prices and rents, are based on contemporary data and ignore the long and rich history of hundreds of years of owning and letting homes. Although the likely reason for this modern focus has been the lack of historical data, efforts to compile and construct historical house price and rent indices have surged, especially in the last five years. Recent examples for house prices are Raff, Wachter & Yan (2013), who estimated a house price index for Beijing from 1644 to 1840, and Karagekli & Tuncer (2016), who construct a hedonic house price index for Ottoman Edirne between 1734 and 1814. An early study is Eichholtz (1997), who created the Herengracht index for Amsterdam covering the 1628-1973 period. Knoll, Schularick & Steger (forthcoming) have produced an impressive overview of house price studies resulting in house price indices for 14 different advanced economies since 1870.

For rental markets, some recent examples are Drelichman & Agudo (2014), who constructed a rent index for Toledo, Spain, from 1489 to 1600 based on 183 different properties, and Ormrod, Gibson & Lyne (2011), who have compiled an index for rental properties in both London and South-East England, although the number of properties considered is relatively small. For Austro-Hungary, Cvrcek (2013) provides rental indices for various cities in the Habsburg empire from 1827 to 1913 as part of a wider study on living standards. Lastly,

Eichholtz, Straetmans & Theebe (2012) estimate a constant-quality rent index for Amsterdam from 1550 to 1850, based on previous historical work of Lesger (1986). Next to these recent studies, a large amount of more and lesser known rent studies has been conducted in the past decades. While these studies have uncovered lots of useful data on particular cities and eras, a consistent overview and comparison across cities and countries is still lacking, and nor have indices been estimated using the appropriate state-of-the-art techniques to control for quality.

The main aim of this thesis is to provide a long-term view of rental markets in major cities in Western Europe. Based on a huge data collection effort, I construct rental indices from 1500 to the present for seven Western-European cities: Amsterdam, Antwerp, Bruges, Brussels, Ghent, London, and Paris. Using information on median rents and market rents, I additionally construct the first long-run estimates of average housing consumption and quality. To put the developments in rental markets in a broader economic perspective, I collect additional data on consumer prices and wages, building both on existing and newly constructed indices.

The focus on rental markets is not merely a result of data availability. While most real estate literature focuses on developments in house prices, I believe rental markets deserve equal attention. In the majority of large cities in the United States and Western Europe, renting is the dominant form of tenancy. At the same time, in particular in large cities, discussions about housing affordability have surged. To guide policymakers in these discussions, it is essential that sufficient information from rental markets is available. From an investors point of view rental markets are equally relevant, as rental income is the main determinant of real estate returns.

I believe a long-term view on rental markets is relevant for four reasons. First, it allows to observe rental markets for 400 years without potential distortions caused by regulatory bodies. Most Western-European rental markets have been under some form of regulation since the early 20th century, such that it is impossible to use contemporary data to show how markets fare without intervention. Second, a long-term view makes it for the first time possible to directly study housing affordability in the long run, using data on both wages and rental prices. This is particularly relevant as government intervention has mostly been driven

by concerns over housing affordability. By decomposing rents into a market component and a quality- and consumption component, I show that the large majority of the increases in housing expenditures can be attributed to increases in housing quality and consumption³, rather than increasing market rents. Third, my long-term indices shed new light on the economic history of the cities under consideration, as I can quantify the impact of large economic and political shocks on a city based on data from the rental market. Last, a longer-term perspective might give a more realistic picture of investment income from rental housing, as most existing studies have focused on the post-war era, a period marked by strong house price and rent growth.

Although each of these reasons could be a motivation for extensive empirical work based on long-run data from housing markets, I leave most of this for future work. This thesis is rather aimed to provide a solid foundation for many of these works: the database and indices presented in this thesis form, to my knowledge, the largest historical real estate dataset constructed to date in terms of raw data and years times countries covered. The emphasis lies therefore on the construction of this database, with significant effort given to qualify and discuss each of the sources used to construct the indices. While I will provide some discussion on the new insights that can be generated from my work, a thorough treatment of each of these issues would be too much to encompass in a single thesis.

My work is based on dozens of different studies, and the varying nature of samples and methodologies across these studies imposes significant challenges for the representativeness of the data. In order to provide reliable long-term indices, the varying quality and locations of rental homes must be accounted for as accurately as possible. Whenever possible, I have recovered thousands of individual rent observations underlying existing historical studies to estimate annual rental indices based on a single state-of-the-art method: a repeated-rent index with frequency conversion (Bokhari & Geltner, 2012). This has resulted in new repeated-rent indices for Belgium from 1500-1940, both at the city level and the national level, an annual repeated-rent index for London from 1500-1895 and a re-estimated Amsterdam rent index covering 1550 to 1854.

³ In the rest of the thesis, I will write ‘housing quality’ when referring to ‘housing quality and consumption’. There is a slight difference between the two: housing consumption refers to the number of units of housing consumed (e.g. the number of square meters), whereas housing quality measures the quality, and therefore implicitly the value, of one unit of housing (e.g. per square meter).

I find that real rental prices in Western Europe have evolved similarly since the 17th century. From the 17th to the late 18th century I document no significant appreciation in the level of real rents, while housing quality increased strongly in the 16th century. Following the fall of the Ancien Regime and the start of industrialisation, real rents and housing quality start to rise quickly during the 19th century, although significantly later in Amsterdam. The World Wars and the interbellum, combined with the introduction of rent controls, cause large volatility in the real rental value of homes, unseen since at least the 16th century. After the World Wars, rents increase up to and beyond the levels observed before the First World War. At the same time, income growth starts to outpace rental growth consistently until the 90's, for the first time in known history, implying improved rental affordability in each of the studied cities.

The remainder of this thesis is organized as follows. In the second section, I introduce and discuss the various sources of the data I have collected for each city and country. A more detailed discussion of rental sources can be found in Appendix A. The third section explains the methodology used to estimate the rent, housing quality, consumer price and wage indices. Subsequently, I discuss the resulting indices, the new insights that can be generated from them and perform an exploratory empirical analysis to study the relation between rents, wages and consumer prices. Section five concludes.

2. Data sources

In order to provide a long-term overview of the rental market, I have compiled the work dozens of economic historians have conducted on the topic. Next to rental data, I have also collected consumer price and wage data. The resulting dataset covers four different countries and seven cities: Amsterdam, Antwerp, Bruges, Brussels, Ghent, London, and Paris. I have not chosen these cities merely because I could find a sufficient amount of rental data for them. The developments of these cities have differed significantly, both economically and politically. Yet, these cities are all located in relative proximity of each other, and they have historically been well connected, for example through trade and migration. My long-term study allows to investigate how these local factors have affected rental markets and compare

these with factors that have affected the economy of Europe as a whole, such as the World Wars, so I can study how developments in local markets have spilled over to other cities.

The ideal rental index estimates at high-frequency the market value of a standard housing unit whose properties do not change over time. Additional price and wage indices would reflect the yearly price level of the consumer basket preferred by the tenants and their corresponding wages. Although these ideal indices do not exist, my data collection has been targeted to reflect them as well as possible; an overview of all sources is presented in Table 1 and 2. If available, summary statistics on the underlying sample have been given as well. As can be seen, I rely both on primary data (individual rent, price or wage data) and secondary data (indices).

I have assessed to what extent each of the rental sources can produce the ‘ideal rental index’, based on five characteristics. ‘Coverage’ reflects whether the index or data cover just the city of interest or the whole country, whereas ‘type’ corresponds to the nature of the data. The column ‘sample representativity’ reflects the extent to which the sample consists of residential homes that are representative for the overall housing market in the city or country. The next column, constant quality market rents (CQMR), classifies whether the data correspond to quality-controlled market rents. Last, I have also assessed the sample size based on the annual number of observations and its volatility, in order to evaluate the statistical accuracy of the indices.

--- Table 1 and 2 ---

I have collected primary data on rental observations, published in existing historical studies, whenever possible. This has resulted in the collection of about 240,000 individual rent observations for Amsterdam (1550-1854), London (1500-1895) and the Belgian cities (1500-1940). Whenever these were not available I had to rely on secondary sources: published indices or other types of aggregated information. These sources tend to be of varying quality, and I chose the most representative when I had the luxury of having a multitude of studies at my disposal. For France, I unfortunately rely completely on indices based on secondary

sources, since the data underlying the included indices could not be retrieved.⁴ As the emphasis of this study is on rents, primary data on wages and prices were only collected in case secondary sources were not available, or current indices could significantly be improved. Primary consumer price and wage data are therefore only collected for some Belgian cities.

2.1 *Primary sources*

Virtually all primary sources originate from ledgers of various social institutions, mostly churches, monasteries, hospitals or orphanages. These institutions had considerable housing portfolios, mostly resulting from bequests or donations over time, and used the rental cash flows of these homes to finance their activities. They have kept extensive archival records of their accounts, of which many have survived the test of time.

Although it might seem counterintuitive to use rents from properties owned by such social institutions to estimate market prices of rental housing, there is an overwhelming amount of evidence showing these rents were representative for the market. First of all, despite the social nature of these institutions, their real estate portfolios were not used to provide low-cost housing to the poor. In each city there is considerable variety in the homes being leased, varying from sober cottages to splurge mansions. Some institutions also provided social housing, but this was accounted for separately and has not been included in the database. Second, most institutions had to rely almost exclusively on rental streams to finance their activities, and could therefore not permit themselves to ask below-market rents. This is highlighted in two rare complete annual accounts of the Hopital-Saint Jacques in Paris for 1636 and 1648, where rents provided respectively 83% and 96% of total income (Le Roy Ladurie & Couperie, 1970).

This representativity is confirmed when looking at actual data. Le Roy Ladurie & Couperie (1970) collected about 12,000 rental observations from privately owned Parisian properties for 23 different years, and compared these with the level of rents from the properties owned by social institutions. In none of the years, they found a significant difference in the level of rents. A similar pattern was confirmed for the early 19th century in England when comparing

⁴ Raw data for Paris from 1500-1830 is currently being collected from the French National Archives and the archives of the Paris public hospitals, as part of continuing PhD work. Data for Amsterdam from 1850-1940 is being collected on similar terms from the city archive of Amsterdam.

rents from charities with average rents identified in tax records (Feinstein & Pollard, 1988 and Clark, 2002). Last, Amsterdam rents and house prices have evolved similarly in the long-run (Ambrose, Eichholtz & Lindenthal, 2013).

One could be concerned that the homes in the sample cannot be considered representative for the average rental home, due to bias towards specific neighbourhoods or classes of homes. Practically all historical studies sampled have made extensive efforts to collect rental observations from a wide variety of neighbourhoods; plots of the properties on city maps confirm this. While the average home in each dataset can be considered representative for the rental market in each city, limited data availability likely causes problems to the representativity of the sample in particular years. This does not pose problems to the indices though; the used methodology provides representative indices as long as the (percentage) changes in the rents in the sample are representative for the market; the average level of rents does not matter.⁵

The large majority of rental sources only report the dwelling's rental value per year and its address. In some cases, additional information such as the profession of the tenant or the number of square meters of the property is mentioned as well. Because this is only mentioned in a very small number of cases, I have not accounted for these characteristics.

Primary price data on individual consumption goods are either based on actual purchase prices recorded by these social institutions, or on fixed prices set for tax or exchange purposes. Governments levied small taxes on goods, which were either based on actual market prices paid for the goods or on so-called 'spijker prices', fixed prices set by counties based on prevailing market conditions. Institutions without tax-levying authority used similar practices to set prices for monetary contracts that were settled in kind, providing an additional source of price information. These fixed prices were not always accurate representations of average annual market prices. Prices of goods could fluctuate considerably within a calendar year, as harvests could significantly be affected by bad weather or political instability.

⁵ The mean level of rents matters when constructing quality indices, but these issues will be discussed later in the thesis.

Wage data stem from employment contracts found in the institutional archives. While they contain wage data of employees directly employed by the institution, such as ironers, nurses, weavers, doctors or even type setters, few of these sources can be considered representative due to large wage differences between employees. I therefore focus on daily wages paid to temporary employment, mostly to masons, carpenters, slaters and their helpers. The properties owned by the institutions required significant upkeep, resulting in plenty of wage information for workers in the construction sector. An advantage of using wages in the construction sector is that most of these jobs are still existent nowadays, such that it is possible to make long-run comparisons. A drawback is that wages in the construction sector varied significantly with season, level of skill, the amount of beer money offered and the riskiness of the job at hand. This is not always identified in the records and, especially if data is scarce, is likely to cause noise in the index compared to the true wage level.

2.2 *Overview of studies*

Given that data quality is key to provide reliable indices, this subsection shortly discusses each of the sources used to compile the indices. Rental sources are discussed in more detail in Appendix A.

Belgium

Until the French annexation of Belgium in 1795, the four cities were located in two different states: Ghent and Bruges were part of the County of Flanders and Brussels and Antwerpen were part of the Duchy of Brabant. Most early economic-historical studies on rents, prices, and wages for these cities have been compiled in the four volumes of Verlinden's (1959, 1965, 1972, 1973) 'Dokumenten voor de Geschiedenis van Prijzen en Lonen in Vlaanderen and Brabant'.

Individual rent observations on Bruges come from the work of Mason (1972) whereas Antwerpen is covered by Scholliers (1962), both compiled in the Verlinden series. Ghent data is published in Van Ryssel (1967). Unfortunately, it was not possible to collect rental data before 1800 for Brussels. Avondts (1973) constructed a rental index for Brussels, but his paper and data seem to have disappeared.

I have collected individual price observations for many different goods, although for most cities price series on various grains tended to be the only continuous series available. For Antwerp, data is complemented with price data from Van der Wee (1963). Observations on daily wages of masons, carpenters, slaters and their helpers are obtained for Bruges (1500-1628), Ghent (1500-1799) and Antwerpen (1500-1840).

Institutional rental data is quite widely available after 1795. Segers (1999) collects individual rental data for Antwerp, Bruges, Liege and Leuven from 1800-1920. Ghent rents are collected by Avondts & Scholliers (1977), whereas the study of Van den Eeckhout & Scholliers (1979) covers Brussels (1800-1940). For the other Belgian cities, rental data for the interbellum period (1920-1940) is published in Henau (1991). From 1941 until 1961 I rely on an unpublished study of Henau, based on the same sources as her study for the interbellum period, although the database with raw data has disappeared. Surprisingly, no sources are available between 1961 and 1977. After 1977, the rent component of the CPI from the Algemene Directie Statistiek (2016) is used as a proxy for market rents.

The study of Peeters (1939) provides an aggregate index of wages in various Belgian industries from 1831-1913. Consumer prices are based on the index Michotte (1937) constructed for a representative basket of goods. I have deliberately chosen to use wages from the industrial or construction sector whenever available, in order to match with my primary sources. Price and wage data for the war years stem from the study of Scholliers (1978) on Brussels. After the First World War, a continuous consumer price index (1920-2015) is available from the Algemene Directie Statistiek (2016). Wage data come from a multitude of publications on industrial wages: Cassiers (1980), Nationale Bank van België (1950, 1960) and FOD Werkgelegenheid, Arbeid en Sociaal Overleg (2016).

Amsterdam - The Netherlands

As in the Belgian case, most pre-1800 Dutch data on rents, wages and prices stem from institutional accounts. Primary data on Amsterdam rents is only available from 1550-1854 and reported in Lesger (1986). Eichholtz, Straetmans & Theebe (2012) have already estimated a repeated-rent index based on Lesger's data, but I reconstruct this index based on a state-of-the-art methodology.

From 1854 until 1913, I have to rely on tax-based estimates of Horlings (1995) and Smits (1996), which have been converted to annual data by van Riel (forthcoming). After 1913 data stem from various sources published by the Central Bureau of Statistics, both archived publications and modern time series. These series correspond again to actual rents, and cover both The Netherlands (1913-1917, 1941-present) and Amsterdam (1917-1941).

Prices and wages in Holland have been studied extensively. For wages in the construction sector (1500-1815) I refer to De Vries and Van der Woude (1997). Van Zanden (2008) computes a consumer price index based on a representative basket of goods for Western Holland from 1500-1800. From 1800 until 1913, consumer prices come from the index constructed by Van Riel (forthcoming), which I deflate for rental expenses. Wages (from 1815) are based on national accounts constructed in the study of Smits, Horlings & Van Zanden (2000). Unfortunately, no specific information is available regarding the industrial or construction sector. Price and wage data after 1913 stem from Schrage, Nijhoff & Wielsma (1989) and publications of the Dutch Statistical Office.

Paris - France

The main study on Paris rents before the French Revolution is Le Roy Ladurie & Couperie (1970). The authors construct a triennial rent index for Paris from 1400 to 1789, based on the average rents of 11000 leases of homes owned by a large number of different social institutions in Paris.

Due to the turmoil caused by the French revolution, rental information is missing in the twenty years after 1789. For 1809 to 1860, I resort to a triennial index of Daumard (1965). Daumard estimates rents based on the so-called 'rente foncière' for six representative streets in Paris from 1809 to 1880, which I aggregated into a single index. These 'rentes foncières' formed the basis for tax payments and estimated the amount of rent that could be extracted from a building had it been leased. From 1860 onwards it is possible to switch back to an actual rent index estimated by Marnata (1961), my source from 1860-1958. Marnata collected 11800 different rents from lease management books from residential

neighbourhoods in Paris, although mostly homes of relatively high quality. After 1958, I rely on national estimates, measured by the rent component of the CPI from INSEE (2016).

Wage data for the period of the Ancien Regime is based on the work of Baulant (1971) and Durand (1966). Both studies look at the wages of masons and their helpers, but unfortunately in a significant number of years there is no data available (approximately 85 years). Consumer prices come from the index developed by Allen (2001), which is based on several historical studies. Since only grain prices are continuously available for Paris, the prices for a handful of other goods come from Strasbourg. Allen has interpolated missing data in order to provide a continuous price index.

Price data directly after the French revolution is taken from CGEDD (2016), whereas wage data from 1805-1840 stem from Rougerie (1968), whose study builds on accounts of daily wages in the construction sector. From 1840-1950, I use the consumer price index for workers from Singer-Kerel (1961) and her wage index on weekly earnings. After 1950, I rely on price and wage indices produced by INSEE (2016).

London - England

For England in general and London in particular, several long run studies trace residential rents from 1550 through industrialisation up to the World Wars. Most notably, Clark (2002), Feinstein (1988), Weber (1965) and Samy (2015) create indices that control for differences in the quality of the rented properties by either repeated measures regressions or by explicitly accounting for quality characteristics in a hedonic regression. I augment these early times series with information on rents in more recent time periods. Parker (1957) provides information on working class rents during World War II (1939-1945). Ironically, private rents are less researched in post-war Britain. From 1947 until 1966 I rely on the housing component of the CPI (rent and rates) for England (ONS, 2016a), whereas from 1966 until 1987 I use the average level of private registered rents in England and Wales (Holmans, 2005). After 1988, I turn to the rent component of the CPI (ONS, 2016b), which is replaced since 2005 by their experimental index of private housing rents (ONS, 2016c).

Indices on consumer prices (1500-1869) and wages of craftsmen and labourers in the construction sector (1500-1913) are taken from the work of Clark (2005). Later accounts of wages and prices are retrieved from Hills et al. (2015, data annex)

3. Methodology

3.1 Market rent indices

I splice all secondary sources together; starting in the present and extending to the past. For all primary sources, I first compute a rent index based on the repeated-measures methodology, which will be discussed below.

The current literature on the estimation of rent indices has relied on hedonic models, repeat-sales models or a combination of both. In this thesis, I solely rely on repeat-sales regressions. Hedonic models control explicitly for quality characteristics, but since little quality information on the homes in the sample is available such an approach is not viable. The repeated-measures methodology controls for quality by focusing on changes in rents on the same property, under the assumption that the quality of the property remains constant over time.

Even though all historical studies compiled have dropped rental observations if there was an indication a home was rebuilt, renovated or significantly affected in some other way, it is likely that the data do not completely satisfy the assumption of constant quality. First of all, I cannot account for the effect of aging on the property as the year in which a property is built is unknown. Second, minor changes to the property might not have been registered. Property changes are likely to have been common: evidence from Lindenthal, Eichholtz & Geltner (2015) shows that between 1832 and 2015, 79 percent of lots in Amsterdam were involved in land assembly. Last, location premiums may have changed over time. Despite these issues, the repeat-sales methodology is still the most-widely accepted in practice and the best I can do given data availability. Current repeat-sales indices suffer from similar drawbacks and do not necessarily rely on better primary data.

In order to estimate a reliable repeat-sales index, it is important to classify which observations can be treated as repeated observations. While rents are recorded yearly, the average contract lasted multiple years and within the contract term the level of rents could not change. Hence, the level of rents is only representative in the year the rental contract is signed. I therefore only include years in which the rent is revised, as contracts are not directly observed.

I apply the repeated-measures methodology to construct five new repeated-rent indices; for Bruges, Antwerp, Ghent, Brussels and Belgium as a whole. I also re-estimate the Amsterdam index from 1550-1854, extending the Eichholtz, Straetmans & Theebe (2012) index by four years and applying a more efficient estimation method. Last, I estimate an annual repeated-rent index for London from 1500-1895. Clark (2002) has already estimated an index that controls for the quality of the properties by only including repeated observations, but he applies a different index estimation methodology. Most importantly, his index is only at 10-year frequency.

The main disadvantage of the revised-rent methodology is that it wastes observations: only 13% of the more than 240.000 observations collected remain in the sample. Statistics per city are reported in table 3.

--- Table 3 ---

The basic repeated-rent equation, following Bailey et al. (1963), reads as follows:

$$\ln \left(\frac{Rent_{t_1,i}}{Rent_{t_0,i}} \right) = \sum_{t=1}^T \beta_t D_{t,i} + \varepsilon_t$$

The indicators of time in the numerator and denominator on the left-hand side indicate the two periods of time between which the rental price of a property did change, whereas i refers to the specific property. The right-hand term, D , describes a set of dummy variables that take the value of 1 if $t = t_1$ and a value of -1 if $t = t_0$. The dummy variable is zero in any other time period. OLS regression of the ratio of log rental prices on this set of dummies produces

predicted values for each period of time. Exponentiation of these estimates and multiplication by 100 yields the indexed values.

The basic repeated-rent model has several shortcomings. First of all, it is well known that errors from a basic repeated-measures regression are likely to be heteroskedastic. As is common practice, I account for the presence of heteroscedasticity in the residuals with the Case & Shiller (1987, 1989) correction. Second, in scarce data environments the low number of data points might cause a high level of noise in the index. This issue is of particular relevance for the city-specific indices, since in a significant number of years only a handful of observations is available.

Bokhari & Geltner (2012) introduce a frequency conversion technique aimed at improving the signal-to-noise ratio, consisting of two stages. In the first step, low-frequency indices are estimated, staggered in time. There is no restriction on the estimation technique used for the low-frequency index; in this case, I rely on the Case & Shiller (1987, 1989) repeat-sales method. By estimating the indices at much lower frequencies, they are much less sensitive to noise. In this case it is sufficient to estimate five 5-year indices for Amsterdam and the Belgian cities, with the starting date of the 5-year interval moved forward one year for each iteration. The London index relies on twelve 12-year indices. In the second stage of the frequency conversion procedure, each multi-year return is treated as a repeated observation for annual returns; for each year I have thus five (or 12) of these repeated observations. The vector of yearly coefficients for the frequency converted index, β , can subsequently be recovered using a reduced rank least-squares regression. For more details regarding the frequency conversion procedure I refer to Bokhari & Geltner (2012).

3.2 *Housing quality*

While the use of median or mean rent indices is problematic, as they do not control for quality, we should not completely disregard their use. Because the indices are for the majority of years based on primary data, it is possible to construct quality-controlled indices and simple median/mean rent indices from the same set of data. Since the only difference between the two is that the former controls for quality and the latter does not, it might be

possible to use the difference between both indices as a rough estimate of long-run changes in average housing quality; the first of its kind in the literature.

Unfortunately, matters are not that simple. The market indices are valid as long as changes in rents in the sampled homes are representative for the market. The construction of representative quality indices requires another, much stronger assumption: at any point in time, the mean or median level of rents in the sample should be representative for the city under investigation. As stated previously, this assumption is likely to be violated; due to limited data availability in some years the sample is biased towards a particular class of homes. To make matters worse, it is difficult to assess quantitatively the severity of this bias, since no other data is available. I therefore use a pragmatic approach to create a median rent index that is as representative as possible.

The Law of Large Numbers states that if the size of a (representative) sample increases, its mean and median will converge to their true value. Hence, if I can create a sufficiently large representative sample, it might be possible to construct a representative quality index. Unfortunately, a sufficiently large sample can only be created for Belgium, when pooling together all data for the Belgian cities in the sample. No quality index is therefore constructed for the other cities in the sample.

Since my interest in this case is not to measure the level of market rents, but rather the average quality (and consumption) of homes, I include all observations in the sample instead of just rent revisions. This yields a dataset of approximately 160,000 rents from six Belgian cities from 1500-1940: Bruges, Ghent, Antwerp, Brussels, Liege and Leuven. On average, I have 360 observations per year with a minimum of 75 observations in 1500. Individual observations are converted to a single currency, the Belgian franc, based on historical exchange rates retrieved from the Verlinden series.

While pooling together data from all cities reduces the noise in the average level of rent enormously, it also introduces new issues. Since the number of homes in the sample in each city varies considerably over time, the sample is at several points in time biased towards a particular city. For example, the share of homes from Brussels, an expensive city, jumps from

8% to 32% between 1885 and 1887, causing a significant rise in the average level of rents nation-wide. To alleviate these issues, I vary the weight for each city in the nation-wide median rent index over time. I first compute the median (and mean) level of rents in each city. The annual weight t of the median index of each city i in the national index is subsequently based on the annual number of observations y in each city i relative to the national total:

$$Weight_{i,t} = \frac{\ln y_{i,t}}{\sum_{i=1}^n \ln y_{i,t}}$$

Applying the logarithmic weights avoids overweighting cities with many observations and underweighting those with few observations, while still providing a compensation for sample size.

After constructing the national Belgian median rent index, the quality index follows easily by indexing the difference between the median rent index and the repeated-rent index. Note that given the large number of observations I have not applied the frequency conversion procedure to construct the national repeated-rent index.

Despite my efforts to construct a representative quality index, I still believe the estimates can contain significant noise in the short run, while being relatively reliable in the long run. This is highlighted in the years around 1795, when the sample changes completely due to the turmoil after the Belgian revolution. As a result, the average level of rents is temporarily very volatile. To reduce the effect of sample composition changes, I have also computed a smoothed quality index, based on 7-year moving averages, which can be considered to be somewhat more reliable in the short-run.

3.3 *Consumer prices*

I estimate a new Belgian consumer price index from 1500 to 1830, based on 128 different price series collected from the Verlinden volumes and Van der Wee (1963).⁶ Even though

⁶ Allen (2001) has already estimated an annual consumer price index for Antwerp / Brabant from 1366-1913, but his index does not rely on a representative adjustable basket of goods and is likely to understate the true annual volatility in prices due to the strong reliance on interpolated data. As the majority of prices is missing, interpolation results in unrealistically smooth indices, in particular during the 18th century. This will make it much more difficult to identify to what extent nominal rents move with the general price level.

Flanders and Brabant were separate states until 1795, with each having their own currency, I do not estimate a separate index for these regions. I have found no evidence that aggregate consumer prices within Flanders or Brabant were more strongly tied together. This pattern was confirmed when looking at the individual price series.

I have also attempted to construct price indices for each city, as in the short run prices for particular goods could vary across cities, but this turned out to be infeasible. First, the number of series available per city is limited, in particular for Ghent and Brussels, causing their price indices to be unrealistically volatile relative to other cities. Second, the available sources are of varying quality, ranging from monthly averages of market prices to a single price fixed on the day before Christmas. Quality considerations seem more important than differences across cities: high-quality series on the same good across cities tend to be more correlated than high- and low-quality series on the same good within a city.

Due to the lack of continuous price series, I have developed a pragmatic method to estimate the consumer price indices, making use of the available data as much as possible. Note that due to the data-driven index estimation strategy, the index developed in this section cannot be classified in standard price index categories; such as the well-known Laspeyres, Paasche or Fischer price indices. The method to construct these indices consists of three steps.

In the first step, the 128 collected price series were stacked into 14 different groups: wheat, rye, barley, peas, butter, cheese, potatoes, buckwheat, beef, chicken, fish, energy and oils. The first nine groups contain only a single good, whereas the last five groups contain multiple goods representative for the group under consideration. To avoid sensitivity to size discounts or quality differences across cities, as each city had its own measures, I index the individual price series. Base years are chosen to be all years in which individual price series for a group are overlapping, which avoids a strong base-year sensitivity. In case a series has no overlap, it is indexed relative to one or more high-quality series for the same good. Aggregate indices are constructed for each product group by taking averages of the most-representative series. Representativeness is assessed based on the nature of the prices (fixed versus market prices) and the frequency and timing of the observations within a year, with preference given to high-frequency market prices matching the calendar year.

In the second step the base weights of each good in the overall price index were determined. Weights are based on scarce information on expenditure patterns of Ghent households and Antwerp orphanages for a handful of years in the late 16th and 19th century, published in Scholliers (1960) and Avondts & Scholliers (1977) and reported in Table 4 for 1600 and 1840. Weights are fixed before 1600, and from 1600 to 1830 interpolated. Potatoes and buckwheat are only included after 1800 due to data availability.

--- Table 4 ---

It is important to realize that expenditure patterns vary significantly over time and across sources. This becomes evident when looking at the expenditures of the ‘Maagdenhuis’ in Antwerp relative to the price of grains from 1585 to 1600, reported in Table 5. The price of grain, which was the most important component of the household budget until the early 19th century, increased significantly in 1586 due to the uncertainty caused by the Fall of Antwerp to the Spanish in late 1585. Since cereals were, even at very high prices, the cheapest source of calories, inhabitants did not shift their consumption to other goods, but were forced to spend their money on cereals to avoid starvation.

--- Table 5 ---

The main problem with the selected base weights is that for some product groups no continuous price observations are available, in particular after 1800. In order to make use of the available data as much as possible, without engaging in excessive smoothing, I vary the weights across years depending on data availability⁷. In case prices for a product group are not available or of insufficient quality, its weight is redistributed to a group (or groups) that is (are) most correlated with the price index of the missing group.

In the last step, the prices for each good are converted to index prices and multiplied with the weights to produce the consumer price index.

⁷ The weighting schemes for each city are available upon request.

3.4 *Wages*

Wage indices for the Belgian cities are created based on thousands of wage observations from construction sector workers (1500-1830). No wage index is constructed for Brussels, given the lack of both rent and wage data before 1800. The wage index for Bruges only spans the period from 1500 to 1628; after 1628 Ghent wages are used for Bruges. An aggregate wage index for Belgium is constructed as well, based on wage data from all cities.

Wage data come from wage lists published in the Verlinden series; one for every job in every institution, containing the years in which workers were employed, the various salaries that were paid and the number of days a certain salary was paid. In most cases, wages of ‘masters’ are separated from the wages of ‘helpers’. I have excluded observations that make note of special circumstances, such as risky jobs, the provision of beer money or the aggregation of helpers’ and masters’ salaries. Other large outliers have been removed as well, since these are likely the result of special provisions not identified in the records.

Yearly averages of wages are computed based on the remaining observations. Contrary to the consumer price indices, I have interpolated average wages for years where data is missing. This can be justified since the level of wages is extremely stable: contracts show that sometimes workers were paid the same wages for as much as 60 years. Persistent increases in nominal wages occur in every city only in the second half of the 16th century. After interpolating, wages are indexed for each job and subsequently averaged across all jobs to construct the total wage index.

4. Results and applications

4.1 *The market rent indices*

The estimated rental indices are plotted in figure 1, whereas appendix B tabulates the nominal and real rent indices for each city, and the newly constructed Belgian consumer price and wage index. Table 6 and 7 report statistics on the growth rate and volatility of nominal and real rents.

It is important to stress again that the market indices do not reflect the average rent paid but rather the average market rent for a home of given quality. Due to increases in home quality

and housing consumption, the actual real rent paid per tenant has increased significantly faster. By controlling for quality, we can get a better and more timely look at changes in market rents, and therefore of the likely effects of fundamental changes in the local economic and demographic circumstances on the housing markets of these cities.

Figure 1 reports the total real rent indices for Amsterdam, Paris, London and Belgium, with the latter index based on an aggregation of rental data from six cities. Rents are deflated using consumer price indices. Missing observations, mostly for Paris before 1860, are accounted for using linear interpolation. The indices for Paris, London and Amsterdam are based on national data from respectively 1960, 1940 and 1855 (with a break from 1917-1940) onwards.

--- Figure 1 ---

Since the 17th century, long-term developments in rental markets seem strongly correlated, indicating a close economic integration among these cities in the last 400 years. This suggests that for extremely long-term investors like sovereign wealth funds, benefits from geographic diversification might be smaller than previously thought (Eichholtz et al., 1995). While the cities have shown similar developments in the long-run, significant differences exist in the short run. As will be argued in the next subsections, these can be explained by varying local economic and political conditions. It is remarkable that these differences seem more strongly reflected in housing markets rather than actual income itself. Figure 2 plots the level of real wages in each of the studied cities from 1500 to the present. As can be seen, wages show little variation across cities. Only during the industrialization there is some disparity in the level of wages. This suggests that from a historical point of view, long time series from the housing market are much more interesting than time series on wages as a quantification of the turbulent history of the cities studied in this thesis.

--- Figure 2 ---

Rental prices have shown little growth in most of the cities under investigation. For the Belgian cities, the annualized growth rate in the real levels of rents is a mere 0.03%. The

figure for Amsterdam and London stands at approximately 0.30% per annum. The growth rate for Paris is much higher, but does not reflect growth in market rents as this is an average rent index until the mid 19th century. Most growth in real rental prices has taken place since the 19th century, most likely because of increasing urbanization and economic growth.

There are considerable differences in the volatility of rental growth over time and across cities. Most differences across cities can be attributed to the underlying data. London rents show a much smaller volatility of nominal rents, because the low frequency of the data made it necessary to apply a strongly smoothing 12-to-1-year frequency conversion procedure. Belgian real rents are much more volatile, since its deflator, the CPI, does not have to rely on interpolation for missing observations. Furthermore, data on clothing, which had in most countries a very stable price and made up for about 10% of household expenditures, was not available. Nominal rents are much more stable though, as shown in figure 3. The increasing stability of consumer prices over time accounts for the significant decline in the volatility of real rental growth from the 16th towards the early 20th century. Because of technological progress, food production became less reliant on external circumstances, thereby stabilizing prices.

--- Figure 3 ---

Remarkably, the volatility of real rental growth has not declined in the post-WWI period relative to the pre-WWI period; both have even increased in nominal terms. The increase in volatility can be attributed to the extreme volatility in the first half of the 20th century; since 1950 real price growth has stabilized rapidly. More sophisticated rent policies introduced in the second part of the 20th century are likely to have played a major role in this process (see Arnott, 1995, for an overview).

--- Table 6 and 7 ---

The result that long-term growth in rental prices is limited confirms scarce existing evidence for house prices. Eichholtz (1997) finds, based on a repeat-sales index, few long-term price appreciations for the homes on the Herengracht, Amsterdam's most expensive canal. Raff,

Wachter & Yan (2013) also find that price appreciation has been limited in Beijing when comparing the price level of 1645-1845 to that of 2004; although house prices have exploded recently. While house prices differ from rental prices, evidence for Amsterdam from Ambrose, Eichholtz & Lindenthal (2013) shows that in the long-run developments in house prices and rents have been similar.

My cross-country study suggests, combined with these existing studies, that long-run rental and house price growth have been limited. On the other hand, we should not ignore the fact that rental prices, and in particular house prices, have recently increased significantly. Even though these increases are unprecedented, the Belgian index also highlights that real rental prices can decline consistently for long periods of time, as happened during the 16th century.

While the rent indices itself already reveal new insights, I believe this study has applications that go beyond the indices themselves. While each of these issues is worth a thesis itself and thus cannot be covered in detail, I will briefly discuss five relevant applications of the indices in the following subsections.

4.2 *Housing and the real economy: no port, no glory?*

Whereas long-run (*centuries*) developments have been relatively similar in each of the studied cities, with little rental growth in the long term, there are considerable differences across the cities in the short term (*decades*). I argue that a significant number of these differences can be explained by the varying economic fortunes of each city. Bosker, Buringh & Van Zanden (2013) have shown that the emergence of sea trade during the Middle-Ages moved the urban (and economic) centre of gravity from the Middle-East towards Europe. Ships became the dominant form of transport, and turned out to be more efficient than camels, the predominant form of transportation in the Middle-East. In line with this evidence, port cities grew significantly.

If sea trade was the reason for the emergence of European cities, then a city its economic fortune must have been strongly linked to the presence of a port. Unsurprisingly, all cities in this study, except for Brussels and Paris, are or have been major port cities. Whereas Bosker, Buringh & Van Zanden (2013) have conducted a large meta-analysis of city growth in Europe

and the Middle-East, it has not yet been possible to quantify these effects economically. This is not only relevant from a historical point of view, but also considering current developments. Large and booming cities often experience significant increases in house prices and rents, but due to today's economic reality it is difficult to estimate how much of these increases can be attributed to a city its economic development. The rental series combined with significant historical events provide the answer: what happens if the economic engine of a city is shut down? (figure 4).

--- Figure 4 ---

In the early 16th century, the Belgian cities were booming, as reflected by the very high level of rents relative to London and Amsterdam. Ghent had always been a city of economic significance, although without a large port, and Bruges had been one of the most important European trade centres during the 14th and 15th century, at the height of the Hanseatic trade. The leading city was Antwerp, which boasted a large port at the mouth of the river Scheldt and was considered a world-leading financial and trade centre.

At the same time, Amsterdam its position was not yet very strong. From 1572-1578 the Geuzen, consisting of armies led by nobles that opposed the Spanish rule in The Netherlands, blocked the city of Amsterdam, as the city continued to support the Spanish government. This severely depressed Amsterdam's trading, and it is exactly during this period that rents decline significantly.

This turned around in 1584-1585, when the Belgian cities were captured by the Spanish. Subsequently, the protestant Dutch blocked the access to the sea of both Bruges and Antwerp, capturing the town of Sluis and blocking the Scheldt estuary. This ended Antwerp and Bruges their pre-eminence as trading ports, and boosted that of Amsterdam: many Jewish and protestant merchants and other skilled workers fled from Antwerp, Ghent and Bruges to Amsterdam. The housing markets in the two cities reflect that almost perfectly: both Bruges and Antwerp's real house rents fell by five times, while Amsterdam's housing rents experienced growth they have not experienced again until the late 19th century.

If this effect is truly caused by the closing of the harbour, and not merely reflects the uncertainty of war, we should expect that housing markets recover as soon as a city its port (and economic engine) reopen. Again, the data combined with historical events provide the answer.

As the closure of the port causes significant economic distress and Bruges is relatively close to the sea, the inhabitants of the region start digging a canal towards the North Sea when Ostend, at the sea, is captured from the Protestant Dutch in 1603. Although the canal already opens in 1623 and later is extended to Ghent, it takes until 1665 for the Bruges port to operate at capacity. In 1665 the 'Handelskom' in Bruges is opened, such that its port can accommodate large vessels again. This is perfectly reflected in the level of rents: the level of real rents in Bruges more than doubles, while they do not change in Antwerp, that still has no access to the sea. The Scheldt only reopens in 1792, such that Antwerp its port can start functioning again. Although the process is not as smooth as in Bruges, with the harbour opening and closing several times due to the Belgian revolution in 1795 and the subsequent Napoleonic wars, Antwerp regains its position as leading Belgian port city after the country turns independent in 1830. Again, the rents reflect this effect: from 1792 onwards rents start rising again, although with significant volatility, and around 1830 the real level of Antwerp rents re-joins that of Bruges.

This case exemplifies how housing markets can be both interdependent and aligned with general developments in the economy. They also show that most economic glory and housing booms does not last forever; while they may last for years, decades or even several centuries, at some point in time they fade away.

4.3 Housing and the real economy: political instability and economic expansion

The case of Antwerp and Bruges shows that the closure of their ports had disastrous effects on the housing markets in both cities. In the short-term, part of the decline in rental prices can also be attributed to the direct consequences of war; approximately 30% of the drop is recovered in the years following the Fall of Antwerp. The potentially detrimental effect of political instability on housing markets is exemplified in the case of Paris. In 1590, the city of Paris was besieged, which caused the starvation of thousands of Parisians. This situation

caused most rents to be revised within the contract period. This was highly exceptional: I have found no other instances of revisions during the Ancien Regime. Since as early as the 15th century, rental contracts were recorded at a triennial basis, with contracts lasting either 3, 6 or 9 years; a practice that remains nowadays in both Belgium and France. Accordingly, the drop in the average level of Paris rents is dramatic, with rents falling as much as 80% within a few years, while recovering shortly after.

While the cases of Paris and the port cities show how vulnerable housing markets can be to uncertainty in the short run, differences might also build up more gradually. An excellent case to illustrate so is 19th century Amsterdam. As can be seen from figure 1, real rents in Amsterdam lagged remarkably behind the other cities from the late 18th century until the late 19th century. This matches the historical facts. While the 17th and 18th century are known as Amsterdam its golden and silver century, its position faded slowly in the late 18th century. The fortunes of Amsterdam reached lows following the Napoleonic wars and the surrender of the Dutch to the French. It took until 1815, when the Dutch became independent, for the economy to start recovering. While the economy recovered, economic expansion occurred at a much slower rate than elsewhere, due to the relatively late industrialisation of the Netherlands, which started only in the second half of the 19th century. Again, this is reflected in the level of rents: rents catch up with other cities in Europe exactly during this period.

4.4 Free versus controlled markets: the imposition of rent controls

Following the sustained rise of real market rents in the 19th and early 20th century, and large housing shortages caused by World War I, governments started to express concerns about the affordability of rental housing. Housing was extremely scarce during this period: records from Amsterdam show that in most months less than 10 homes were vacant in the whole city.⁸ To address affordability concerns, all countries in the sample start to adopt rent controls from the end of World War I onwards, with rents initially being frozen, although regulations changed often until the end of World War II.

It is remarkable how similar governments have acted during this turbulent period (see Bettendorf & Buyst, 1997, for a description of this process in Belgium), with the level of real

⁸ Archival record code: SHC CBS A2

rents following a w-shape in each of the studied countries (figure 5). There are two reasons for this pattern. First of all, most regulation seems to have focused on the nominal level of rents, rather than stabilizing rents in real terms. Figure 5 plots the level of real rents relative to the consumer price index for the period of strong rent controls. As can be seen, the countries that experience the highest inflation, experience the largest fall in real rents. Second, it seems that at approximately the same time governments realized that the combination of frozen rents and high inflation left little fruits for homeowners, harming the supply of rental housing. Thus, in each country rents were slowly deregulated from the late twenties onwards, such that the level of real rents could catch up again. Exactly the same process happens again during and after World War II: real rents initially decline significantly, but catch up as soon as rent controls are abolished or weakened. After this turbulent period, most countries start to introduce more sophisticated policies.

--- Figure 5 ---

4.5 *Measuring 500 years of housing quality and affordability*

The existence of government intervention in the market provides a key distinction between rental markets before and after World War I. It is difficult to identify the exact effects of these measures, since housing policy is endogenous. It is much more feasible to analyse to what extent markets could provide affordable housing at stable prices before and after governments started intervening.

The simplest measure of housing affordability expresses the market level of rents relative to income, which I have indexed and reported in figure 8. Paris has been excluded in this figure, since its index does not control for quality before 1860. Table 8 tabulates the differences in growth rates between rents and wages. Note again that the affordability index does not correspond to actual expenditure shares, since the index does reflect market rents rather than actual rents paid.

--- Figure 6, Table 8 ---

The pattern emerging from the figure is striking. Before World War I, there are no significant improvements in affordability in the long-run, although affordability somewhat varies over time due to changes in the level of market rents across cities. Hence, the concern that free markets might cause rental housing to get less and less affordable seems, at least for this period of time, invalid. After World War I, affordability improves significantly with wage growth outpacing rent growth by about 1.5% per year, although temporarily disrupted due to the abolition of rent controls and the depression in the thirties. Even though it is impossible to identify causally the effects of government interference, it is remarkable that affordability started improving exactly when governments started to interfere. Hence, it seems government policy has had significant effects on housing affordability. In more recent decades, improvements in affordability have halted, with affordability slightly worsening since the eighties. With that in mind, it is not surprising that discussions about housing affordability have regained prominence recently.

While I have sketched a relatively positive story about housing affordability, with affordability improving significantly throughout the 20th century, my view is at odds with evidence from actual rental expenditures. Even though there is very little information on actual rent expenditures before 1800, more recent studies show that actual shares of income paid on rents have risen significantly. For example, in 1909 the poorest quintile of Belgian households spent about 13% of income on rents, while this figure stood at 42% in 2005. A study from Ghent reveals that in 1853 the expenditure share was even lower at 8%.

I argue that to understand these contradicting numbers it is essential to look at measures of housing quality. Figure 7 reports the index of housing quality and consumption for Belgium. While real rents have remained stable in Belgium, housing quality has increased about eight times from 1500 to 1940. Hence, the main reason why tenants spend more and more of their income on housing is not because of rising market prices, but mostly due to tenants living in larger and higher-quality homes (with fewer people).

--- Figure 7 ---

The first part of the 20th century illustrates the interdependence between affordability, average housing consumption and rental prices very well. Rents were rising in the first two decades of the 20th century, and households could only respond by cutting back their consumption, as reflected in the quality index. When rents were subsequently frozen due to rent controls, consumption expanded, before cutting back again due to the release of rent controls and the economic contraction in the thirties.

It is important to restate that in the short run the quality index is still sensitive to bias in the composition of the sample. I believe this affects the index in the 16th century and around the Belgian revolution in 1795, when the composition of the sample changes frequently. One should thus be careful in interpreting the volatility of housing quality during this period.

The combination of the wage, rent and quality indices carves out a compelling story. Before World War I, the growth of real market rents was close to zero and in the long-run similar to changes in the level of wages. A relatively low share of income was paid on rent; markets made sure demand and supply met. Only when wages started to increase strongly, and possibly with the support of intervening governments, households were able to expand their housing consumption (and expenditure shares on housing) to the levels observed currently.

I believe these results have important implications for housing policy, in particular now housing affordability is considered a major issue in many large cities around the world. The findings in this subsection show that to understand housing affordability, it is essential to look at income, quality-controlled market rent indices and measures of housing quality; excluding any of these components can result in a markedly different interpretation of the data.

Unfortunately, these considerations are currently missing. The issue of housing affordability at its core concerns whether citizens are available to afford an acceptable level of housing consumption given demand and supply. Its therefore remarkable that contemporary quality-controlled rent indices are hardly available (Ambrose, Coulson & Yoshida, 2015) and that to my knowledge my study is the first to produce long-run estimates of housing quality. Hence, an essential first step for future academic work, statistical offices or other parties, is to create

contemporary indices of market rents and housing quality, where my methodology can potentially act as a guideline.

4.6 Empirical relationships between rents, consumer prices and wages

My discussion in the previous section has shed light on the long-term development of market rents and housing consumption in Western Europe, in free and controlled markets and relative to prices and wages. In most of these subsections, I have hinted at potential relationships between rental markets, prices and workers' wages. In this subsection, I seek to identify more formally whether there exists any meaningful relationship between rents, prices and wages.

From the perspective of tenants, there are intuitive reasons why rents, wages and prices should be related. Wages form the major source of income for households, which subsequently spend these wages on consumption, including rent. If wages decline significantly relative to rents, or the general price level increases, the household's capacity and willingness to pay rents is reduced significantly. The household is likely to seek lower housing rents, either by moving to lower-quality dwellings or by bargaining for a lower rent on current accommodation. Landlords face similar constraints; rising consumer prices reduce the real returns to housing and strongly increasing wages and prices reduce the capacity to pay for expenditures from rental cash flows. This is particularly relevant for many of the social institutions in the sample, who had to pay wages to their employees and food for the poor or sick they cared for.

There are more reasons why it is relevant to investigate these relationships. There has been a strong debate in the house price literature whether house prices are cointegrated with the level of real disposable income (e.g. Meen, 2002, Gallin, 2006 and Holly, Pesaran & Yamagata, 2010), with most recent evidence pointing towards the existence of cointegration. If the rent-price ratio is stationary and cointegration exists between house prices and wages, rents and wages should be cointegrated as well. Last, from a social perspective, a certain degree of reversion in the level of rents, both to itself and the level of wages would imply that housing remains affordable in the long-term.

It is important to stress that due to data availability it is impossible to causally identify the effects of wages and prices on rents. The approach taken in this section is therefore aimed to identify potential relationships as well as possible, given the available data, although imperfectly. Results should thus be interpreted with care. First, my analysis might be impaired due to measurement error, since the sources I have combined are of different quality. Second, there likely is an omitted variable bias, because there are likely more variables that matter for the level of rents, consumer prices or wages and cannot be treated as exogenous. Despite these shortcomings, the empirical analysis presented in this section provides a more valid representation of potential relationships than a purely descriptive statistical analysis.

Unit root tests on the logged series of interest reveal all series are non-stationary, relying both on the parametric ADF test (Dickey & Fuller, 1981) and the non-parametric Phillips-Perron test (Phillips & Perron, 1988). Missing observations in the tested series are accounted for through linear interpolation. Linear interpolation slightly shifts the asymptotic distribution of the test statistics to the right (Ryan & Giles, 1998), but as results of the tests are extremely clear-cut this does not affect the outcome.

Given the non-stationarity of my variables, I perform cointegration tests to identify whether any long-run relationship between the variables of interest exists at all, based on the Johansen framework (Johansen, 1988). Lag length is based on the lag length selected by the Bayesian Information Criterion in a VAR specification estimated for each city. Test-statistics for the maximum eigenvalue test, which tests the null of a cointegrating rank r versus the alternative of rank $r+1$, are reported in Table 9. The existence of at least one cointegrating vector for each city confirms the hypothesized presence of a long-term relationship that ties rents, wages and prices together. A natural representation for this cointegrating relationship is, by the Granger representation theorem, a vector error correction model.

--- Table 9 ---

I subsequently estimate standard vector error correction models for each city, where \mathbf{y}_t is a vector containing logs of prices, wages and rents for the city at hand, missing values being

excluded. p refers to the number of lags selected in the VAR specification, Γ contains the error correction coefficients and Γ_i the short-run coefficients responding to lagged changes in the variables.

$$\Delta y_t = c + \Gamma y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \varepsilon_t$$

Whereas my main interest lays in the estimation of the effects of prices and wages on the level of rents, in particular the error correction coefficients, I cannot proceed to estimate a single equation error correction model. The implied restrictions on the matrix of error correction coefficients are rejected: wages and prices cannot be treated as weakly exogenous for rents.

I estimate the vector error correction model for three different periods rather than the full sample, using two split points common in the historical literature on Western-Europe: the end of the Ancien Regime and the start of the First World War in 1914. Application of the Hansen (2003) test found each of these breaks to be significant. Whereas potential structural changes should ideally be identified endogenously, without specifying break dates, such a framework is not yet available in the context of a cointegrated system⁹. Periods for which insufficient data was available, in particular Paris before the 19th century, have been excluded.

Results for the rent equation for each time period are reported in tables 10, 11 and 12. The tables reveal one pattern present in each city and for each sample under consideration: the presence of significant error correction to the level of rents itself. Although the magnitude of this effect does seem to have increased over time in all cities, except Amsterdam, this increase might also be attributed to a reduction in measurement error.

--- Table 10, 11 and 12 ---

⁹See Qu & Perron (2007) for stationary systems and Kejriwal & Perron (2010) for cointegrated single-equation regressions. A framework for VECMs is in development (see Bergamelli, Urga & Kharaf, 2014).

The error correction terms for prices and wages show a pattern that is less consistent. For prices, we do not observe long-run correction towards the general price level for all but three cases; even if prices are at a relatively high level to rents, rental growth does not seem to adjust. The main two exceptions are Paris and London for the period after the First World War, where rents positively adjust to market prices. This is a potential result of the imposition and relaxation of rent controls during the first part of the 20th century; when restricting the sample to the last 50 years the significance of prices completely disappears. As mentioned previously, real rents fell sharply after the imposition of rent controls and were allowed to increase again towards the general price level when too little fruits were left for homeowners. This likely causes the observed error correction. Last, although not explicitly reported, Paris rents in the last part of the 19th century do strongly respond to prices as well: when restricting the sample to annual data (1860-1913), the error correction term to prices is highly significant. The sensitivity of the Paris estimates to the chosen sample might be because the Paris index does not explicitly control for quality. This is particularly relevant since, exactly in the period studied, the large Haussmann renovations took place, which completely changed the appearance of the city and likely had strong effects on its housing market (see Daumard, 1965 and Pinkney, 1957).

In almost all cases the error correction coefficient for wages is positive, confirming my intuition, but it is only significant in less than half of them. Furthermore, the magnitude of the coefficient varies considerably. Again, part of these mixed results can be explained by the prevalence of measurement error and sample sensitivity. When excluding the turbulent period from 1796-1820, when the Napoleonic wars were fought, the wage coefficient is significantly positive for each city and much closer to the initial Amsterdam and Bruges estimates. For Paris and London, restricting the sample in the post-WWI period to the last 50 years, thus excluding the period with strong rent controls, gives wages the expected sign and significance. Although my results suggest that there might be a positive long-run relationship between wages and rents, much more robust evidence is needed to document this relationship and its potential breaks during turbulent periods of time.

In short, despite the use of dozens of different sources of varying quality and the potentially limited validity of the econometric models, I find some consistent patterns in the error

correction models. First of all, I find in each city significant error correction to the level of rents. This implies that in the very long run, although not fast enough to cause the variables to be stationary, there is some reversion in the level of rents. Although intuitively it is likely that the level of wages is a fundamental variable for the level of rents, I do not find this in all cities and should not overstress this finding as wage growth might also be related to other variables. The evidence on the effect consumer prices on rents is much less clear-cut, but almost everywhere insignificant before the First World War. During the 20th century, potentially as a result of rent controls, the price level seems to have had a much stronger relationship to the level of rents. Although rent controls have been abolished in most countries, the level of prices is both in The Netherlands, France and particularly in Belgium a core component of the legally allowed annual increase in rents within rental contracts. Whereas understandable from a practical point of view, it remains an open question whether the price level should truly be treated as a determinant for the level of rents.

Lastly, I have also explored relationships in rents across cities. Although rents were found to be cointegrated across cities and I correspondingly observed significant correlations in long-term (10, 25 and 50 years) rental growth across cities, I was unable to find any consistent evidence regarding the directions of relationships in rents across cities over time. Furthermore, I found significant variations in correlations between cities, both depending on the period under consideration and the interval length of the correlation. This confirms the analysis in the previous section: whereas over the whole sample rental growth across cities is highly correlated, rents can diverge from each other for significant periods of time.

5. Conclusion

In this thesis, I have presented a long-term overview of the rental market in Western Europe, relying both on existing indices and newly constructed indices on rents, housing quality, wages and consumer prices. For the first time, it is possible to trace the rental trajectories for seven European cities all the way from 1500 to the present and to follow the improvements in housing quality over time. Additionally, the indices have applications that provide ground for future work in many different fields.

For historians, they provide food for thought regarding the rise and decline of the city in Europe: this thesis shows how a city its economic fortune is both strongly linked to the presence of a port and can be reflected quantitatively by studying the housing market.

For investors, I have shown that in the long-run rental returns have grown little, and have developed similarly in each of the studied cities. Thus, the long-run benefits of diversification are likely smaller than previously thought. At the same time, there can be substantial heterogeneity in short-run returns across cities, as local economic and political conditions can have dramatic impacts on the rental market.

For policy makers, my study gives new insights in discussions on housing affordability. I show that most of the increases in rental expenditures relative to wages can be explained by rising housing quality and consumption, rather than increasing market rents: wage growth has actually outpaced growth in market rents for most of the 20th century. Hence, to better understand housing affordability, it is necessary to develop contemporary quality-controlled rent indices and estimates of housing quality.

Last, the presented indices provide a valuable data source for economists, for example to be used in future work on the dynamics of housing markets. My exploratory empirical analysis has documented strong cointegration between the level of wages, prices and rents in each city. Before 1913, there is significant error-correction to the level of rents, and in most cities we observe a significantly positive long-term relationship between the level of wages and rents. The size and significance of these relationships varies structurally over time though and thus deserves more detailed investigation.

The emphasis in this thesis has lied on the construction of the database and the corresponding indices. To stimulate investigations in each of the mentioned fields, but also to build a foundation for future research on the long-term developments in housing markets, the dataset presented in this thesis will be made available publicly.

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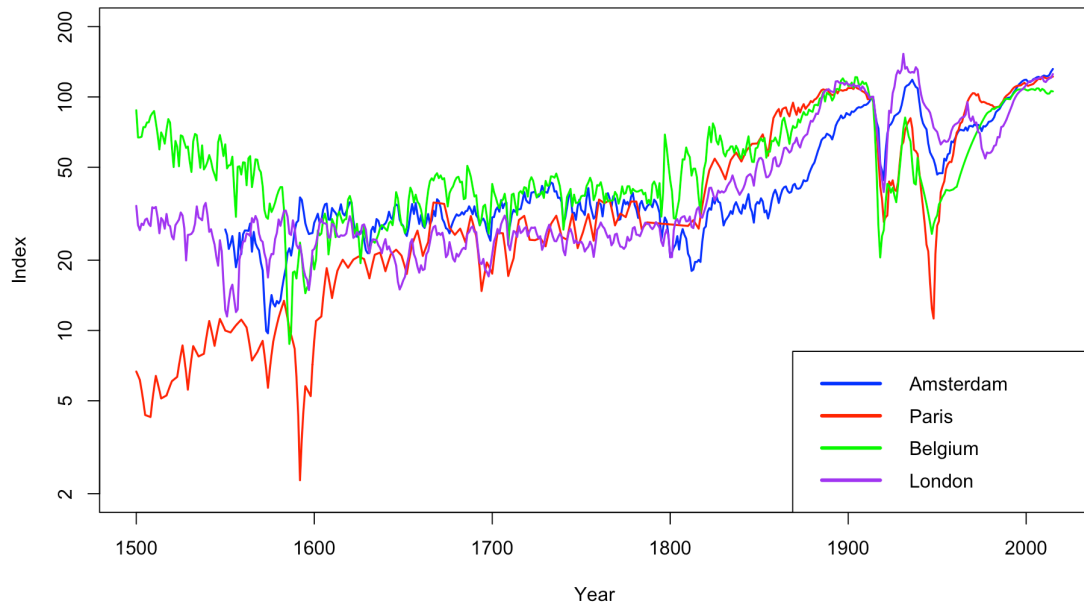
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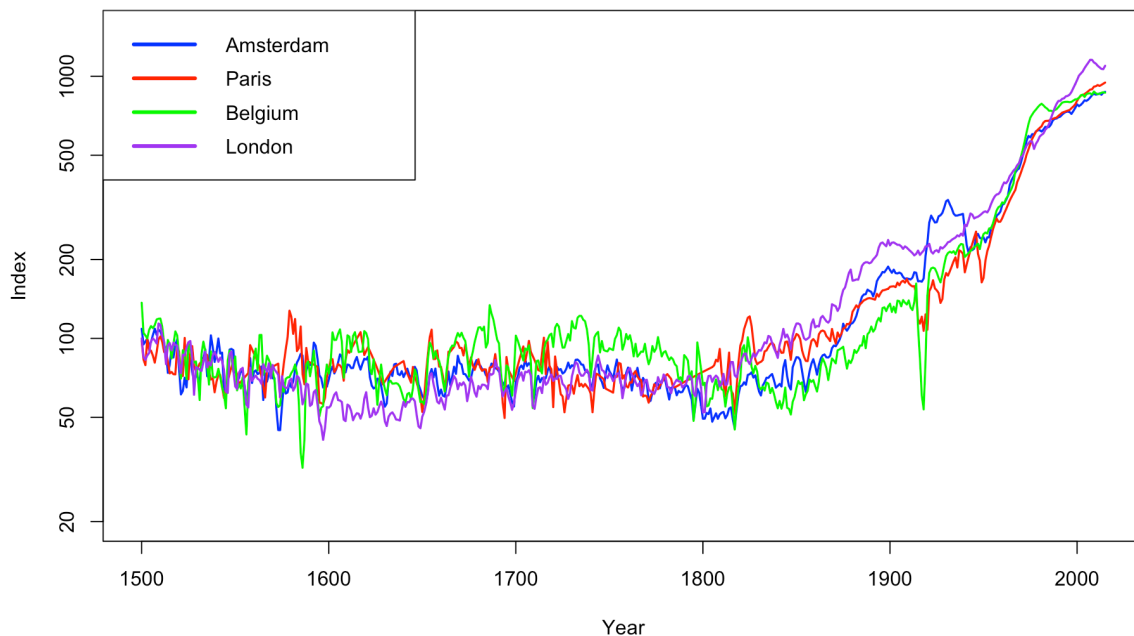
7. List of Tables and Figures

Figure 1: Real Rent Indices, 1500-2015



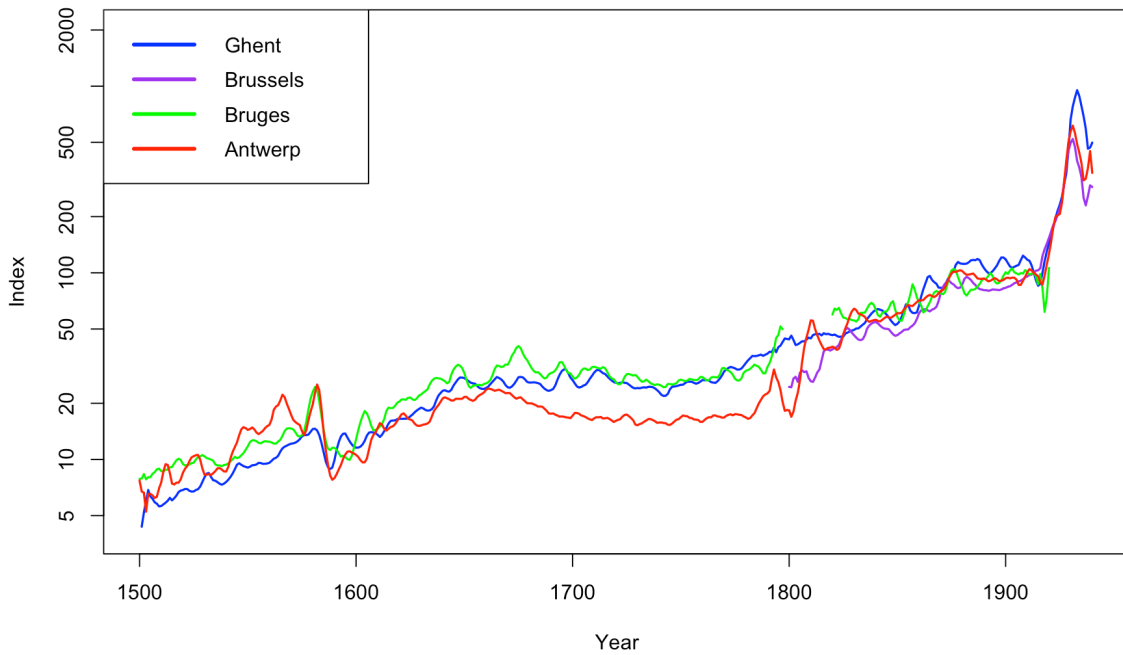
Notes: The figure displays rental indices for three major European cities and the aggregated Belgian index, in log scale. The rents are indexed with 1913 as base year. Missing values are interpolated linearly.

Figure 2: Real Wages, 1500-2016



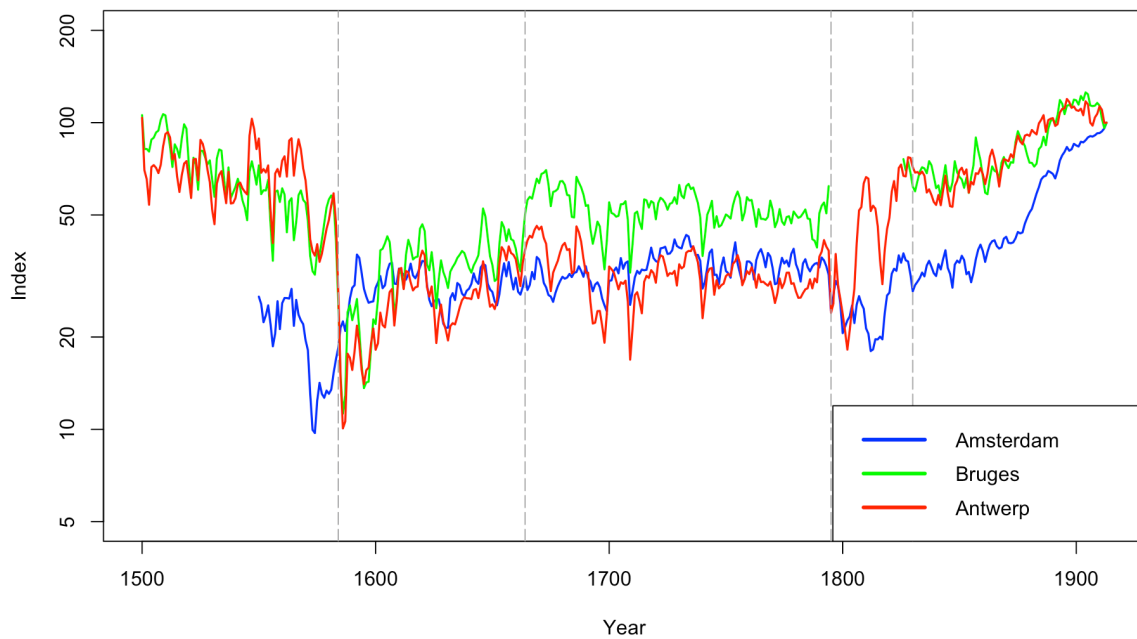
Notes: The above plot shows the combined development in real wages in Europe. Data switch in the first half of the 20th century to national indices. Missing values are interpolated linearly. The base years of the indices are 1503 (Paris, Belgium and Amsterdam) and 1500 (London).

Figure 3: Nominal rent indices, Belgium, 1500-1940



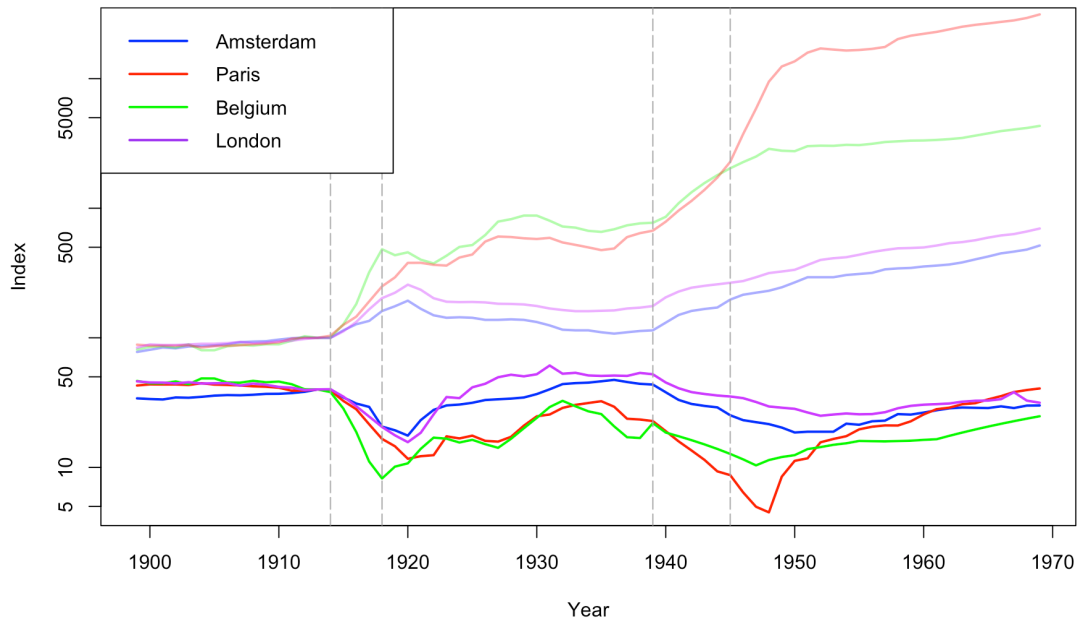
Notes: The figure displays the rental indices for the four Belgian cities, in nominal values (log scale). The base year of the index is 1913.

Figure 4: Real rent indices: Amsterdam, Bruges and Antwerp, 1500-1913



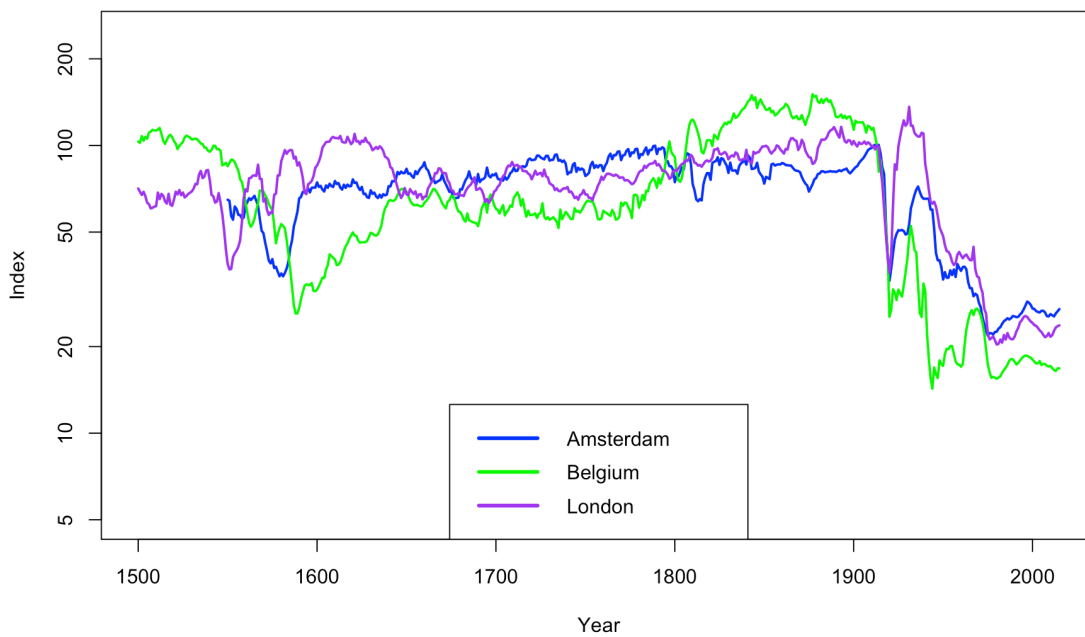
Notes: The figure displays the real rental index for Amsterdam, Bruges and Antwerp from 1500-1913. The grey lines correspond to the Fall of Antwerp (1584), the opening of the Handelskom (1665), the Belgian Revolution (1795) and the Belgian independence (1830). The base year of the index is 1913.

Figure 5: Real rent and consumer price indices, 1900-1970



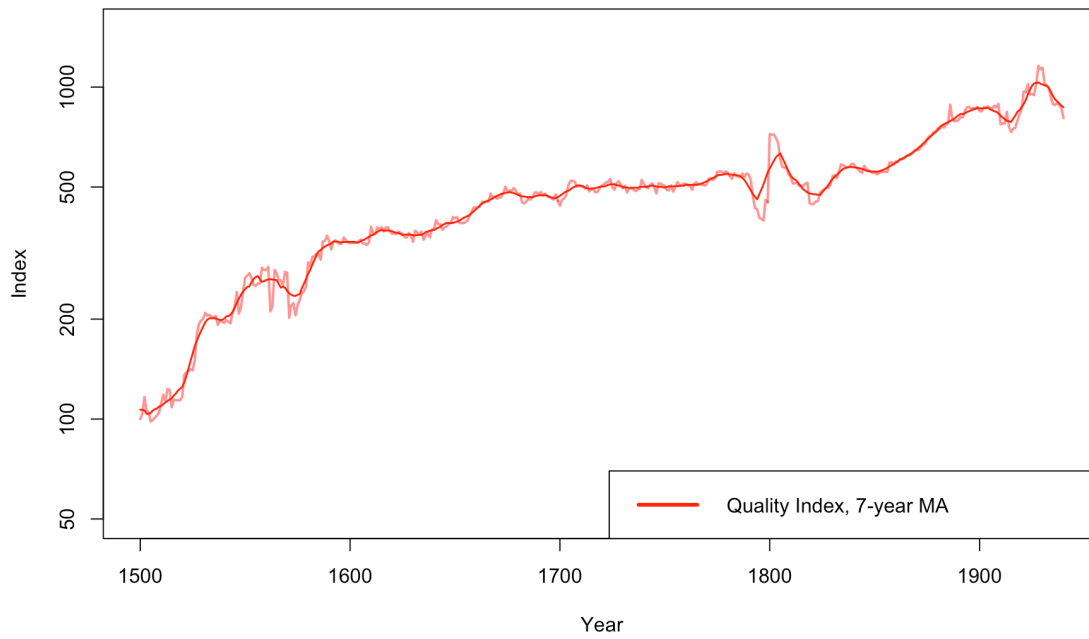
Notes: The transparent upper lines represent the consumer price indices in each of the cities, with 1913 chosen as base year. The lower lines represent the real rental indices, indexed at 50 in 1913. The grey lines correspond to the start and end of WWI and WWII.

Figure 6: Indexed market rent-to-wage ratio's, 1500-2015



Notes: The ratio is indexed at 100 in 1913. Paris is excluded from the figure as its index does not control for quality before the mid-19th century,

Figure 7: Housing quality and consumption index, Belgian cities, 1500-1940



Notes: The base year of the quality index is 1500. The transparent line contains the annual figures, while the red line contains the more reliable smoothed index.

Table 1: Overview rental sources

Rents City / State	Study	City	Years	Coverage	Type	Sample reprs.	CQMR reprs.	Sample size	# Obs.	# Homes	Annual mean	St. dev.
Belgium	Algemene Directie Statistiek (2016)		1977-2016	National	Index	High	Medium	Large				
	Henau (unpublished)		1941-1961	National	Index	Medium	Medium	n/a	2790	586	9.4	7.6
Bruges	Masson (1972)		1500-1795	City	Raw prices	High	High	Small	458	128	3.8	3.2
	Seegers (1999)		1800-1920	City	Raw prices	High	High	Small	4216	851	14.2	7.7
Ghent	Van Rysseel (1967)		1500-1795	City	Raw prices	High	High	Medium				
	Avondts & Scholliers (1977)		1796-1925	City	Raw prices	High	High	Small	1379	351	10.6	10.3
Antwerpen	Henau (1991)		1910-1937	City	Raw prices	High	High	Medium	898	85	32.1	32.6
	Scholliers (1965)		1500-1874	City	Raw prices	High	High	Small	2917	286	7.8	7.0
Brussels	Seegers (1999)		1800-1920	City	Raw prices	High	High	Medium	1876	183	16.8	12.4
	Henau (1991)		1913-1940	City	Raw prices	High	High	Large	1707	106	55.1	29.3
Liege	Van den Eeckhout et al. (1979)		1800-1940	City	Raw prices	High	High	Medium	2279	557	16.2	15.3
	Seegers (1999)		1800-1920	City	Raw prices	High	High	Small	1123	238	9.3	11.4
Leuven	Henau (1991)		1913-1940	City	Raw prices	High	High	Medium	1487	103	48.0	35.5
	Seegers (1999)		1800-1920	City	Raw prices	High	High	Small	1189	144	9.8	6.9
Amsterdam	Henau (1991)		1913-1940	City	Raw prices	High	High	Medium	1342	103	43.3	39.3
	Lesger (1985)		1550-1854	City	Raw prices	High	High	Medium	6634	933	21.8	15.4
Paris	Van Riel (forthcoming)		1855-1913	National	Index	Medium	Low	Large				
	CBS (1939)		1914-1916	National	Index	n/a	n/a	n/a				
London	CBS monthly bulletins (1917-1921)		1917-1921	City	Index	Medium	Medium	Medium				
	Tinbergen & Van der Meer (1937)		1922-1937	City	Index	Medium	Medium	Large				
Paris	CBS monthly bulletins (1937-1940)		1937-1940	City	Index	High	Medium	Large				
	CBS (2016a, b)		1941-2015	National	Index	High	Medium	Large				
Paris	Couperie & Le Roy Ladurie (1970)		1500-1789	City	Index	High	Low	Large	11462	n/a	39.7	n/a
	Daumard (1965)		1809-1859	City	Index	Medium	Low	Medium				
London	Marnata (1963)		1860-1958	City	Index	Medium	High	Large				
	INSEE (2016)		1959-2015	National	Index	High	Medium	Large				
London	Clark (2002)		1500-1895	Both	Raw prices	High	High	Small	2203	849	4.5	n/a
	Samy (2015)		1896-1939	City	Index	Medium	High	Large				
London	Parker (1957)		1940-1945	National	Index	n/a	n/a	n/a				
	ONS (2016a)		1947-1966	National	Index	High	Medium	Large				
London	Holmans (2005)		1967-1988	National	Index	High	Medium	Large				
	ONS (2016b)		1989-2006	National	Index	High	Medium	Large				
London	ONS (2016c)		2006-2015	Both	Index	High	High	Large				

Table 2: Overview sources: wages and prices

Wages				
<i>City / State</i>	<i>Study</i>	<i>Years</i>	<i>Coverage</i>	<i>Type</i>
Belgium	Peeters (1939)	1831-1913	National	Index
	Scholliers (1978)	1914-1918	National	Index
	Cassiers (1980)	1919-1940	National	Index
	Nationale Bank Belgie (1950)	1945-1950	National	Index
	Nationale Bank Belgie (1960)	1951-1959	National	Index
	FOD WASO (2016)	1959-2015	National	Index
Bruges	Verlinden (1959, 1965, 1972 and 1973)	1500-1628	Urban	Raw wages
Ghent	Verlinden (1959, 1965, 1972 and 1973)	1500-1800	Urban	Raw wages
Antwerp	Van der Wee (1963)	1500-1605	Urban	Raw wages
	Verlinden (1959, 1965, 1972 and 1973)	1606-1834	Urban	Raw wages
Amsterdam	De Vries & Van der Woude (1997)	1500-1815	Regional	Index
	Smits, Horlings & Van Zanden (2000)	1816-1913	National	Index
	Schrage, Nijhof & Wielsma (1989)	1913-1939	National	Index
	CBS (2016c)	1940-1969	National	Index
	CBS (2016d)	1970-2015	National	Index
Paris	Allen (2001)	1500-1839	Urban	Index
	Singer-Kerel (1961)	1840-1947	Urban	Index
	INSEE (2016)	1948-2015	National	Index
London	Clark (2005)	1500-1913	Regional	Index
	Hills et al. (2015)	1914-2015	National	Index
Prices				
<i>City / State</i>	<i>Study</i>	<i>Years</i>	<i>Coverage</i>	<i>Type</i>
Belgium	Michotte (1937)	1830-1913	National	Index
	Scholliers (1990)	1914-1919	Urban	Index
	Algemene Directie Statistiek (2016)	1920-2015	National	Index
Bruges	Verlinden (1959, 1965, 1972 and 1973)	1500-1800	Urban	Raw prices
Ghent	Verlinden (1959, 1965, 1972 and 1973)	1500-1800	Urban	Raw prices
	Allen (2001)	1800-1830	Regional	Index
Antwerpen	Van der Wee (1963)	1500-1600	Urban	Raw prices
	Verlinden (1959, 1965, 1972 and 1973)	1500-1830	Urban	Raw prices
Brussels	Verlinden (1959, 1965, 1972 and 1973)	1500-1800	Urban	Raw prices
Amsterdam	Van Zanden (2005)	1500-1800	Regional	Index
	Van Riel (2016)	1800-1913	National	Index
	CBS (2016b, c)	1914-2016	National	Index
	Allen (2001)	1500-1859	Urban	Index
Paris	CGEDD (2016)	1787-1839	Urban	Index
	Singer-Kerel (1961)	1860-1948	Urban	Index
	INSEE (2016)	1949-2015	National	Index
London	Clark (2005)	1500-1661	National	Index
	Hills et al. (2015)	1661-2015	National	Index

Table 3: Collected and used primary rent observations per city

	<i>Total</i>	<i>Used</i>	<i>Yearly average</i>
Amsterdam	58426	6634	22
London	19246	2204	5
Bruges	27318	3248	8
Antwerp	40364	6267	14
Brussels	14977	2297	16
Ghent	57105	6494	15
Leuven	12954	2057	15
Liege	10006	2297	16
Total	240396	31498	14

Table 4: base weights price index, key years

	<i>Wheat</i>	<i>Rye</i>	<i>Butter</i>	<i>Cheese</i>	<i>Beef</i>	<i>Chicken</i>	<i>Egg</i>
1600	4.0%	40.0%	16.0%	7.0%	5.0%	5.0%	0.5%
1799	11.5%	23.4%	14.3%	6.2%	9.1%	8.3%	1.7%
1800	13.0%	19.0%	15.0%	-	16.0%	-	-
1835	15.1%	15.5%	15.0%	-	16.0%	-	-

	<i>Fish</i>	<i>Peas</i>	<i>Barley</i>	<i>Energy</i>	<i>Oils</i>	<i>Potatoes</i>	<i>Buckwheat</i>
1600	3.0%	2.0%	6.5%	9.0%	2.0%	-	-
1799	3.0%	3.7%	5.3%	11.5%	2.0%	-	-
1800	-	-	5.0%	14.0%	2.0%	12.0%	4.0%
1835	-	-	5.0%	14.0%	2.0%	13.4%	4.0%

Table 5: Expenditure patterns in an Antwerp orphanage (Scholliers. 1960)

Year	Price	Total	Expenditure as % of						
			<i>Food</i>				<i>Nonfood</i>		
	Grains	Local	Grains	Butter	Meat	Rest	Energy	Cloth	Repairs
1585			40%	9%	10%	15%	3%	18%	4%
1586	31.1	18737	59%	13%	3%	12%	3%	7%	3%
1587	32.7	14184	59%	6%	4%	21%	2%	6%	2%
1588	9.78	6627	34%	16%	10%	5%	7%	15%	14%
1589	5.87	8852							
1590	10.2	10389	25%	17%		24%	4%	21%	9%
1591	10.25	10559	21%	20%	7%	24%	4%	22%	2%
1592	8.28	10208	21%	16%	7%	22%	5%	18%	10%
1593	7.86	11515	11%	20%	7%	26%	6%	23%	7%
1594	10.9	12302	16%	18%	9%	24%	5%	21%	7%
1595	20.9	13853	29%	18%	7%	20%	4%	17%	6%
1596	16.8	13167	27%	17%	6%	20%	4%	16%	10%
1597	15.8	12044	28%	18%	7%	21%	5%	13%	9%
1598	14.3	11240	24%	19%	7%	24%	6%	13%	7%
1599	10.9	10253	19%	17%	6%	21%	5%	19%	13%
1600	10.1	9442	18%	15%	9%	18%	7%	24%	9%
Average			29%	16%	7%	20%	5%	17%	7%

Table 6: Growth rate and volatility of nominal rents

	Annualized growth rate				Volatility of annual growth rate			
	A'dam	Belgium	Paris	London	A'dam	Belgium	Paris	London
1500-1550		0.89%	2.45%	0.22%		1.99%	7.84%	1.61%
1550-1600	2.41%	0.09%	1.45%	2.04%	6.00%	5.42%	12.45%	2.05%
1600-1650	0.92%	1.61%	2.87%	0.20%	3.00%	1.67%	6.99%	2.55%
1650-1700	0.01%	-0.19%	-0.13%	0.41%	3.62%	2.35%	2.92%	2.09%
1700-1750	0.00%	-0.13%	0.98%	0.12%	2.76%	1.66%	4.50%	1.27%
1750-1800	-0.10%	1.06%	1.04%	1.53%	3.64%	2.42%	5.47%	1.28%
1800-1850	0.02%	1.00%	1.73%	0.69%	5.33%	3.73%	2.62%	2.21%
1850-1900	1.48%	1.07%	1.41%	1.11%	2.24%	1.80%	8.68%	1.42%
1900-1950	1.21%	4.50%	7.67%	1.73%	3.45%	11.15%	22.19%	6.67%
1950-2000	5.83%	6.36%	8.28%	6.86%	3.85%	3.74%	8.22%	4.89%
2000-2015	2.69%	1.84%	2.03%	2.87%	0.72%	1.04%	1.93%	1.33%
Pre-WWI	0.75%	0.65%	1.45%	0.76%	4.04%	2.93%	7.21%	1.96%
Post-WWI	3.47%	5.65%	8.14%	4.66%	4.26%	8.75%	16.50%	6.09%
Total	1.34%	1.79%	3.03%	1.68%	4.24%	4.79%	10.31%	3.61%

Missing data have been excluded, except for Paris rents before 1789

Table 7: Growth rate and volatility of real rents

	Annualized growth rate				Volatility of annual growth rate			
	A'dam	Belgium	Paris	London	A'dam	Belgium	Paris	London
1500-1550		-0.67%	0.81%	-1.41%		14.82%	15.84%	11.85%
1550-1600	0.13%	-2.44%	-0.23%	0.91%	12.96%	21.28%	20.52%	12.32%
1600-1650	-0.06%	0.85%	1.43%	-0.84%	7.61%	12.57%	9.93%	7.00%
1650-1700	0.17%	0.84%	-0.07%	0.66%	7.80%	12.20%	11.26%	7.83%
1700-1750	0.15%	-0.24%	0.78%	0.27%	8.80%	12.59%	16.42%	7.25%
1750-1800	-0.93%	0.32%	0.26%	-0.03%	9.15%	14.36%	7.46%	6.18%
1800-1850	1.06%	0.76%	2.11%	1.51%	8.66%	11.96%	10.12%	7.23%
1850-1900	1.78%	1.11%	0.96%	1.23%	4.41%	6.15%	9.06%	4.19%
1900-1950	-1.18%	-2.52%	-2.68%	-0.93%	8.70%	15.43%	18.24%	11.00%
1950-2000	1.89%	2.50%	2.82%	0.93%	3.50%	2.18%	6.88%	5.04%
2000-2015	0.71%	-0.10%	0.52%	0.71%	1.30%	1.39%	1.08%	1.61%
Pre-WWI	0.36%	0.02%	0.65%	0.24%	8.54%	13.58%	13.32%	8.22%
Post-WWI	0.27%	0.10%	0.22%	0.22%	6.66%	11.41%	13.55%	8.50%
Total	0.34%	0.04%	0.57%	0.24%	8.17%	13.27%	13.38%	8.29%

Missing data have been excluded, except for Paris rents before 1789

Table 8: Growth rate differential between wages and rents

Annualized growth rate				
	A'dam	Belgium	Paris	London
1500-1550		-0.27%	-1.50%	0.58%
1550-1600	-0.28%	2.19%	0.40%	-1.29%
1600-1650	-0.22%	-1.35%	-2.20%	0.69%
1650-1700	0.07%	0.32%	0.64%	-0.20%
1700-1750	0.04%	0.02%	-0.87%	0.04%
1750-1800	0.10%	-0.97%	0.06%	-0.67%
1800-1850	0.02%	-0.81%	-1.01%	0.06%
1850-1900	-0.23%	0.38%	-0.13%	0.15%
1900-1950	1.80%	4.03%	3.14%	1.56%
1950-2000	0.49%	-0.11%	0.36%	1.50%
2000-2015	0.03%	0.48%	0.56%	0.13%
Pre-WWI	-0.12%	0.02%	-0.56%	-0.06%
Post-WWI	1.36%	1.66%	1.77%	1.49%
Total	0.19%	0.15%	-0.43%	0.07%

Missing data have been excluded. except for Paris rents before 1789

Table 9: test-statistics Johansen maximum eigenvalue test

Rank	A'dam	Paris	London	Antwerp	Bruges	Ghent	Brussels	5% c.v.
r=2	4.14	5.89	6.89	3.16	4.62	7.78	4.86	9.24
r=1	12.85	12.87	13.61	15.36	7.75	17.39	7.52	15.67
r=0	75.73	54.91	38.07	28.62	24.04	42.65	27.94	22

H0 = no cointegration between prices, wages and rents.

Table 10: VECM regressions nominal rents. 1500-1795

Variable (in logs)	A'dam 1550- 1795	London 1500- 1795	Antwerp 1500- 1795	Ghent 1500- 1795	Bruges 1501- 1795
$Rents_{t-1}$	-0.058** (0.018)	-0.012* (0.004)	-0.036*** (0.011)	-0.016** (0.006)	-0.021** (0.008)
$Prices_{t-1}$	-0.048* (0.023)	0.009 (0.004)	-0.005 (0.012)	-0.005 (0.006)	0.009 (0.008)
$Wages_{t-1}$	0.132*** (0.034)	0.003 (0.003)	0.013 (0.012)	0.018** (0.007)	0.004 (0.010)
$\Delta Rents_{t-1}$	0.06 (0.066)	1.219*** (0.055)	0.622*** (0.048)	0.700*** (0.039)	0.952*** (0.057)
$\Delta Prices_{t-}$	-0.004 (0.031)	0.002 (0.006)	-0.027 (0.019)	-0.002 (0.011)	-0.004 (0.012)
$\Delta Wages_{t-}$	0.741* (0.311)	0.002 (0.015)	-0.164 (0.084)	-0.055 (0.045)	-0.086 (0.053)
$\Delta Rents_{t-2}$		-0.364*** (0.055)			-0.253*** (0.059)
$\Delta Prices_{t-}$		0.001 (0.006)			-0.017 (0.012)
$\Delta Wages_{t-}$		-0.008 (0.015)			-0.059 (0.053)
<i>Constant</i>	-0.124*** (0.044)	-0.010* (0.005)	0.076*** (0.021)	0.011 (0.009)	0.018 (0.012)
R^2	0.175	0.865	0.401	0.566	0.619
N	244	293	294	294	293

Standard errors in parentheses. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Notes: The dependent variable is in each column the % change (log difference) in the level of nominal rents for particular cities. Independent variables are listed on the rows; all variables are nominal and in logs; coefficients correspond therefore to percentage changes. Only sources with complete annual series are included; as a result the Paris series only start in 1860. Due to potentially present measurement error short-term coefficients should be interpreted with care. The specification in the tables below is exactly the same, except that different sample years are chosen and the number of lags is adjusted based on the Bayesian Information Criterion.

Table 11: Regression output rental growth. from 19th century until the First World War

Variables (in logs)	A'dam 1796- 1913	Paris 1809- 1913	London 1796- 1913	Antwerp 1796- 1913	Ghent 1796- 1913	Brussels 1800- 1913	Bruges 1820- 1913
$Rents_{t-1}$	-0.125** (0.045)	-0.081* (0.036)	-0.044* (0.020)	-0.052*** (0.011)	-0.050* (0.023)	-0.040* (0.017)	-0.304*** (0.057)
$Prices_{t-1}$	-0.026 (0.024)	0.059 (0.07)	-0.013 (0.01)	0.029 (0.021)	0.019 (0.020)	-0.001 (0.022)	0.026 (0.028)
$Wages_{t-1}$	0.146** (0.047)	-0.007 (0.043)	0.034 (0.02)	0.047** (0.016)	0.053 (0.029)	0.042 (0.024)	0.213*** (0.035)
$\Delta Rents_{t-1}$	0.143 (0.094)	-0.188 (0.113)	0.721*** (0.016)	0.729*** (0.053)	0.701*** (0.074)	0.505*** (0.083)	0.641*** (0.076)
$\Delta Prices_{t-1}$	0.135* (0.061)	0.048 (0.091)	0.016 (0.023)	-0.000 (0.031)	-0.026 (0.028)	-0.046 (0.037)	0.006 (0.051)
$\Delta Wages_{t-1}$	-0.012 (0.215)	0.452** (0.133)	0.002 (0.050)	0.117 (0.090)	-0.022 (0.083)	0.151 (0.093)	-0.126 (0.12)
Constant	0.018 (0.169)	-0.112 (0.282)	0.112 (0.068)	-0.100 (0.097)	-0.085 (0.105)	0.044 (0.107)	0.341* (0.133)
R ²	0.195	0.513	0.630	0.690	0.478	0.425	0.551
N	116	69	116	116	116	112	92

Standard errors in parentheses. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Notes: As Paris rents are only recorded at tri-annual frequency until 1960, rental lags correspond to three-year periods for this regression. Due to a low number of observations London is excluded.

Table 12: Regression output: 1914-present

Variables (in logs)	A'dam 1914- 2015	Paris 1914- 2015	London 1914- 2015	Belgium 1914- 2015
$Rents_{t-1}$	-0.164*** (0.022)	-0.233*** (0.036)	-0.112*** (0.0221)	-0.294** (0.010)
$Prices_{t-1}$	-0.042 (0.030)	0.169** (0.054)	0.202** (0.067)	0.025 (0.135)
$Wages_{t-1}$	0.167*** (0.029)	0.070 (0.056)	-0.048 (0.044)	0.215 (0.143)
$\Delta Rents_{t-1}$	-0.118 (0.090)	0.095 (0.097)	0.221* (0.095)	0.101 (0.209)
$\Delta Prices_{t-1}$	0.076 (0.096)	0.286* (0.130)	-0.016 (0.229)	0.210 (0.217)
$\Delta Wages_{t-1}$	-0.053 (0.071)	-0.324** (0.105)	0.056 (0.208)	-0.213 (0.225)
Constant	0.113* (0.044)	-0.115 (0.077)	0.01 (0.034)	0.087 (0.275)
R ²	0.693	0.726	0.669	0.235
N	100	95	94	79

Standard errors in parentheses. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Notes: Belgian rents are missing from 1961-1977.

8. Appendix A: Discussion of rental sources

A.1 Belgium

Most Belgian historical rental studies follow a tradition that has been set-up in the early sixties, most notably with the work of Scholliers (1965) on Antwerp rents. The early works, done by Masson (1972) for Bruges, Van Ryssel (1967) for Ghent and Scholliers (1965) for Antwerp, focused on collecting housing rents for the largest possible number of representative homes. Representativeness was assessed in terms of location, ownership and fluctuations in rents. In each city, rental observations stem from homes spread all over the city. Due to data availability, practically all rents stem from institutional accounts, as explained in the main body of the thesis. The main exception to this case is the study of Van Ryssel (1967) for Ghent, where 25% of homes stem from private investors and another 12.5% from city records.

Homes that showed abnormal changes in the level of rents were excluded. In each study homes were only included in the database if rental observations were available for at least 7 years. If observations were available for less than 7 years, but the rent was revised within this period, the most common contract length, the home was included as well.

Descriptive statistics for the sample of each study under consideration are reported in table 1. Although the number of observations per year per city is in general small, the size of the sample is still considerable. For example, the early work for Ghent is based on 851 rental homes whereas the whole city has been estimated to only contain about 6000-7000 homes during the sample period (Van Ryssel, 1967). The majority of rents in these studies were paid annually; monthly, half-yearly or quarterly payments were exceptional and seemed to occur only during very turbulent periods, such as the start of the Spanish occupation. Although the starting dates of the contracts are unknown, annual rents were mostly paid on various religious holidays, such as Christmas, Candlemas or Maria ascension, which were spread evenly throughout the year. In the index estimation, it is therefore assumed that contracts start mid-year.

Works for the period after the Ancien Regime, from Avondts & Scholliers (1977), Van den Eeckhout & Scholliers (1979), Henau (1991, unpublished) and Seegers (1999), vary slightly in methodology but rely on the same set of sources: social institutions. De 'Burelen van Weldadigheid' (offices of kindness) and 'Burgerlijke Godshuizen' (civil alms-houses), were founded after the French revolution and operated like the institutions in place during the Ancien Regime. These institutions were merged in 1925 into a single organisation which still exists nowadays in each Belgian municipality in the form of a Public Centre for Social Welfare (OCMW). Their archives formed the source for each of these studies. The work of Henau (1991) covers the period after the start of the First World War until 1940, whereas the others span from 1796 to the first half of the 20th century. Overlapping observations have been removed, as in some cases observations on the same address for the same year appeared in multiple studies. Although most homes in the sample fall in a somewhat cheaper segment of the rental market, there still is significant variation in the total level of rents. The main methodological differences in these later studies is that they are able to exactly estimate rents per calendar year, since the starting dates of the contracts are known. If a contract for example changed mid-year, the annual rent would be based on both the first 6 months of the old contract and the last 6 months of the new contract.

It is important to realize that the rental market was severely impacted by rent regulations introduced during World War I. In August 1914, a law was passed that gave the Belgian state the power to adapt contracts during wartime, including rental contracts. In 1919 and 1921 legislation was passed such that large groups of renters did not have to pay rent arrears build up during World War I. In some cases, actual market rents demanded might have therefore been higher than reported in the data, as I only observe the actual rent paid.

Rents were frequently re-capped relative to the rent level on January 1, 1914, with rent ceilings slowly increasing. There was significant variation in the imposition and revision of rent ceilings across municipalities, with the general trend being a relaxation of the regulations throughout the twenties and thirties. Following the Second World War, rent restrictions were re-imposed until the early fifties to deal with the housing shortages caused by the war.

I unfortunately do not possess underlying data for the unpublished study of Henau, concerning rents from 1940 to 1961. Methodologically, this study is similar to Henau (1991). From 1977, I rely on the rent component of the CPI from the Belgian Bureau of Statistics. Since data is lacking between 1961 and 1977, I link the series together based on price changes in the general price level between 1961 and 1977. The rent component of the Belgian CPI is based on the average rent reported in a monthly survey of 1800 properties in the private sector. Properties remain in the sample for extended periods of time. Changes occur either when tenants do not want to participate in the survey anymore or when old homes are being replaced by newer dwellings to keep the sample representative.

A.2 Amsterdam

The work of Lesger (1986), my source for Amsterdam from 1550-1854, follows in the tradition of the Belgian rent studies, albeit with one significant difference: the selection of homes based on quality. Whereas the homes in the samples of the Belgian cities were well spread throughout the cities, there might have been a bias towards homes of a particular quality bracket in particular years. Lesger therefore categorised on the quality of the observed home, ensuring that in every year homes from each of the four defined quality categories (from low to high) were in the sample. Each category was defined based on a set of reference homes, for which quality characteristics were available such that a categorisation could be made. Homes were subsequently classified based on their rental price relative to the rental prices of the reference homes.

Homes were only included in the sample if more than five years of rental data was available. If data was missing for less than two years, most likely because the home was not rented, the missing data would be filled with the rent that was paid after the gap. This strategy is somewhat unfortunate for my repeat-sales index, since rent revisions might now be occurring one or two years earlier than they have occurred in reality. It was not possible to trace these observations, but fortunately these gaps were relatively rare.

After 1854, I have to rely on national tax-based measures produced in Van Riel (forthcoming), based on estimates of Horlings (1995) and Smits (1996). It is important to realize that short-term trends within Amsterdam might have been different from national

trends, reducing the representativity of the index in comparison to other cities. For the period from 1800-1850, for which both national and city estimates are available, Lesger (1986) shows that national rents have been much less volatile than rents in Amsterdam. This is mostly a result of a housing crisis in Amsterdam from 1811-1820, which only had minor effects elsewhere.

The estimates of Van Riel (forthcoming) are based on property tax revenues. Dutch authorities levied a tax on the rental value that could be generated from owned real estate. This tax was determined on the basis of market rents in the neighbourhood rather than house prices, such that on average the tax levied was representative for the level of rents in a particular year. Since only aggregate figures were obtainable, the total rent index is derived by dividing the total tax revenue by the number of homes in The Netherlands. The rent index is thus a crude measure of the average rent paid rather than market rents, since it does not control for quality. Since housing quality is likely to have increased over the period from 1854-1913, the index might overstate the growth in rents for this period.

From 1914 onwards, I rely on a multitude of archived publications from the Central Bureau of Statistics (CBS), which I retrieved from the SHC archives in Maastricht. During the start of World War I, I rely on CBS (1947)¹⁰, which presents a rent index based on the same set of sources as Van Riel (forthcoming); annual tax records. After 1917, I can rely again on rental data from Amsterdam. Since 1917, the CBS followed several dozen families, which were surveyed quarterly on their expenditures, among others their weekly expenditures on rents. Survey outcomes were published several times a year in ‘maandschriften’ from the CBS.¹¹ Although it is unlikely that the survey controlled for housing quality, it is not likely to have made a large difference. Rent regulations limited rental growth and moving was practically impossible due to large housing shortages.

Tinbergen & Van der Meer (1938) conveniently summarize average expenditures on rent in Amsterdam for five different quality brackets from 1921-1936, based on a sample of 2600 rents from the private sector that were collected by the municipality of Amsterdam¹². I have

¹⁰ Archival record code: SHC CBS P10

¹¹ Archival record code: SHC CBS A2

¹² Archival record code: SHC CBS A5

computed an index based on a weighted average of each of these quality brackets, with the weights constant over time to implicitly control for quality. After 1936, the CBS started to conduct a similar survey for each of the cities in the Netherlands with more than 50.000 inhabitants, which was published in their ‘maandschriften’ and my main source until 1941¹³. For Amsterdam, about 8000 privately owned properties were sampled yearly. I collected data from Amsterdam until 1940, when rents were frozen due to the Second World War.

Dutch rents were under control of the government since the First World War, following housing shortages and a broader set of government policies to control prices for basic needs during periods of large uncertainty. Initially, rents were fixed by the ‘Huurcommisiewet’ of 1917, but later rents could increase with the rate of inflation. In the early 20’s governments grip on rents had reduced already, but only in 1927 this was confirmed by law. The rent freeze after the start of the Second World War remained until 1950, when more sophisticated rent policy was introduced.

After 1941, I rely on the rent component of the Dutch consumer price index (CBS, 2016b and 2016c). Although the methodology has been updated multiple times, the core of this study is formed by a rental survey currently sent out yearly to about 15.000 Dutch households. The rent index does not explicitly control for quality, but the survey does ask whether renovations happened in the past year. If that is the case, only price changes after the renovation are accounted for. A small share of homes is added and deleted to the sample every year to keep the sample of homes representative. A drawback of this study is that both households living in private and social housing are surveyed.

A.3 London

The main historical study on the English market used in this thesis is Clark (2002). Clark (2002) assembled a large dataset of rents, consisting of 19246 observations spanning from 1225 until 1903. As in the Belgian and Dutch cases, most rental observations stem from investigations into the activities of charities. Clark’s sample consists of data from both Wales and England, but most observations stem from London, in particular the city of London. Not all transactions in the sample of Clark correspond to actual rents. First of all, in about 10% of

¹³ Archival record code: SHC CBS A2

cases tenants had to pay fines or payment for repairs of the building. Since these are generally considered to be part of rental expenses, Clark (2002) has annualized these fines and used these to adjust the rental values of the observations. Second, in another 10% of cases Clark estimated the rental values of homes from house prices, since no rental payments were mentioned. I have excluded these observations from the index estimation. Rents on very long leases (more than 21 years) were already excluded by Clark, except if there was no sign that any additional payments had been made.

The index is only based on repeated observations on London, both within and outside the City. There are 2203 observations left for the estimation of the index. Before 1500, there are very few observations and until the mid 18th century a significant number of years has no observations at all. The frequency converted index is therefore based on staggered 12-year indices.

After 1895, I rely on the recent study of Samy (2015). Samy (2015) developed a house and rent price index for London for the period from 1895 until 1939, based on data from the London auction mart (1895-1922) and the mortgage registers of the Co-operative Permanent Building Societies (1920-1939). These registers did not only contain data on home sale prices, but also specific information on each property and its rental price. Samy (2015) was therefore able to estimate a hedonic rent index for the full sample period, thereby explicitly controlling for quality differences. The sample size is impressive; totalling 43275 observations for the 44-year sample period. Since differences in quality are already accounted for and a repeat-sales set-up was not possible, I have not attempted to re-construct the index using a repeat-sales methodology. The main drawback for this study in terms of representativity is a location bias: the CPBS data mostly come from the outskirts of London, whereas most homes from the auction mart data are in the city centre.

To splice the indices, I have used Samy's index for the full hedonic model in semi-log. In the years where the CPBS sample and the auction mart data were overlapping (1919-1922), I have computed a weighted average of the two indices; gradually shifting weight from the auction mart data to the CPBS sample. It is important to note that there are remarkable differences in developments of rental prices between the auction mart data and the CPBS

sample. Samy (2015) argues that these differences are the result of the different locations of the properties in each study. Another potential explanation is the imposition of rent controls. Rent control was introduced in the UK in 1915 in the form of rent caps, which were revised multiple times. New regulations caused properties erected after 1919 to be exempt from rent controls, a regulation that was only relaxed in 1923 such that rents could be set freely for new tenants of any home. Since the CBPS data contain newly-built homes or homes with new tenants, whereas existing homes were traded on the auction mart, CBPS homes were likely less affected by rent control regulation. As a side effect, contrary to the rent index for Belgium and The Netherlands, the London index still traces market rents relatively accurately during the interwar period, although as part of a highly regulated housing market.

Data availability and British housing policy make it much more difficult to find reliable statistics after the Second World War. From 1938 until 1945 I rely on a study of Parker (1957). Parker constructs cost-of-living estimates for WWII, with a separate component for rent and rates. Although the exact methodological details are lacking, it is not likely to make a significant difference, as strict rent controls put in place in 1939 limited changes in rental prices. From 1947 until 1966 I use the nation-wide rent component of the CPI, as produced by the Office of National Statistics. The methodology behind this index has changed multiple times; for some time the index also incorporated costs for owner-occupied homes. Holmans (2005) produces an index on the average level of registered rents in the private sector after 1966, which I have used until 1988. These rents stem from the private sector, but cannot be considered pure market rents. The registration of rents implied that a fair rent would be determined, which essentially was the market rent for the home minus the effect of scarcity and the maximum price to be charged by the landlord. Both tenant and landlord were able to apply for registered rents and most rental contracts signed before 1989 fell under the policy.

After 1988 I rely again on the rent component of the CPI, which is based on a representative sample of homes whose rents are tracked over time. If no rental prices are available for a particular home, it is substituted by a home of comparable quality. As homes in both the private sector and the social sector (local authority rents) are in the sample, the index is not a pure measure of changes in constant-quality market rents. After 2005 I use ONS its experimental index on private housing rents in England and London, which relies on the

same sources as the rent component of the CPI, but only includes homes rented in the private sector.

A.4 Paris

The landmark study on the history of the Paris rental market is Le Roy Ladurie & Couperie (1970). In their paper, Le Roy Ladurie & Couperie publish a triennial index from 1440-1789 based on about 11000 leases. In contrast to studies from other cities, rental data does not only stem from accounting records but also from notary lease contracts, stored in the archival records of 26 different social institutions; either religious institutions or hospitals. The actual lease contracts can vary theoretically from accounting records, since they specify the contractual amount to be paid rather than the actual amounts paid. Non-standard accounting practices at that time made it impossible though to identify how much rent was unpaid. Differences are not likely to be significant; even during turbulent times the large majority of tenants still paid the rents specified in their contracts.

Le Roy Ladurie & Couperie (1970) conducted an impressive effort to construct a sample representative for Paris. As mentioned previously, they collected an additional 12000 leases from private contracts for 23 benchmark years to underline the representativity of the charity rents: no differences in average rental prices were found in the private and charity samples. Additionally, they separated isolated and repeated observations and ensured renovated homes were treated as new observations. Although I do not possess details on the exact location on the properties, data stem from all parts of Paris. This is reflected in the large number of institutions covered, which were spread around Paris and whose portfolios were mainly composed of real estate around the location of the institution.

Due to the turbulence caused by the French revolution, I possess no data on the level of rents until 1809. Lacking any detail on developments in housing markets, I link the rental series together based on general information on consumer prices, based on a price index compiled in a database from CGEDD (2016). After 1809 I rely on a study from Daumard (1965). Daumard collected data on the so-called 'rente foncière' for six streets representative for the 'old' Paris, the Opera neighbourhood and several streets around the current Quartier Latin. The rente foncière measured the rental value that could be extracted from the underlying

property if it were leased and determined the corresponding tax to be paid. The *rente foncière* was supposed to follow the actual market rents prevalent in the. Over time, I observe significant differences in the development of the *rente foncière* across streets. Surprisingly, the largest disparities are found among the streets representative for the ‘old’ Paris; that means streets unaffected by the large Hausman renovations. These started in the second half of the 19th century and gave Paris its current boulevard layout, while causing major disruptions to the local housing market.

Although these tax-based measures do not tend to be the most accurate representation of market rents, no other sources are available. To still produce the most representative pattern possible, I have computed a triennial weighted average of the streets both affected and unaffected by the renovations, weighting each of the 21 streets studied by the number of observations. From 1860 onwards I am able switch back to an actual rent index estimated by Marnata (1961), my source from 1860-1958. Marnata collected 11800 different rents from lease management books from residential neighbourhoods in Paris and subsequently used these observations to compute a chained index. Although his index is not a pure repeat sales index but rather a chain index, it controls for quality as it follows the same residential units over long periods of time. The main disadvantage of his study is that most of the residential units in the sample are of relatively high quality, meant for the upper class of society. Since rental developments might have differed in lower class rental units, the index cannot be considered completely representative for the city of Paris.

After 1958, I rely on national estimates, measured by the rent component of the CPI from INSEE (2016). This rent component is based on a quarterly survey among 3500 households considered representative for the French rental market, with each household remaining in the survey for five quarters. The survey does not focus exclusively on private market rents, but includes households from the social sector.

9. Appendix B: Tabulated indices (table 1 – 17)

Table 1: Nominal rent index, Amsterdam (1913 = 100)

1500	1560	7.11	1620	25.04	1680	30.31	1740	34.09	1800	32.50	1860	40.72	1920	85.1	1980	857.8	
1501	1561	7.55	1621	24.36	1681	30.14	1741	34.59	1801	34.04	1861	40.72	1921	97.0	1981	927.0	
1502	1562	8.05	1622	24.49	1682	31.21	1742	34.54	1802	34.01	1862	40.92	1922	103.7	1982	1010.0	
1503	1563	8.19	1623	23.58	1683	32.20	1743	36.67	1803	35.41	1863	40.92	1923	107.5	1983	1093.0	
1504	1564	8.59	1624	23.09	1684	32.75	1744	37.09	1804	36.64	1864	41.17	1924	110.1	1984	1148.4	
1505	1565	9.00	1625	23.71	1685	34.20	1745	34.55	1805	36.08	1865	41.49	1925	112.6	1985	1189.9	
1506	1566	8.76	1626	22.72	1686	32.50	1746	35.83	1806	39.99	1866	42.06	1926	113.9	1986	1231.4	
1507	1567	8.52	1627	23.10	1687	32.15	1747	35.37	1807	41.03	1867	42.51	1927	115.5	1987	1259.1	
1508	1568	7.74	1628	22.76	1688	31.79	1748	35.90	1808	40.62	1868	42.51	1928	118.0	1988	1300.6	
1509	1569	7.14	1629	22.95	1689	31.12	1749	35.65	1809	37.63	1869	42.51	1929	119.2	1989	1342.1	
1510	1570	7.08	1630	24.72	1690	34.00	1750	34.09	1810	31.93	1870	42.96	1930	121.8	1990	1383.6	
1511	1571	6.59	1631	24.65	1691	31.80	1751	34.38	1811	30.45	1871	43.34	1931	124.9	1991	1438.9	
1512	1572	6.19	1632	25.49	1692	32.34	1752	34.85	1812	28.34	1872	43.79	1932	126.9	1992	1521.9	
1513	1573	5.76	1633	25.31	1693	32.38	1753	37.10	1813	28.00	1873	44.55	1933	127.8	1993	1605.0	
1514	1574	5.65	1634	25.55	1694	32.83	1754	37.94	1814	28.59	1874	45.32	1934	128.8	1994	1688.0	
1515	1575	5.87	1635	26.83	1695	35.30	1755	36.08	1815	28.34	1875	45.13	1935	127.4	1995	1771.0	
1516	1576	5.85	1636	26.22	1696	33.16	1756	36.87	1816	32.32	1876	47.04	1936	127.7	1996	1854.0	
1517	1577	6.28	1637	26.93	1697	32.80	1757	36.24	1817	34.16	1877	48.70	1937	125.8	1997	1926.8	
1518	1578	6.40	1638	26.65	1698	33.66	1758	36.92	1818	35.26	1878	50.55	1938	124.7	1998	1995.8	
1519	1579	6.52	1639	26.81	1699	33.51	1759	36.88	1819	35.30	1879	51.76	1939	124.5	1999	2058.7	
1520	1580	7.02	1640	28.65	1700	34.11	1760	35.20	1820	33.37	1880	53.42	1940	124.5	2000	2115.4	
1521	1581	7.00	1641	28.61	1701	32.74	1761	36.77	1821	35.87	1881	54.38	1941	124.5	2001	2171.2	
1522	1582	7.32	1642	29.88	1702	32.44	1762	37.71	1822	35.37	1882	55.98	1942	124.5	2002	2232.3	
1523	1583	7.72	1643	29.83	1703	32.63	1763	39.75	1823	34.80	1883	57.38	1943	124.5	2003	2300.7	
1524	1584	8.32	1644	30.25	1704	32.20	1764	40.67	1824	35.26	1884	57.64	1944	124.5	2004	2372.8	
1525	1585	9.41	1645	32.18	1705	33.20	1765	38.98	1825	34.33	1885	57.96	1945	124.5	2005	2433.0	
1526	1586	10.29	1646	31.81	1706	32.42	1766	40.30	1826	37.13	1886	58.27	1946	124.5	2006	2490.6	
1527	1587	11.82	1647	32.65	1707	32.98	1767	40.23	1827	36.62	1887	58.40	1947	124.5	2007	2541.0	
1528	1588	12.82	1648	32.42	1708	34.02	1768	41.38	1828	35.47	1888	58.66	1948	124.5	2008	2582.9	
1529	1589	13.98	1649	32.68	1709	34.40	1769	41.54	1829	34.44	1889	59.42	1949	124.5	2009	2644.3	
1530	1590	15.98	1650	33.95	1710	35.41	1770	38.73	1830	32.53	1890	59.87	1950	124.5	2010	2702.9	
1531	1591	16.64	1651	32.49	1711	34.58	1771	40.21	1831	34.50	1891	60.70	1951	138.4	2011	2749.2	
1532	1592	17.81	1652	32.43	1712	34.75	1772	40.36	1832	33.38	1892	61.72	1952	138.4	2012	2812.8	
1533	1593	18.36	1653	31.59	1713	36.05	1773	41.78	1833	32.56	1893	62.04	1953	138.4	2013	2918.3	
1534	1594	18.91	1654	31.06	1714	35.93	1774	42.30	1834	32.77	1894	62.81	1954	166.0	2014	3049.4	
1535	1595	19.89	1655	32.59	1715	36.32	1775	39.91	1835	32.05	1895	63.25	1955	166.0	2015	3149.9	
1536	1596	19.36	1656	32.13	1716	36.06	1776	41.14	1836	35.25	1896	64.40	1956	179.9			
1537	1597	20.21	1657	33.38	1717	36.57	1777	40.89	1837	35.59	1897	63.83	1957	193.7			
1538	1598	20.38	1658	34.38	1718	38.34	1778	42.15	1838	35.65	1898	65.05	1958	221.4			
1539	1599	20.49	1659	35.13	1719	38.79	1779	42.18	1839	35.87	1899	66.39	1959	221.4			
1540	1600	21.51	1660	36.66	1720	38.32	1780	39.05	1840	35.01	1900	68.17	1960	235.2			
1541	1601	20.90	1661	35.00	1721	38.35	1781	40.44	1841	37.88	1901	70.34	1961	249.0			
1542	1602	21.23	1662	34.67	1722	38.42	1782	40.27	1842	37.19	1902	71.94	1962	262.9			
1543	1603	20.75	1663	33.47	1723	39.57	1783	41.74	1843	36.52	1903	73.86	1963	276.7			
1544	1604	20.61	1664	32.15	1724	39.49	1784	42.88	1844	36.52	1904	75.90	1964	290.6			
1545	1605	21.78	1665	32.88	1725	38.85	1785	40.62	1845	35.04	1905	78.13	1965	304.4			
1546	1606	21.68	1666	31.61	1726	38.69	1786	42.11	1846	37.64	1906	80.62	1966	332.1			
1547	1607	22.67	1667	31.91	1727	38.61	1787	42.03	1847	36.47	1907	83.30	1967	332.1			
1548	1608	22.55	1668	32.14	1728	39.90	1788	43.40	1848	35.17	1908	85.09	1968	359.7			
1549	1609	22.67	1669	32.35	1729	40.09	1789	43.51	1849	34.35	1909	87.00	1969	387.4			
1550	6.54	1610	24.07	1670	33.80	1730	38.77	1790	40.70	1850	32.78	1910	89.62	1970	401.2		
1551	6.57	1611	23.68	1671	32.14	1731	39.10	1791	42.52	1851	34.53	1911	93.06	1971	442.7		
1552	5.89	1612	23.99	1672	31.30	1732	39.21	1792	42.25	1852	34.32	1912	96.44	1972	470.4		
1553	5.79	1613	23.30	1673	30.39	1733	40.88	1793	42.95	1853	34.15	1913	100.0	1973	511.9		
1554	6.51	1614	23.10	1674	29.51	1734	41.14	1794	42.53	1854	38.62	1914	100.0	1974	553.4		
1555	6.46	1615	24.18	1675	30.04	1735	39.21	1795	38.59	1855	39.00	1915	99.00	1975	581.1		
1556	6.25	1616	23.55	1676	28.27	1736	39.21	1796	38.42	1856	39.13	1916	99.00	1976	664.1		
1557	6.32	1617	24.12	1677	28.13	1737	38.36	1797	36.93	1857	39.58	1917	99.00	1977	705.6		
1558	6.23	1618	23.75	1678	28.22	1738	38.57	1798	36.89	1858	40.09	1918	83.16	1978	747.1		
1559	6.37	1619	23.76	1679	28.31	1739	37.35	1799	35.91	1859	40.47	1919	84.77	1979	802.5		

Table 2: Real rent index, Amsterdam (1913 = 100)

1500	1560	25.80	1620	35.40	1680	31.43	1740	28.78	1800	20.59	1860	38.11	1920	44.01	1980	78.55	
1501	1561	26.81	1621	35.28	1681	30.99	1741	30.21	1801	21.58	1861	35.16	1921	57.92	1981	79.54	
1502	1562	26.79	1622	29.57	1682	31.24	1742	33.68	1802	22.65	1862	37.83	1922	69.47	1982	81.79	
1503	1563	26.69	1623	26.43	1683	32.12	1743	37.67	1803	23.33	1863	40.01	1923	75.23	1983	86.08	
1504	1564	28.71	1624	25.20	1684	31.37	1744	38.58	1804	25.34	1864	41.05	1924	76.38	1984	87.57	
1505	1565	21.75	1625	26.11	1685	32.39	1745	31.88	1805	22.21	1865	41.36	1925	78.83	1985	88.74	
1506	1566	26.42	1626	26.62	1686	32.55	1746	31.92	1806	25.53	1866	39.57	1926	82.78	1986	91.68	
1507	1567	23.64	1627	26.55	1687	34.03	1747	29.77	1807	27.18	1867	38.85	1927	83.92	1987	94.21	
1508	1568	22.66	1628	24.43	1688	32.87	1748	33.93	1808	25.68	1868	39.23	1928	84.93	1988	96.63	
1509	1569	22.02	1629	22.09	1689	31.45	1749	36.29	1809	24.74	1869	41.85	1929	86.60	1989	98.63	
1510	1570	19.54	1630	21.44	1690	34.02	1750	32.83	1810	21.34	1870	42.44	1930	92.03	1990	99.23	
1511	1571	18.12	1631	21.45	1691	31.17	1751	32.29	1811	20.51	1871	40.57	1931	100.17	1991	99.36	
1512	1572	13.03	1632	26.78	1692	30.30	1752	31.22	1812	17.99	1872	40.45	1932	109.84	1992	101.34	
1513	1573	9.96	1633	27.80	1693	28.20	1753	36.82	1813	18.22	1873	40.69	1933	111.84	1993	104.71	
1514	1574	9.72	1634	26.40	1694	29.65	1754	40.72	1814	19.67	1874	41.96	1934	112.77	1994	107.17	
1515	1575	12.41	1635	29.99	1695	30.15	1755	34.71	1815	19.64	1875	44.01	1935	115.47	1995	110.47	
1516	1576	14.18	1636	29.51	1696	29.07	1756	32.29	1816	20.06	1876	43.55	1936	118.49	1996	113.26	
1517	1577	13.04	1637	27.71	1697	26.71	1757	30.12	1817	19.65	1877	43.85	1937	114.02	1997	115.22	
1518	1578	12.67	1638	27.17	1698	25.36	1758	30.87	1818	23.94	1878	46.84	1938	110.37	1998	117.10	
1519	1579	13.38	1639	28.31	1699	24.23	1759	35.27	1819	27.33	1879	48.98	1939	109.02	1999	118.23	
1520	1580	13.06	1640	28.74	1700	30.50	1760	35.26	1820	27.89	1880	50.93	1940	95.05	2000	118.53	
1521	1581	13.47	1641	29.79	1701	30.60	1761	34.67	1821	32.17	1881	52.32	1941	82.95	2001	116.32	
1522	1582	15.24	1642	32.25	1702	32.83	1762	30.80	1822	33.39	1882	55.43	1942	77.22	2002	115.71	
1523	1583	16.90	1643	30.48	1703	33.70	1763	35.62	1823	32.87	1883	58.72	1943	74.60	2003	116.75	
1524	1584	18.45	1644	29.82	1704	32.25	1764	37.61	1824	36.92	1884	61.61	1944	72.67	2004	119.01	
1525	1585	21.46	1645	33.69	1705	36.17	1765	38.70	1825	34.94	1885	65.27	1945	63.16	2005	119.97	
1526	1586	22.49	1646	34.63	1706	33.38	1766	36.66	1826	37.48	1886	66.70	1946	57.90	2006	121.42	
1527	1587	20.93	1647	34.26	1707	34.89	1767	33.77	1827	35.59	1887	67.15	1947	55.87	2007	121.92	
1528	1588	23.22	1648	29.86	1708	35.28	1768	37.57	1828	35.26	1888	69.58	1948	53.97	2008	120.92	
1529	1589	26.70	1649	28.59	1709	25.47	1769	36.62	1829	31.98	1889	68.91	1949	50.76	2009	122.33	
1530	1590	28.96	1650	28.04	1710	28.16	1770	33.59	1830	28.17	1890	68.04	1950	46.52	2010	123.47	
1531	1591	29.52	1651	26.14	1711	31.31	1771	29.73	1831	29.54	1891	65.79	1951	47.15	2011	122.71	
1532	1592	37.14	1652	25.39	1712	32.86	1772	29.95	1832	30.28	1892	69.61	1952	47.15	2012	122.54	
1533	1593	36.24	1653	27.58	1713	32.17	1773	33.36	1833	31.12	1893	75.26	1953	47.15	2013	124.03	
1534	1594	32.44	1654	31.46	1714	33.19	1774	36.24	1834	32.44	1894	78.26	1954	54.40	2014	128.35	
1535	1595	28.75	1655	34.78	1715	33.01	1775	34.73	1835	31.54	1895	80.32	1955	53.38	2015	131.72	
1536	1596	27.09	1656	31.55	1716	33.13	1776	35.52	1836	34.22	1896	83.31	1956	56.75			
1537	1597	25.87	1657	35.11	1717	35.79	1777	33.96	1837	35.43	1897	80.99	1957	57.39			
1538	1598	26.04	1658	31.34	1718	39.13	1778	37.36	1838	33.91	1898	81.88	1958	64.48			
1539	1599	26.14	1659	28.58	1719	36.18	1779	38.79	1839	32.30	1899	85.30	1959	63.93			
1540	1600	28.94	1660	31.19	1720	35.37	1780	34.55	1840	31.62	1900	84.29	1960	66.24			
1541	1601	30.12	1661	28.11	1721	35.08	1781	32.96	1841	34.58	1901	83.60	1961	68.99			
1542	1602	31.61	1662	27.50	1722	38.90	1782	30.33	1842	33.22	1902	86.67	1962	71.45			
1543	1603	28.86	1663	29.11	1723	39.07	1783	34.76	1843	35.92	1903	86.22	1963	72.44			
1544	1604	29.49	1664	31.53	1724	39.38	1784	35.87	1844	38.36	1904	87.61	1964	72.10			
1545	1605	32.85	1665	28.47	1725	37.31	1785	33.78	1845	33.59	1905	89.52	1965	71.78			
1546	1606	34.64	1666	29.55	1726	37.44	1786	32.75	1846	32.10	1906	90.40	1966	74.03			
1547	1607	34.95	1667	32.59	1727	38.35	1787	33.97	1847	28.97	1907	90.08	1967	71.78			
1548	1608	29.87	1668	30.87	1728	41.62	1788	34.64	1848	34.45	1908	90.93	1968	75.00			
1549	1609	29.78	1669	36.47	1729	39.62	1789	34.87	1849	35.45	1909	92.32	1969	75.17			
1550	27.08	1610	33.43	1670	35.81	1730	39.14	1790	33.72	1850	34.94	1910	92.48	1970	74.56		
1551	25.63	1611	32.52	1671	33.54	1731	38.89	1791	36.32	1851	36.80	1911	93.66	1971	76.49		
1552	22.35	1612	31.86	1672	30.03	1732	41.30	1792	35.55	1852	35.65	1912	95.78	1972	75.38		
1553	23.52	1613	30.77	1673	29.04	1733	43.04	1793	34.02	1853	32.05	1913	100.00	1973	75.97		
1554	25.36	1614	32.16	1674	27.42	1734	42.55	1794	31.90	1854	32.62	1914	100.00	1974	74.90		
1555	22.07	1615	34.69	1675	27.10	1735	39.33	1795	24.28	1855	30.18	1915	86.67	1975	71.37		
1556	18.65	1616	31.78	1676	26.04	1736	39.47	1796	27.39	1856	32.47	1916	77.81	1976	74.97		
1557	20.52	1617	31.09	1677	27.84	1737	36.96	1797	30.46	1857	35.83	1917	73.31	1977	74.66		
1558	26.16	1618	32.28	1678	29.27	1738	37.06	1798	29.37	1858	38.51	1918	51.65	1978	75.97		
1559	21.22	1619	33.80	1679	30.44	1739	35.44	1799	25.61	1859	40.01	1919	48.38	1979	78.28		

Table 3: Nominal rent index, Belgium (1913 = 100)

1500	6.52	1560	10.69	1620	16.50	1680	22.67	1740	18.49	1800	33.94	1860	67.4	1920	122.9	1980	7947
1501	6.46	1561	11.06	1621	16.67	1681	22.45	1741	18.27	1801	31.84	1861	69.8	1921	139.5	1981	8758
1502	6.82	1562	11.60	1622	16.63	1682	22.14	1742	18.10	1802	29.99	1862	72.8	1922	159.2	1982	9471
1503	6.57	1563	11.98	1623	16.36	1683	21.90	1743	18.16	1803	29.53	1863	75.0	1923	179.2	1983	10325
1504	6.78	1564	12.26	1624	16.19	1684	21.74	1744	18.45	1804	30.45	1864	75.0	1924	195.6	1984	11079
1505	6.67	1565	12.67	1625	16.33	1685	21.57	1745	19.00	1805	33.43	1865	75.0	1925	212.3	1985	11627
1506	7.01	1566	13.07	1626	16.43	1686	21.17	1746	19.42	1806	37.34	1866	75.0	1926	234.5	1986	12064
1507	7.07	1567	13.21	1627	16.44	1687	20.61	1747	19.48	1807	41.80	1867	75.4	1927	279.3	1987	12579
1508	7.17	1568	13.12	1628	16.60	1688	20.24	1748	19.53	1808	45.69	1868	76.0	1928	342.0	1988	13037
1509	7.13	1569	12.90	1629	16.79	1689	20.13	1749	19.72	1809	47.51	1869	76.6	1929	440.2	1989	13518
1510	7.13	1570	12.72	1630	16.98	1690	20.32	1750	20.03	1810	47.82	1870	78.1	1930	528.8	1990	13953
1511	7.18	1571	12.60	1631	16.99	1691	20.64	1751	20.23	1811	46.60	1871	80.2	1931	585.4	1991	14372
1512	7.28	1572	12.50	1632	16.90	1692	21.11	1752	20.36	1812	44.63	1872	84.9	1932	590.2	1992	15217
1513	7.34	1573	12.50	1633	16.95	1693	21.95	1753	20.44	1813	42.56	1873	90.0	1933	524.7	1993	16020
1514	7.53	1574	12.48	1634	17.23	1694	22.96	1754	20.35	1814	40.79	1874	92.2	1934	453.2	1994	16750
1515	7.51	1575	12.38	1635	17.90	1695	23.79	1755	20.30	1815	40.40	1875	94.8	1935	424.0	1995	17232
1516	7.79	1576	12.34	1636	18.80	1696	24.06	1756	20.21	1816	40.56	1876	97.8	1936	356.9	1996	17659
1517	8.07	1577	12.86	1637	19.65	1697	23.64	1757	20.02	1817	41.71	1877	99.7	1937	315.5	1997	17957
1518	8.21	1578	13.93	1638	20.47	1698	22.77	1758	20.05	1818	43.16	1878	99.6	1938	322.2	1998	18165
1519	8.09	1579	15.09	1639	21.16	1699	21.93	1759	20.30	1819	43.35	1879	98.2	1939	424.1	1999	18425
1520	7.88	1580	16.26	1640	21.62	1700	21.43	1760	20.67	1820	43.49	1880	97.4	1940	398.7	2000	18692
1521	7.87	1581	17.34	1641	21.67	1701	20.88	1761	20.83	1821	43.94	1881	96.7	1941	373.3	2001	19049
1522	7.86	1582	17.60	1642	21.51	1702	20.29	1762	20.70	1822	44.63	1882	97.2	1942	377.5	2002	19517
1523	7.86	1583	16.22	1643	21.53	1703	20.05	1763	20.49	1823	45.12	1883	98.3	1943	386.0	2003	19949
1524	7.99	1584	13.79	1644	21.81	1704	20.09	1764	20.29	1824	45.79	1884	97.4	1944	411.5	2004	20325
1525	8.11	1585	11.46	1645	22.59	1705	20.29	1765	20.33	1825	47.27	1885	96.3	1945	555.7	2005	20729
1526	8.39	1586	9.75	1646	23.41	1706	20.53	1766	20.43	1826	48.78	1886	95.7	1946	623.5	2006	21454
1527	8.55	1587	8.71	1647	23.85	1707	20.92	1767	20.50	1827	50.47	1887	95.6	1947	649.0	2007	21838
1528	8.59	1588	8.26	1648	23.95	1708	21.65	1768	20.88	1828	51.97	1888	94.9	1948	818.7	2008	22253
1529	8.59	1589	8.15	1649	23.85	1709	22.35	1769	21.65	1829	52.05	1889	92.6	1949	835.6	2009	22699
1530	8.46	1590	8.49	1650	23.62	1710	23.06	1770	22.61	1830	51.64	1890	91.5	1950	856.8	2010	22949
1531	8.48	1591	9.10	1651	22.91	1711	23.47	1771	23.18	1831	51.04	1891	90.8	1951	1043.5	2011	23197
1532	8.52	1592	9.65	1652	22.15	1712	23.15	1772	23.33	1832	51.47	1892	90.6	1952	1090.1	2012	23550
1533	8.47	1593	10.16	1653	21.69	1713	22.34	1773	23.27	1833	52.31	1893	90.8	1953	1132.6	2013	23851
1534	8.33	1594	10.64	1654	21.44	1714	21.65	1774	22.93	1834	52.41	1894	90.0	1954	1183.9	2014	24542
1535	8.19	1595	10.93	1655	21.45	1715	21.29	1775	22.57	1835	53.02	1895	90.0	1955	1227.8	2015	24583
1536	8.16	1596	10.82	1656	21.50	1716	20.86	1776	22.33	1836	54.15	1896	90.7	1956	1251.2		
1537	8.06	1597	10.67	1657	21.35	1717	20.38	1777	22.18	1837	55.63	1897	92.7	1957	1287.0		
1538	7.92	1598	10.63	1658	21.26	1718	20.14	1778	22.35	1838	56.70	1898	94.5	1958	1311.0		
1539	7.94	1599	10.55	1659	21.37	1719	20.04	1779	22.92	1839	56.62	1899	94.3	1959	1335.3		
1540	8.01	1600	10.63	1660	21.62	1720	20.06	1780	23.68	1840	56.65	1900	95.1	1960	1360.2		
1541	8.19	1601	10.87	1661	22.03	1721	20.14	1781	24.19	1841	56.84	1901	96.1	1961	1388.1		
1542	8.46	1602	11.05	1662	22.60	1722	20.16	1782	24.38	1842	57.53	1902	97.0	1962			
1543	8.79	1603	11.26	1663	23.27	1723	20.27	1783	24.60	1843	58.09	1903	97.7	1963			
1544	9.09	1604	11.70	1664	24.04	1724	20.29	1784	24.72	1844	57.73	1904	97.5	1964			
1545	9.29	1605	12.34	1665	24.81	1725	20.40	1785	24.93	1845	57.47	1905	97.4	1965			
1546	9.47	1606	12.82	1666	24.80	1726	20.26	1786	25.16	1846	56.94	1906	97.3	1966			
1547	9.67	1607	13.02	1667	24.29	1727	19.79	1787	25.35	1847	56.80	1907	99.3	1967			
1548	9.86	1608	13.14	1668	23.77	1728	19.41	1788	25.47	1848	56.63	1908	101.5	1968			
1549	10.02	1609	13.19	1669	23.16	1729	19.29	1789	25.58	1849	55.87	1909	101.2	1969			
1550	10.17	1610	13.33	1670	22.74	1730	19.30	1790	26.08	1850	55.89	1910	102.4	1970			
1551	10.48	1611	13.37	1671	22.84	1731	19.27	1791	26.66	1851	56.59	1911	104.2	1971			
1552	10.71	1612	13.43	1672	23.32	1732	19.25	1792	27.02	1852	58.22	1912	103.2	1972			
1553	10.77	1613	13.69	1673	24.02	1733	19.32	1793	28.47	1853	60.07	1913	100.0	1973			
1554	10.66	1614	14.15	1674	24.91	1734	19.32	1794	30.80	1854	60.92	1914	95.7	1974			
1555	10.65	1615	14.76	1675	25.75	1735	19.48	1795	33.29	1855	61.47	1915	90.5	1975			
1556	10.55	1616	15.19	1676	25.72	1736	19.56	1796	35.51	1856	61.73	1916	85.5	1976			
1557	10.48	1617	15.47	1677	24.96	1737	19.33	1797	37.53	1857	62.92	1917	88.9	1977	6501.7		
1558	10.53	1618	15.88	1678	23.98	1738	19.02	1798	37.52	1858	64.62	1918	99.1	1978	6971.5		
1559	10.53	1619	16.23	1679	23.11	1739	18.72	1799	35.56	1859	65.68	1919	110.1	1979	7388.9		

Table 4: Real rent index, Belgium (1913 = 100)

1500	87.74	1560	52.47	1620	37.65	1680	45.13	1740	27.02	1800	43.97	1860	64.27	1920	26.89	1980	87.05
1501	67.07	1561	52.36	1621	35.29	1681	45.51	1741	31.41	1801	39.41	1861	61.87	1921	34.77	1981	89.13
1502	67.11	1562	41.87	1622	27.35	1682	43.08	1742	37.25	1802	30.25	1862	69.36	1922	42.46	1982	88.66
1503	67.54	1563	54.56	1623	25.86	1683	43.37	1743	38.79	1803	30.06	1863	78.92	1923	41.66	1983	89.76
1504	74.30	1564	55.81	1624	28.63	1684	36.49	1744	40.38	1804	33.10	1864	81.50	1924	38.92	1984	90.57
1505	74.19	1565	41.13	1625	24.63	1685	36.86	1745	34.04	1805	36.33	1865	75.02	1925	40.84	1985	90.64
1506	77.73	1566	46.30	1626	19.41	1686	50.69	1746	38.17	1806	45.45	1866	69.53	1926	37.79	1986	92.84
1507	77.86	1567	54.06	1627	24.24	1687	48.42	1747	35.15	1807	54.06	1867	62.93	1927	35.42	1987	95.33
1508	82.75	1568	53.87	1628	27.86	1688	45.44	1748	35.25	1808	53.90	1868	70.46	1928	41.55	1988	97.66
1509	85.17	1569	49.09	1629	24.89	1689	41.10	1749	35.77	1809	60.76	1869	75.13	1929	50.14	1989	98.22
1510	87.00	1570	47.60	1630	23.65	1690	37.45	1750	37.55	1810	57.15	1870	73.69	1930	60.27	1990	97.99
1511	77.78	1571	41.62	1631	21.55	1691	37.94	1751	37.80	1811	55.27	1871	74.34	1931	73.09	1991	97.80
1512	69.01	1572	32.83	1632	23.76	1692	31.48	1752	37.67	1812	46.05	1872	80.15	1932	81.65	1992	101.09
1513	59.60	1573	30.60	1633	24.12	1693	28.25	1753	41.54	1813	49.30	1873	77.71	1933	74.10	1993	103.57
1514	70.47	1574	30.07	1634	23.75	1694	30.15	1754	43.02	1814	49.34	1874	82.45	1934	67.74	1994	105.78
1515	67.59	1575	34.98	1635	24.58	1695	34.00	1755	45.07	1815	45.33	1875	86.24	1935	64.53	1995	107.24
1516	63.06	1576	32.16	1636	25.77	1696	34.55	1756	42.89	1816	36.90	1876	83.73	1936	51.87	1996	107.68
1517	72.32	1577	33.46	1637	27.43	1697	30.66	1757	36.16	1817	31.93	1877	83.89	1937	42.76	1997	107.74
1518	80.38	1578	35.30	1638	28.28	1698	26.03	1758	38.02	1818	41.92	1878	88.28	1938	42.16	1998	107.96
1519	77.63	1579	37.71	1639	27.81	1699	31.27	1759	41.94	1819	49.13	1879	87.02	1939	54.89	1999	108.29
1520	61.10	1580	39.69	1640	27.24	1700	42.40	1760	41.67	1820	52.91	1880	86.33	1940	46.45	2000	107.14
1521	50.09	1581	41.10	1641	26.75	1701	39.14	1761	43.15	1821	65.89	1881	92.16	1941		2001	106.55
1522	64.80	1582	41.10	1642	28.81	1702	37.14	1762	39.94	1822	74.48	1882	92.65	1942		2002	107.40
1523	61.25	1583	32.78	1643	29.35	1703	34.86	1763	35.22	1823	63.94	1883	91.96	1943		2003	108.06
1524	50.47	1584	20.83	1644	28.24	1704	33.40	1764	38.58	1824	77.06	1884	98.36	1944		2004	107.84
1525	68.49	1585	11.89	1645	32.16	1705	35.85	1765	35.66	1825	73.57	1885	99.24	1945		2005	107.00
1526	67.84	1586	8.76	1646	39.12	1706	36.27	1766	35.99	1826	64.83	1886	105.01	1946		2006	108.80
1527	63.94	1587	9.85	1647	36.71	1707	38.49	1767	35.96	1827	62.52	1887	95.65	1947	25.93	2007	108.76
1528	60.49	1588	17.72	1648	31.85	1708	34.42	1768	36.21	1828	68.40	1888	104.14	1948	28.50	2008	106.07
1529	61.33	1589	17.90	1649	28.32	1709	23.19	1769	39.19	1829	64.20	1889	102.74	1949	30.08	2009	108.25
1530	53.18	1590	16.69	1650	27.91	1710	29.40	1770	38.10	1830	57.52	1890	101.52	1950	31.10	2010	107.10
1531	47.74	1591	19.64	1651	26.12	1711	38.17	1771	34.93	1831	55.61	1891	96.49	1951	34.64	2011	104.57
1532	64.51	1592	23.79	1652	27.65	1712	38.54	1772	37.19	1832	58.77	1892	99.48	1952	35.86	2012	103.22
1533	69.40	1593	20.70	1653	35.98	1713	34.56	1773	41.41	1833	59.34	1893	107.85	1953	37.37	2013	103.39
1534	68.59	1594	16.56	1654	40.88	1714	31.21	1774	38.38	1834	61.39	1894	108.26	1954	38.39	2014	106.03
1535	58.09	1595	14.44	1655	39.18	1715	38.80	1775	38.76	1835	61.39	1895	106.90	1955	40.01	2015	105.61
1536	49.73	1596	15.32	1656	35.33	1716	39.55	1776	41.46	1836	57.58	1896	117.48	1956	39.83		
1537	61.99	1597	15.34	1657	38.16	1717	38.51	1777	41.46	1837	61.75	1897	120.09	1957	39.71		
1538	48.91	1598	18.49	1658	35.61	1718	41.07	1778	38.55	1838	59.65	1898	116.36	1958	39.94		
1539	50.37	1599	20.89	1659	34.74	1719	40.76	1779	40.41	1839	56.06	1899	116.20	1959	40.18		
1540	52.75	1600	18.26	1660	32.90	1720	37.44	1780	39.68	1840	54.50	1900	111.64	1960	40.81		
1541	56.36	1601	20.10	1661	29.81	1721	43.50	1781	39.31	1841	59.80	1901	111.61	1961	41.25		
1542	53.19	1602	26.79	1662	27.79	1722	45.32	1782	39.37	1842	56.42	1902	115.25	1962			
1543	48.86	1603	25.54	1663	34.35	1723	43.74	1783	39.74	1843	62.42	1903	109.67	1963			
1544	46.43	1604	26.03	1664	39.67	1724	40.07	1784	39.97	1844	67.80	1904	121.59	1964			
1545	43.92	1605	29.81	1665	43.55	1725	37.07	1785	38.25	1845	58.04	1905	121.43	1965			
1546	63.95	1606	31.64	1666	44.85	1726	38.36	1786	38.87	1846	52.76	1906	112.95	1966			
1547	68.65	1607	29.27	1667	43.88	1727	38.16	1787	34.99	1847	52.63	1907	112.74	1967			
1548	63.09	1608	21.17	1668	46.08	1728	39.36	1788	36.25	1848	60.21	1908	116.48	1968			
1549	55.82	1609	24.51	1669	47.13	1729	36.96	1789	34.61	1849	60.67	1909	113.59	1969			
1550	62.65	1610	29.99	1670	44.89	1730	43.70	1790	42.17	1850	64.15	1910	114.90	1970			
1551	49.44	1611	28.68	1671	46.14	1731	41.66	1791	43.42	1851	66.47	1911	109.59	1971			
1552	50.95	1612	25.07	1672	44.37	1732	41.84	1792	41.55	1852	64.62	1912	100.19	1972			
1553	51.10	1613	30.82	1673	44.88	1733	45.72	1793	36.99	1853	66.68	1913	100.00	1973			
1554	55.47	1614	32.26	1674	39.59	1734	45.60	1794	42.73	1854	54.93	1914	95.28	1974			
1555	40.35	1615	30.48	1675	33.96	1735	45.10	1795	30.74	1855	58.58	1915	71.18	1975			
1556	30.66	1616	28.88	1676	38.71	1736	46.98	1796	38.72	1856	58.27	1916	46.92	1976			
1557	50.23	1617	29.86	1677	40.30	1737	44.38	1797	68.99	1857	64.85	1917	27.76	1977	82.90		
1558	50.46	1618	29.99	1678	41.42	1738	41.49	1798	60.73	1858	64.62	1918	20.55	1978	85.08		
1559	46.54	1619	36.37	1679	43.61	1739	36.44	1799	51.41	1859	67.01	1919	25.36	1979	86.32		

Table 5: Nominal rent index, Antwerp (1913 = 100)

1500	7.71	1560	15.33	1620	16.76	1680	19.97	1740	15.77	1800	18.35	1860	71.3	1920	125.8
1501	6.73	1561	16.41	1621	17.46	1681	20.00	1741	15.79	1801	16.93	1861	71.1	1921	146.4
1502	6.64	1562	18.47	1622	17.65	1682	19.75	1742	15.68	1802	18.04	1862	71.5	1922	175.6
1503	5.25	1563	19.20	1623	17.15	1683	19.55	1743	15.63	1803	20.64	1863	73.6	1923	198.9
1504	6.54	1564	19.54	1624	16.53	1684	19.21	1744	15.34	1804	22.73	1864	75.2	1924	203.1
1505	6.54	1565	20.69	1625	16.37	1685	19.22	1745	15.32	1805	26.49	1865	76.2	1925	206.4
1506	6.42	1566	22.23	1626	16.17	1686	19.16	1746	15.59	1806	33.34	1866	75.0	1926	236.5
1507	6.21	1567	21.58	1627	15.59	1687	18.72	1747	15.97	1807	40.01	1867	74.2	1927	307.8
1508	6.31	1568	19.91	1628	15.21	1688	18.23	1748	16.34	1808	44.97	1868	75.4	1928	396.3
1509	7.00	1569	18.62	1629	15.12	1689	17.64	1749	16.45	1809	49.59	1869	77.5	1929	502.8
1510	7.52	1570	17.33	1630	15.20	1690	17.59	1750	16.85	1810	55.62	1870	80.0	1930	572.2
1511	8.61	1571	16.30	1631	15.37	1691	17.64	1751	17.20	1811	55.38	1871	80.8	1931	614.7
1512	9.43	1572	15.85	1632	15.43	1692	17.38	1752	17.08	1812	49.92	1872	83.5	1932	561.6
1513	9.35	1573	15.55	1633	15.59	1693	17.19	1753	17.04	1813	46.27	1873	89.1	1933	490.0
1514	8.44	1574	15.29	1634	15.94	1694	16.96	1754	16.71	1814	43.33	1874	94.3	1934	440.6
1515	7.43	1575	14.21	1635	17.00	1695	17.00	1755	16.65	1815	40.97	1875	99.7	1935	387.8
1516	7.34	1576	13.50	1636	18.22	1696	16.94	1756	16.39	1816	38.99	1876	101.5	1936	313.1
1517	7.51	1577	14.34	1637	18.89	1697	16.80	1757	16.34	1817	38.85	1877	101.0	1937	318.9
1518	7.51	1578	16.23	1638	19.53	1698	16.76	1758	16.27	1818	39.63	1878	102.3	1938	364.3
1519	7.81	1579	18.03	1639	20.35	1699	16.65	1759	15.89	1819	39.74	1879	103.2	1939	449.0
1520	8.47	1580	19.74	1640	21.23	1700	17.16	1760	15.91	1820	40.19	1880	102.1	1940	343.2
1521	8.92	1581	22.68	1641	21.54	1701	17.76	1761	16.30	1821	39.73	1881	99.3		
1522	9.21	1582	25.19	1642	21.26	1702	17.73	1762	16.65	1822	38.66	1882	97.5		
1523	9.77	1583	23.47	1643	21.03	1703	17.57	1763	16.84	1823	39.20	1883	97.9		
1524	10.26	1584	18.79	1644	20.69	1704	17.21	1764	16.82	1824	42.26	1884	98.5		
1525	10.41	1585	14.05	1645	20.69	1705	17.07	1765	17.22	1825	46.91	1885	99.1		
1526	10.54	1586	11.21	1646	21.13	1706	16.87	1766	17.20	1826	50.47	1886	96.4		
1527	10.58	1587	9.38	1647	21.15	1707	16.59	1767	16.99	1827	53.92	1887	93.3		
1528	9.98	1588	8.23	1648	21.10	1708	16.40	1768	16.96	1828	58.60	1888	92.8		
1529	8.96	1589	7.79	1649	21.15	1709	16.26	1769	16.74	1829	62.23	1889	92.8		
1530	8.28	1590	7.94	1650	21.63	1710	16.62	1770	16.78	1830	64.25	1890	93.2		
1531	8.29	1591	8.33	1651	21.64	1711	16.84	1771	17.14	1831	63.09	1891	91.8		
1532	8.35	1592	8.84	1652	21.10	1712	16.82	1772	17.35	1832	60.45	1892	90.0		
1533	8.25	1593	9.34	1653	20.83	1713	16.89	1773	17.45	1833	59.83	1893	90.8		
1534	8.44	1594	10.06	1654	20.60	1714	16.58	1774	17.24	1834	59.13	1894	92.2		
1535	8.66	1595	10.63	1655	20.92	1715	16.62	1775	17.50	1835	58.03	1895	93.7		
1536	8.96	1596	11.00	1656	21.64	1716	16.70	1776	17.46	1836	55.66	1896	92.2		
1537	8.99	1597	11.07	1657	22.09	1717	16.49	1777	17.35	1837	54.60	1897	90.3		
1538	8.82	1598	10.90	1658	22.43	1718	16.20	1778	17.29	1838	55.24	1898	90.7		
1539	8.63	1599	10.76	1659	22.82	1719	15.88	1779	17.00	1839	55.70	1899	91.6		
1540	8.61	1600	10.58	1660	23.59	1720	16.11	1780	16.79	1840	56.05	1900	93.6		
1541	9.14	1601	10.32	1661	24.00	1721	16.30	1781	16.52	1841	55.25	1901	94.1		
1542	10.14	1602	9.91	1662	23.85	1722	16.44	1782	16.65	1842	54.88	1902	93.5		
1543	10.97	1603	9.65	1663	23.66	1723	16.95	1783	17.21	1843	56.00	1903	94.2		
1544	11.64	1604	9.66	1664	23.34	1724	17.31	1784	17.69	1844	57.20	1904	94.1		
1545	12.34	1605	10.12	1665	23.50	1725	17.41	1785	18.80	1845	58.24	1905	92.0		
1546	13.47	1606	11.36	1666	23.65	1726	17.06	1786	19.96	1846	57.65	1906	86.1		
1547	14.50	1607	12.75	1667	23.35	1727	16.66	1787	20.88	1847	57.38	1907	86.2		
1548	14.89	1608	13.53	1668	23.03	1728	16.21	1788	21.80	1848	58.46	1908	90.6		
1549	14.72	1609	13.96	1669	22.64	1729	15.36	1789	22.29	1849	59.57	1909	95.2		
1550	14.41	1610	14.78	1670	22.71	1730	15.25	1790	22.60	1850	60.82	1910	100.8		
1551	14.55	1611	15.65	1671	22.68	1731	15.48	1791	23.30	1851	60.69	1911	104.7		
1552	14.84	1612	15.35	1672	22.13	1732	15.62	1792	26.92	1852	61.15	1912	102.9		
1553	14.50	1613	14.58	1673	21.57	1733	15.92	1793	30.33	1853	63.42	1913	100.0		
1554	13.94	1614	14.27	1674	21.16	1734	16.17	1794	27.57	1854	65.59	1914	98.0		
1555	13.67	1615	14.60	1675	21.40	1735	16.47	1795	25.97	1855	67.28	1915	95.8		
1556	13.94	1616	14.93	1676	21.54	1736	16.46	1796	23.56	1856	66.59	1916	89.1		
1557	14.24	1617	15.05	1677	21.00	1737	16.25	1797	20.29	1857	66.37	1917	86.4		
1558	14.74	1618	15.46	1678	20.50	1738	16.04	1798	18.23	1858	68.07	1918	96.8		
1559	15.09	1619	16.07	1679	20.02	1739	15.71	1799	18.39	1859	69.72	1919	110.7		

Table 6: Real rent index, Antwerp (1913 = 100)

1500	103.7	1560	75.23	1620	38.25	1680	39.76	1740	23.04	1800	23.78	1860	67.95	1920	27.53
1501	69.92	1561	77.67	1621	36.96	1681	40.53	1741	27.14	1801	20.96	1861	63.02	1921	36.51
1502	65.38	1562	66.69	1622	29.04	1682	38.43	1742	32.26	1802	18.19	1862	68.12	1922	46.81
1503	53.99	1563	87.42	1623	27.11	1683	38.71	1743	33.38	1803	21.01	1863	77.47	1923	46.25
1504	71.64	1564	88.93	1624	29.22	1684	32.25	1744	33.58	1804	24.71	1864	81.63	1924	40.41
1505	72.72	1565	67.16	1625	24.70	1685	32.84	1745	27.46	1805	28.78	1865	76.24	1925	39.70
1506	71.22	1566	78.71	1626	19.12	1686	45.88	1746	30.64	1806	40.58	1866	69.51	1926	38.10
1507	68.49	1567	88.29	1627	22.97	1687	43.98	1747	28.81	1807	51.75	1867	61.90	1927	39.03
1508	72.88	1568	81.78	1628	25.51	1688	40.93	1748	29.49	1808	53.06	1868	69.87	1928	48.15
1509	83.53	1569	70.89	1629	22.43	1689	36.01	1749	29.84	1809	63.42	1869	76.03	1929	57.26
1510	91.83	1570	64.87	1630	21.17	1690	32.41	1750	31.60	1810	66.47	1870	75.54	1930	65.22
1511	93.22	1571	53.82	1631	19.49	1691	32.42	1751	32.13	1811	65.68	1871	74.86	1931	76.74
1512	89.44	1572	41.63	1632	21.70	1692	25.91	1752	31.61	1812	51.51	1872	78.87	1932	77.68
1513	75.88	1573	38.06	1633	22.19	1693	22.13	1753	34.65	1813	53.60	1873	76.93	1933	69.19
1514	78.99	1574	36.83	1634	21.98	1694	22.27	1754	35.33	1814	52.42	1874	84.26	1934	65.86
1515	66.83	1575	40.15	1635	23.34	1695	24.30	1755	36.98	1815	45.98	1875	90.73	1935	59.03
1516	59.42	1576	35.18	1636	24.97	1696	24.32	1756	34.79	1816	35.46	1876	86.86	1936	45.50
1517	67.31	1577	37.34	1637	26.37	1697	21.79	1757	29.50	1817	29.74	1877	85.04	1937	43.22
1518	73.55	1578	41.12	1638	26.98	1698	19.16	1758	30.85	1818	38.50	1878	90.68	1938	47.68
1519	74.92	1579	45.07	1639	26.75	1699	23.74	1759	32.83	1819	45.04	1879	91.44	1939	58.11
1520	65.69	1580	48.18	1640	26.74	1700	33.96	1760	32.07	1820	48.90	1880	90.49	1940	39.98
1521	56.79	1581	53.76	1641	26.58	1701	33.29	1761	33.77	1821	59.57	1881	94.65		
1522	75.86	1582	58.84	1642	28.48	1702	32.46	1762	32.13	1822	64.51	1882	92.93		
1523	76.18	1583	47.43	1643	28.67	1703	30.54	1763	28.96	1823	55.56	1883	91.55		
1524	64.86	1584	28.37	1644	26.79	1704	28.61	1764	31.99	1824	71.12	1884	99.44		
1525	87.86	1585	14.58	1645	29.46	1705	30.17	1765	30.20	1825	73.00	1885	102.16		
1526	85.21	1586	10.07	1646	35.30	1706	29.81	1766	30.29	1826	67.08	1886	105.79		
1527	79.16	1587	10.61	1647	32.55	1707	30.53	1767	29.80	1827	66.79	1887	93.31		
1528	70.30	1588	17.64	1648	28.06	1708	26.07	1768	29.40	1828	77.13	1888	101.93		
1529	63.98	1589	17.10	1649	25.12	1709	16.87	1769	30.30	1829	76.75	1889	102.96		
1530	52.09	1590	15.61	1650	25.57	1710	21.20	1770	28.27	1830	71.57	1890	103.47		
1531	46.66	1591	17.99	1651	24.66	1711	27.39	1771	25.82	1831	68.73	1891	97.58		
1532	63.25	1592	21.78	1652	26.34	1712	28.00	1772	27.65	1832	69.02	1892	98.80		
1533	67.53	1593	19.04	1653	34.55	1713	26.12	1773	31.05	1833	67.87	1893	107.86		
1534	69.48	1594	15.65	1654	39.27	1714	23.90	1774	28.87	1834	69.26	1894	110.91		
1535	61.36	1595	14.04	1655	38.21	1715	30.30	1775	30.04	1835	67.18	1895	111.35		
1536	54.63	1596	15.58	1656	35.56	1716	31.67	1776	32.41	1836	59.18	1896	119.45		
1537	69.11	1597	15.91	1657	39.49	1717	31.16	1777	32.44	1837	60.60	1897	116.87		
1538	54.50	1598	18.96	1658	37.57	1718	33.03	1778	29.82	1838	58.12	1898	111.75		
1539	54.70	1599	21.29	1659	37.09	1719	32.30	1779	29.96	1839	55.15	1899	112.84		
1540	56.75	1600	18.17	1660	35.89	1720	30.07	1780	28.14	1840	53.92	1900	109.89		
1541	62.87	1601	19.07	1661	32.47	1721	35.20	1781	26.84	1841	58.12	1901	109.28		
1542	63.74	1602	24.02	1662	29.33	1722	36.94	1782	26.88	1842	53.81	1902	111.05		
1543	61.03	1603	21.88	1663	34.92	1723	36.59	1783	27.81	1843	60.17	1903	105.75		
1544	59.47	1604	21.49	1664	38.52	1724	34.19	1784	28.61	1844	67.18	1904	117.38		
1545	58.34	1605	24.44	1665	41.24	1725	31.63	1785	28.85	1845	58.82	1905	114.71		
1546	90.89	1606	28.03	1666	42.75	1726	32.31	1786	30.84	1846	53.42	1906	100.01		
1547	102.9	1607	28.66	1667	42.18	1727	32.12	1787	28.82	1847	53.17	1907	97.81		
1548	95.27	1608	21.80	1668	44.63	1728	32.86	1788	31.03	1848	62.15	1908	104.01		
1549	82.00	1609	25.94	1669	46.07	1729	29.44	1789	30.16	1849	64.69	1909	106.86		
1550	88.77	1610	33.28	1670	44.82	1730	34.53	1790	36.53	1850	69.81	1910	113.13		
1551	68.65	1611	33.58	1671	45.81	1731	33.46	1791	37.96	1851	71.27	1911	110.16		
1552	70.57	1612	28.67	1672	42.12	1732	33.95	1792	41.40	1852	67.87	1912	99.92		
1553	68.80	1613	32.83	1673	40.30	1733	37.68	1793	39.42	1853	70.39	1913	100.00		
1554	72.53	1614	32.54	1674	33.62	1734	38.17	1794	38.26	1854	59.15	1914	97.61		
1555	51.81	1615	30.14	1675	28.22	1735	38.12	1795	23.97	1855	64.11	1915	75.34		
1556	40.50	1616	28.38	1676	32.41	1736	39.52	1796	25.69	1856	62.85	1916	48.91		
1557	68.28	1617	29.03	1677	33.91	1737	37.31	1797	37.30	1857	68.40	1917	27.00		
1558	70.62	1618	29.20	1678	35.42	1738	34.99	1798	29.50	1858	68.07	1918	20.07		
1559	66.71	1619	36.02	1679	37.77	1739	30.58	1799	26.57	1859	71.13	1919	25.51		

Table 7: Nominal rent index, Ghent (1913 = 100)

1500		1560	9.60	1620	16.55	1680	25.82	1740	22.94	1800	44.07	1860	66.7	1920	143.9
1501		1561	9.83	1621	16.50	1681	25.83	1741	22.19	1801	46.07	1861	74.8	1921	157.8
1502	5.20	1562	10.10	1622	16.53	1682	25.89	1742	21.90	1802	43.69	1862	81.7	1922	175.0
1503	5.96	1563	10.20	1623	16.53	1683	25.82	1743	21.95	1803	41.02	1863	88.1	1923	196.8
1504	6.86	1564	10.46	1624	16.61	1684	25.64	1744	22.47	1804	41.37	1864	94.9	1924	215.3
1505	6.32	1565	11.01	1625	17.02	1685	25.37	1745	23.82	1805	42.14	1865	96.2	1925	231.9
1506	6.15	1566	11.47	1626	17.38	1686	24.58	1746	24.53	1806	42.98	1866	91.6	1926	255.3
1507	5.89	1567	11.71	1627	17.87	1687	23.96	1747	24.60	1807	42.94	1867	89.1	1927	297.9
1508	5.79	1568	11.86	1628	18.28	1688	23.51	1748	24.72	1808	43.89	1868	87.4	1928	340.0
1509	5.60	1569	12.03	1629	18.63	1689	23.31	1749	24.90	1809	44.94	1869	83.4	1929	456.6
1510	5.63	1570	12.14	1630	18.95	1690	23.52	1750	25.13	1810	44.52	1870	83.1	1930	661.9
1511	5.74	1571	12.20	1631	18.78	1691	23.85	1751	25.15	1811	46.37	1871	83.1	1931	779.2
1512	5.86	1572	12.31	1632	18.42	1692	24.92	1752	25.69	1812	46.90	1872	84.6	1932	867.7
1513	6.01	1573	12.52	1633	18.27	1693	26.75	1753	26.11	1813	46.86	1873	91.1	1933	951.6
1514	6.23	1574	12.84	1634	18.31	1694	28.42	1754	26.09	1814	47.08	1874	95.9	1934	886.4
1515	6.04	1575	13.30	1635	18.62	1695	29.74	1755	26.09	1815	46.21	1875	98.7	1935	784.0
1516	6.19	1576	13.49	1636	19.27	1696	30.36	1756	25.74	1816	47.43	1876	102.7	1936	689.8
1517	6.40	1577	13.51	1637	20.72	1697	30.34	1757	25.46	1817	46.90	1877	110.5	1937	591.7
1518	6.68	1578	13.60	1638	21.95	1698	28.96	1758	25.69	1818	47.12	1878	114.3	1938	462.3
1519	6.81	1579	14.08	1639	22.69	1699	27.45	1759	26.14	1819	46.65	1879	112.3	1939	468.8
1520	6.86	1580	14.56	1640	23.34	1700	26.62	1760	26.65	1820	46.35	1880	111.8	1940	498.5
1521	6.95	1581	14.61	1641	23.49	1701	25.56	1761	26.58	1821	46.70	1881	111.6		
1522	6.94	1582	14.30	1642	23.21	1702	24.62	1762	26.64	1822	45.94	1882	112.0		
1523	6.80	1583	13.50	1643	23.09	1703	24.28	1763	26.42	1823	45.43	1883	113.9		
1524	6.73	1584	12.28	1644	23.63	1704	24.46	1764	25.96	1824	45.50	1884	116.7		
1525	6.74	1585	10.95	1645	24.90	1705	24.88	1765	25.81	1825	45.49	1885	117.2		
1526	6.86	1586	9.76	1646	25.85	1706	25.14	1766	25.73	1826	47.26	1886	116.8		
1527	6.93	1587	9.11	1647	26.84	1707	25.95	1767	26.30	1827	47.86	1887	118.6		
1528	7.15	1588	8.89	1648	27.48	1708	27.11	1768	27.11	1828	48.53	1888	116.9		
1529	7.57	1589	9.04	1649	27.46	1709	28.11	1769	28.19	1829	49.06	1889	110.6		
1530	8.03	1590	9.90	1650	27.30	1710	29.25	1770	29.66	1830	49.48	1890	106.0		
1531	8.40	1591	11.24	1651	26.77	1711	30.02	1771	30.26	1831	50.32	1891	102.3		
1532	8.45	1592	12.39	1652	26.26	1712	30.25	1772	30.96	1832	50.38	1892	99.7		
1533	8.07	1593	13.28	1653	25.76	1713	29.66	1773	31.32	1833	51.56	1893	99.6		
1534	7.74	1594	13.73	1654	25.56	1714	29.00	1774	31.07	1834	52.73	1894	102.1		
1535	7.70	1595	13.77	1655	25.44	1715	28.71	1775	30.77	1835	53.86	1895	105.6		
1536	7.55	1596	13.11	1656	24.71	1716	27.89	1776	30.30	1836	56.62	1896	109.6		
1537	7.41	1597	12.51	1657	24.15	1717	27.13	1777	30.34	1837	58.44	1897	115.7		
1538	7.32	1598	12.04	1658	23.91	1718	26.51	1778	30.72	1838	60.46	1898	120.8		
1539	7.42	1599	11.69	1659	23.87	1719	25.97	1779	31.71	1839	62.06	1899	120.8		
1540	7.58	1600	11.57	1660	24.13	1720	25.75	1780	32.85	1840	63.29	1900	118.0		
1541	7.79	1601	11.57	1661	24.53	1721	25.57	1781	33.95	1841	63.96	1901	112.9		
1542	8.06	1602	11.71	1662	25.33	1722	25.73	1782	34.87	1842	63.40	1902	108.1		
1543	8.41	1603	12.03	1663	26.06	1723	25.94	1783	35.87	1843	62.87	1903	106.2		
1544	8.86	1604	12.60	1664	26.87	1724	25.75	1784	35.77	1844	61.35	1904	107.7		
1545	9.38	1605	13.44	1665	27.65	1725	25.67	1785	35.85	1845	59.77	1905	109.1		
1546	9.54	1606	13.93	1666	27.33	1726	25.18	1786	36.16	1846	57.76	1906	110.2		
1547	9.36	1607	14.02	1667	26.86	1727	24.65	1787	36.43	1847	55.49	1907	116.9		
1548	9.21	1608	13.94	1668	26.15	1728	24.18	1788	35.90	1848	53.77	1908	123.6		
1549	9.12	1609	13.83	1669	25.05	1729	24.03	1789	36.42	1849	52.46	1909	120.8		
1550	9.04	1610	13.54	1670	24.37	1730	24.15	1790	36.90	1850	53.28	1910	117.5		
1551	9.14	1611	13.20	1671	24.20	1731	24.07	1791	37.78	1851	55.04	1911	116.0		
1552	9.30	1612	13.57	1672	24.63	1732	24.24	1792	37.55	1852	58.09	1912	109.5		
1553	9.33	1613	14.18	1673	25.36	1733	24.36	1793	39.74	1853	63.35	1913	100.0		
1554	9.41	1614	14.78	1674	26.41	1734	24.25	1794	37.53	1854	67.79	1914	91.2		
1555	9.59	1615	15.59	1675	27.58	1735	24.50	1795	39.93	1855	67.22	1915	85.3		
1556	9.56	1616	16.11	1676	27.68	1736	24.52	1796	40.73	1856	62.65	1916	87.3		
1557	9.47	1617	16.16	1677	27.52	1737	24.39	1797	42.61	1857	61.01	1917	100.0		
1558	9.48	1618	16.20	1678	26.86	1738	24.05	1798	44.50	1858	60.81	1918	115.8		
1559	9.51	1619	16.43	1679	26.04	1739	23.53	1799	44.20	1859	61.42	1919	130.0		

Table 8: Nominal rent index, Ghent (1913=100)

1500	3.66	1560	9.60	1620	16.55	1680	25.82	1740	22.94	1800	44.07	1860	66.71	1920	143.93
1501	4.36	1561	9.83	1621	16.50	1681	25.83	1741	22.19	1801	46.07	1861	74.84	1921	157.85
1502	5.20	1562	10.10	1622	16.53	1682	25.89	1742	21.90	1802	43.70	1862	81.73	1922	174.96
1503	5.96	1563	10.20	1623	16.53	1683	25.82	1743	21.95	1803	41.02	1863	88.12	1923	196.79
1504	6.86	1564	10.46	1624	16.61	1684	25.64	1744	22.47	1804	41.37	1864	94.89	1924	215.27
1505	6.32	1565	11.01	1625	17.02	1685	25.37	1745	23.82	1805	42.14	1865	96.19	1925	231.88
1506	6.15	1566	11.47	1626	17.38	1686	24.58	1746	24.53	1806	42.98	1866	91.64	1926	255.27
1507	5.89	1567	11.71	1627	17.87	1687	23.96	1747	24.60	1807	42.94	1867	89.11	1927	297.91
1508	5.79	1568	11.86	1628	18.28	1688	23.51	1748	24.72	1808	43.89	1868	87.43	1928	340.03
1509	5.61	1569	12.03	1629	18.63	1689	23.31	1749	24.90	1809	44.94	1869	83.36	1929	456.63
1510	5.63	1570	12.14	1630	18.95	1690	23.52	1750	25.13	1810	44.53	1870	83.07	1930	661.88
1511	5.74	1571	12.20	1631	18.78	1691	23.85	1751	25.15	1811	46.37	1871	83.06	1931	779.25
1512	5.86	1572	12.31	1632	18.42	1692	24.92	1752	25.69	1812	46.90	1872	84.64	1932	867.67
1513	6.01	1573	12.52	1633	18.27	1693	26.75	1753	26.11	1813	46.86	1873	91.11	1933	951.57
1514	6.23	1574	12.84	1634	18.31	1694	28.42	1754	26.09	1814	47.08	1874	95.92	1934	886.41
1515	6.04	1575	13.30	1635	18.62	1695	29.74	1755	26.09	1815	46.21	1875	98.72	1935	783.97
1516	6.19	1576	13.49	1636	19.27	1696	30.36	1756	25.75	1816	47.43	1876	102.68	1936	689.82
1517	6.40	1577	13.51	1637	20.72	1697	30.33	1757	25.46	1817	46.90	1877	110.53	1937	591.66
1518	6.68	1578	13.60	1638	21.95	1698	28.96	1758	25.69	1818	47.12	1878	114.27	1938	462.25
1519	6.81	1579	14.07	1639	22.69	1699	27.45	1759	26.14	1819	46.65	1879	112.26	1939	468.80
1520	6.86	1580	14.56	1640	23.34	1700	26.62	1760	26.65	1820	46.35	1880	111.77	1940	498.50
1521	6.95	1581	14.61	1641	23.49	1701	25.56	1761	26.58	1821	46.70	1881	111.62		
1522	6.94	1582	14.30	1642	23.20	1702	24.62	1762	26.64	1822	45.94	1882	112.02		
1523	6.80	1583	13.50	1643	23.09	1703	24.28	1763	26.43	1823	45.43	1883	113.93		
1524	6.73	1584	12.28	1644	23.63	1704	24.46	1764	25.96	1824	45.50	1884	116.73		
1525	6.74	1585	10.95	1645	24.90	1705	24.88	1765	25.80	1825	45.49	1885	117.18		
1526	6.86	1586	9.76	1646	25.85	1706	25.14	1766	25.73	1826	47.26	1886	116.81		
1527	6.93	1587	9.11	1647	26.84	1707	25.95	1767	26.30	1827	47.86	1887	118.60		
1528	7.16	1588	8.89	1648	27.48	1708	27.11	1768	27.11	1828	48.53	1888	116.90		
1529	7.57	1589	9.04	1649	27.46	1709	28.11	1769	28.19	1829	49.06	1889	110.60		
1530	8.03	1590	9.90	1650	27.30	1710	29.25	1770	29.66	1830	49.48	1890	105.99		
1531	8.40	1591	11.24	1651	26.77	1711	30.02	1771	30.26	1831	50.33	1891	102.31		
1532	8.45	1592	12.39	1652	26.26	1712	30.25	1772	30.96	1832	50.38	1892	99.74		
1533	8.07	1593	13.29	1653	25.76	1713	29.65	1773	31.32	1833	51.56	1893	99.57		
1534	7.74	1594	13.73	1654	25.56	1714	29.00	1774	31.07	1834	52.73	1894	102.08		
1535	7.69	1595	13.77	1655	25.44	1715	28.71	1775	30.77	1835	53.86	1895	105.60		
1536	7.56	1596	13.11	1656	24.71	1716	27.89	1776	30.30	1836	56.62	1896	109.56		
1537	7.41	1597	12.51	1657	24.15	1717	27.13	1777	30.33	1837	58.44	1897	115.69		
1538	7.32	1598	12.04	1658	23.91	1718	26.51	1778	30.72	1838	60.46	1898	120.81		
1539	7.42	1599	11.69	1659	23.87	1719	25.98	1779	31.71	1839	62.07	1899	120.77		
1540	7.58	1600	11.57	1660	24.13	1720	25.75	1780	32.85	1840	63.29	1900	118.03		
1541	7.79	1601	11.57	1661	24.53	1721	25.56	1781	33.95	1841	63.96	1901	112.93		
1542	8.06	1602	11.71	1662	25.33	1722	25.73	1782	34.87	1842	63.40	1902	108.14		
1543	8.41	1603	12.03	1663	26.07	1723	25.94	1783	35.87	1843	62.87	1903	106.25		
1544	8.86	1604	12.60	1664	26.87	1724	25.75	1784	35.77	1844	61.35	1904	107.66		
1545	9.38	1605	13.44	1665	27.65	1725	25.67	1785	35.85	1845	59.78	1905	109.08		
1546	9.54	1606	13.93	1666	27.33	1726	25.18	1786	36.16	1846	57.76	1906	110.25		
1547	9.36	1607	14.02	1667	26.86	1727	24.65	1787	36.43	1847	55.49	1907	116.95		
1548	9.21	1608	13.94	1668	26.15	1728	24.18	1788	35.90	1848	53.77	1908	123.62		
1549	9.12	1609	13.83	1669	25.04	1729	24.03	1789	36.42	1849	52.46	1909	120.77		
1550	9.04	1610	13.54	1670	24.38	1730	24.15	1790	36.90	1850	53.28	1910	117.50		
1551	9.14	1611	13.20	1671	24.20	1731	24.07	1791	37.78	1851	55.04	1911	115.99		
1552	9.30	1612	13.57	1672	24.63	1732	24.24	1792	37.55	1852	58.09	1912	109.53		
1553	9.33	1613	14.18	1673	25.36	1733	24.36	1793	39.74	1853	63.35	1913	100.00		
1554	9.41	1614	14.78	1674	26.40	1734	24.25	1794	37.53	1854	67.79	1914	91.22		
1555	9.59	1615	15.59	1675	27.58	1735	24.50	1795	39.93	1855	67.22	1915	85.26		
1556	9.56	1616	16.11	1676	27.68	1736	24.52	1796	40.73	1856	62.65	1916	87.32		
1557	9.47	1617	16.16	1677	27.52	1737	24.39	1797	42.61	1857	61.01	1917	100.00		
1558	9.48	1618	16.20	1678	26.87	1738	24.05	1798	44.50	1858	60.81	1918	115.77		
1559	9.51	1619	16.42	1679	26.04	1739	23.53	1799	44.20	1859	61.42	1919	129.95		

Table 9: Nominal rent index, Bruges (1913=100)

1500	7.87	1560	12.45	1620	20.43	1680	32.41	1740	25.15	1800		1860	69.97	1920	106.13
1501	7.89	1561	12.33	1621	20.96	1681	30.95	1741	24.82	1801		1861	66.70		
1502	8.34	1562	12.16	1622	20.98	1682	29.86	1742	24.36	1802		1862	61.33		
1503	7.82	1563	12.16	1623	20.88	1683	29.23	1743	24.49	1803		1863	62.58		
1504	8.04	1564	12.46	1624	21.40	1684	29.35	1744	25.39	1804		1864	66.29		
1505	8.04	1565	12.74	1625	21.46	1685	28.72	1745	25.33	1805		1865	69.65		
1506	8.38	1566	13.36	1626	21.01	1686	27.80	1746	25.20	1806		1866	74.47		
1507	8.55	1567	14.19	1627	20.81	1687	27.18	1747	25.36	1807		1867	78.43		
1508	8.85	1568	14.64	1628	21.20	1688	27.42	1748	25.65	1808		1868	79.89		
1509	8.93	1569	14.71	1629	21.97	1689	28.56	1749	26.50	1809		1869	78.77		
1510	8.66	1570	14.64	1630	22.28	1690	29.04	1750	26.77	1810		1870	77.57		
1511	8.63	1571	14.49	1631	22.78	1691	29.30	1751	26.52	1811		1871	76.74		
1512	8.79	1572	13.97	1632	23.25	1692	30.05	1752	26.30	1812		1872	78.74		
1513	8.83	1573	13.39	1633	23.76	1693	31.29	1753	26.45	1813		1873	85.74		
1514	9.08	1574	13.26	1634	25.24	1694	33.12	1754	27.03	1814		1874	96.80		
1515	9.12	1575	13.49	1635	26.38	1695	33.28	1755	26.84	1815		1875	103.08		
1516	9.50	1576	14.17	1636	27.06	1696	31.96	1756	26.69	1816		1876	104.93		
1517	9.89	1577	15.94	1637	27.34	1697	30.11	1757	26.59	1817		1877	103.04		
1518	10.09	1578	18.52	1638	27.20	1698	29.07	1758	26.82	1818		1878	94.78		
1519	9.96	1579	21.17	1639	27.10	1699	28.87	1759	27.67	1819		1879	88.39		
1520	9.46	1580	23.03	1640	26.69	1700	27.79	1760	27.64	1820	59.75	1880	83.58		
1521	9.29	1581	24.42	1641	26.28	1701	27.09	1761	27.02	1821	64.30	1881	77.62		
1522	9.33	1582	23.74	1642	25.57	1702	27.49	1762	26.49	1822	63.26	1882	75.46		
1523	9.39	1583	20.45	1643	25.99	1703	28.39	1763	26.62	1823	64.92	1883	78.57		
1524	9.56	1584	17.10	1644	28.53	1704	29.88	1764	27.47	1824	60.62	1884	81.15		
1525	9.60	1585	14.44	1645	30.30	1705	30.67	1765	27.69	1825	57.59	1885	81.13		
1526	10.00	1586	12.52	1646	31.41	1706	30.70	1766	27.55	1826	57.22	1886	81.95		
1527	10.30	1587	11.42	1647	32.16	1707	30.14	1767	27.49	1827	56.33	1887	84.43		
1528	10.38	1588	11.24	1648	31.80	1708	30.32	1768	28.43	1828	56.67	1888	87.07		
1529	10.56	1589	11.55	1649	30.87	1709	31.26	1769	30.77	1829	55.77	1889	91.10		
1530	10.39	1590	11.54	1650	29.05	1710	31.37	1770	30.93	1830	55.58	1890	92.89		
1531	10.18	1591	11.30	1651	26.72	1711	31.11	1771	30.28	1831	54.81	1891	92.77		
1532	10.08	1592	10.79	1652	24.75	1712	30.81	1772	29.94	1832	56.43	1892	96.40		
1533	9.98	1593	10.36	1653	24.16	1713	30.65	1773	29.37	1833	61.05	1893	99.77		
1534	9.85	1594	10.46	1654	24.86	1714	31.24	1774	28.43	1834	61.08	1894	95.87		
1535	9.40	1595	10.31	1655	24.94	1715	30.84	1775	27.04	1835	61.24	1895	89.71		
1536	9.28	1596	10.04	1656	25.04	1716	29.44	1776	26.52	1836	64.34	1896	87.63		
1537	9.29	1597	9.94	1657	25.11	1717	27.97	1777	26.49	1837	67.47	1897	88.32		
1538	9.20	1598	10.44	1658	24.89	1718	27.20	1778	27.22	1838	69.08	1898	91.10		
1539	9.34	1599	11.53	1659	25.38	1719	26.91	1779	29.12	1839	67.55	1899	96.52		
1540	9.38	1600	12.84	1660	25.54	1720	25.94	1780	29.85	1840	63.57	1900	100.68		
1541	9.53	1601	14.36	1661	25.93	1721	25.32	1781	30.12	1841	59.35	1901	98.63		
1542	9.76	1602	15.82	1662	26.65	1722	25.31	1782	30.57	1842	58.15	1902	102.87		
1543	10.02	1603	17.11	1663	28.22	1723	26.00	1783	31.33	1843	60.83	1903	105.53		
1544	10.33	1604	18.17	1664	30.51	1724	27.69	1784	32.23	1844	61.88	1904	100.67		
1545	10.17	1605	17.64	1665	31.85	1725	28.62	1785	31.74	1845	62.13	1905	99.28		
1546	10.26	1606	16.55	1666	31.70	1726	28.71	1786	31.36	1846	64.42	1906	98.04		
1547	10.53	1607	15.15	1667	31.28	1727	28.43	1787	30.21	1847	68.89	1907	99.78		
1548	10.80	1608	14.34	1668	31.46	1728	28.16	1788	28.94	1848	70.42	1908	98.99		
1549	11.27	1609	14.38	1669	32.26	1729	28.37	1789	28.95	1849	63.48	1909	103.38		
1550	11.77	1610	14.61	1670	32.16	1730	27.67	1790	31.32	1850	58.01	1910	101.20		
1551	12.40	1611	14.99	1671	33.68	1731	26.75	1791	32.90	1851	55.60	1911	97.84		
1552	12.66	1612	15.47	1672	36.06	1732	26.10	1792	35.71	1852	55.24	1912	98.93		
1553	12.66	1613	16.48	1673	37.48	1733	26.22	1793	38.94	1853	59.64	1913	100.00		
1554	12.52	1614	18.19	1674	39.63	1734	26.75	1794	44.76	1854	65.44	1914	95.40		
1555	12.26	1615	18.96	1675	40.51	1735	26.24	1795	46.36	1855	69.64	1915	86.91		
1556	12.20	1616	18.83	1676	39.50	1736	25.60	1796	51.60	1856	76.99	1916	98.59		
1557	12.41	1617	18.86	1677	37.06	1737	25.28	1797	49.92	1857	86.82	1917	82.74		
1558	12.54	1618	19.37	1678	35.19	1738	25.06	1798		1858	81.29	1918	61.72		
1559	12.47	1619	20.13	1679	34.10	1739	25.26	1799		1859	73.75	1919	74.03		

Table 10: Real rent index, Bruges (1913=100)

1500	7.87	1560	12.45	1620	20.43	1680	32.41	1740	25.15	1800	1860	69.97	1920	106.13
1501	7.89	1561	12.33	1621	20.96	1681	30.95	1741	24.82	1801	1861	66.70		
1502	8.34	1562	12.16	1622	20.98	1682	29.86	1742	24.36	1802	1862	61.33		
1503	7.82	1563	12.16	1623	20.88	1683	29.23	1743	24.49	1803	1863	62.58		
1504	8.04	1564	12.46	1624	21.40	1684	29.35	1744	25.39	1804	1864	66.29		
1505	8.04	1565	12.74	1625	21.46	1685	28.72	1745	25.33	1805	1865	69.65		
1506	8.38	1566	13.36	1626	21.01	1686	27.80	1746	25.20	1806	1866	74.47		
1507	8.55	1567	14.19	1627	20.81	1687	27.18	1747	25.36	1807	1867	78.43		
1508	8.85	1568	14.64	1628	21.20	1688	27.42	1748	25.65	1808	1868	79.89		
1509	8.93	1569	14.71	1629	21.97	1689	28.56	1749	26.50	1809	1869	78.77		
1510	8.66	1570	14.64	1630	22.28	1690	29.04	1750	26.77	1810	1870	77.57		
1511	8.63	1571	14.49	1631	22.78	1691	29.30	1751	26.52	1811	1871	76.74		
1512	8.79	1572	13.97	1632	23.25	1692	30.05	1752	26.30	1812	1872	78.74		
1513	8.83	1573	13.39	1633	23.76	1693	31.29	1753	26.45	1813	1873	85.74		
1514	9.08	1574	13.26	1634	25.24	1694	33.12	1754	27.03	1814	1874	96.80		
1515	9.12	1575	13.49	1635	26.38	1695	33.28	1755	26.84	1815	1875	103.08		
1516	9.50	1576	14.17	1636	27.06	1696	31.96	1756	26.69	1816	1876	104.93		
1517	9.89	1577	15.94	1637	27.34	1697	30.11	1757	26.59	1817	1877	103.04		
1518	10.09	1578	18.52	1638	27.20	1698	29.07	1758	26.82	1818	1878	94.78		
1519	9.96	1579	21.17	1639	27.10	1699	28.87	1759	27.67	1819	1879	88.39		
1520	9.46	1580	23.03	1640	26.69	1700	27.79	1760	27.64	1820	59.75	1880	83.58	
1521	9.29	1581	24.42	1641	26.28	1701	27.09	1761	27.02	1821	64.30	1881	77.62	
1522	9.33	1582	23.74	1642	25.57	1702	27.49	1762	26.49	1822	63.26	1882	75.46	
1523	9.39	1583	20.45	1643	25.99	1703	28.39	1763	26.62	1823	64.92	1883	78.57	
1524	9.56	1584	17.10	1644	28.53	1704	29.88	1764	27.47	1824	60.62	1884	81.15	
1525	9.60	1585	14.44	1645	30.30	1705	30.67	1765	27.69	1825	57.59	1885	81.13	
1526	10.00	1586	12.52	1646	31.41	1706	30.70	1766	27.55	1826	57.22	1886	81.95	
1527	10.30	1587	11.42	1647	32.16	1707	30.14	1767	27.49	1827	56.33	1887	84.43	
1528	10.38	1588	11.24	1648	31.80	1708	30.32	1768	28.43	1828	56.67	1888	87.07	
1529	10.56	1589	11.55	1649	30.87	1709	31.26	1769	30.77	1829	55.77	1889	91.10	
1530	10.39	1590	11.54	1650	29.05	1710	31.37	1770	30.93	1830	55.58	1890	92.89	
1531	10.18	1591	11.30	1651	26.72	1711	31.11	1771	30.28	1831	54.81	1891	92.77	
1532	10.08	1592	10.79	1652	24.75	1712	30.81	1772	29.94	1832	56.43	1892	96.40	
1533	9.98	1593	10.36	1653	24.16	1713	30.65	1773	29.37	1833	61.05	1893	99.77	
1534	9.85	1594	10.46	1654	24.86	1714	31.24	1774	28.43	1834	61.08	1894	95.87	
1535	9.40	1595	10.31	1655	24.94	1715	30.84	1775	27.04	1835	61.24	1895	89.71	
1536	9.28	1596	10.04	1656	25.04	1716	29.44	1776	26.52	1836	64.34	1896	87.63	
1537	9.29	1597	9.94	1657	25.11	1717	27.97	1777	26.49	1837	67.47	1897	88.32	
1538	9.20	1598	10.44	1658	24.89	1718	27.20	1778	27.22	1838	69.08	1898	91.10	
1539	9.34	1599	11.53	1659	25.38	1719	26.91	1779	29.12	1839	67.55	1899	96.52	
1540	9.38	1600	12.84	1660	25.54	1720	25.94	1780	29.85	1840	63.57	1900	100.68	
1541	9.53	1601	14.36	1661	25.93	1721	25.32	1781	30.12	1841	59.35	1901	98.63	
1542	9.76	1602	15.82	1662	26.65	1722	25.31	1782	30.57	1842	58.15	1902	102.87	
1543	10.02	1603	17.11	1663	28.22	1723	26.00	1783	31.33	1843	60.83	1903	105.53	
1544	10.33	1604	18.17	1664	30.51	1724	27.69	1784	32.23	1844	61.88	1904	100.67	
1545	10.17	1605	17.64	1665	31.85	1725	28.62	1785	31.74	1845	62.13	1905	99.28	
1546	10.26	1606	16.55	1666	31.70	1726	28.71	1786	31.36	1846	64.42	1906	98.04	
1547	10.53	1607	15.15	1667	31.28	1727	28.43	1787	30.21	1847	68.89	1907	99.78	
1548	10.80	1608	14.34	1668	31.46	1728	28.16	1788	28.94	1848	70.42	1908	98.99	
1549	11.27	1609	14.38	1669	32.26	1729	28.37	1789	28.95	1849	63.48	1909	103.38	
1550	11.77	1610	14.61	1670	32.16	1730	27.67	1790	31.32	1850	58.01	1910	101.20	
1551	12.40	1611	14.99	1671	33.68	1731	26.75	1791	32.90	1851	55.60	1911	97.84	
1552	12.66	1612	15.47	1672	36.06	1732	26.10	1792	35.71	1852	55.24	1912	98.93	
1553	12.66	1613	16.48	1673	37.48	1733	26.22	1793	38.94	1853	59.64	1913	100.00	
1554	12.52	1614	18.19	1674	39.63	1734	26.75	1794	44.76	1854	65.44	1914	95.40	
1555	12.26	1615	18.96	1675	40.51	1735	26.24	1795	46.36	1855	69.64	1915	86.91	
1556	12.20	1616	18.83	1676	39.50	1736	25.60	1796	51.60	1856	76.99	1916	98.59	
1557	12.41	1617	18.86	1677	37.06	1737	25.28	1797	49.92	1857	86.82	1917	82.74	
1558	12.54	1618	19.37	1678	35.19	1738	25.06	1798		1858	81.29	1918	61.72	
1559	12.47	1619	20.13	1679	34.10	1739	25.26	1799		1859	73.75	1919	74.03	

Table 11: Nominal (left) and real (right) rent index, Brussels (1913 = 100)

1800	24.48	1860	60.7	1920	153.7	1800	31.71	1860	57.88	1920	33.62
1801	24.38	1861	62.9	1921	166.2	1801	30.18	1861	55.74	1921	41.45
1802	27.13	1862	63.6	1922	180.6	1802	27.36	1862	60.57	1922	48.15
1803	27.72	1863	64.0	1923	189.4	1803	28.22	1863	67.28	1923	44.04
1804	26.05	1864	62.9	1924	205.2	1804	28.32	1864	68.33	1924	40.83
1805	29.18	1865	62.1	1925	222.1	1805	31.70	1865	62.14	1925	42.73
1806	29.99	1866	63.5	1926	241.1	1806	36.50	1866	58.83	1926	38.85
1807	29.36	1867	64.2	1927	299.6	1807	37.97	1867	53.59	1927	38.00
1808	29.67	1868	65.7	1928	372.2	1808	35.01	1868	60.89	1928	45.22
1809	27.32	1869	70.4	1929	450.9	1809	34.94	1869	69.04	1929	51.36
1810	26.25	1870	77.7	1930	495.8	1810	31.37	1870	73.33	1930	56.51
1811	26.04	1871	83.9	1931	521.6	1811	30.88	1871	77.75	1931	65.13
1812	27.45	1872	87.4	1932	473.5	1812	28.32	1872	82.52	1932	65.50
1813	29.23	1873	90.1	1933	398.4	1813	33.86	1873	77.74	1933	56.26
1814	30.34	1874	90.4	1934	366.9	1814	36.70	1874	80.83	1934	54.84
1815	33.90	1875	87.9	1935	326.0	1815	38.05	1875	80.00	1935	49.62
1816	37.93	1876	86.6	1936	252.4	1816	34.50	1876	74.12	1936	36.68
1817	38.91	1877	84.0	1937	229.9	1817	29.78	1877	70.72	1937	31.16
1818	38.71	1878	82.8	1938	257.7	1818	37.61	1878	73.32	1938	33.72
1819	38.33	1879	83.3	1939	294.1	1819	43.45	1879	73.84	1939	38.06
1820	38.93	1880	86.8	1940	288.2	1820	47.36	1880	76.88	1940	33.57
1821	39.43	1881	93.0			1821	59.12	1881	88.59		
1822	40.02	1882	95.1			1822	66.78	1882	90.64		
1823	41.13	1883	93.6			1823	58.29	1883	87.56		
1824	43.90	1884	91.4			1824	73.89	1884	92.34		
1825	46.26	1885	88.2			1825	71.99	1885	90.92		
1826	49.73	1886	86.1			1826	66.09	1886	94.51		
1827	50.60	1887	83.4			1827	62.68	1887	83.44		
1828	49.48	1888	81.8			1828	65.12	1888	89.82		
1829	47.73	1889	81.3			1829	58.87	1889	90.24		
1830	46.29	1890	80.7			1830	51.57	1890	89.57		
1831	44.95	1891	80.7			1831	48.97	1891	85.82		
1832	43.88	1892	80.1			1832	50.10	1892	87.96		
1833	43.58	1893	80.6			1833	49.44	1893	95.74		
1834	44.06	1894	81.5			1834	51.61	1894	97.96		
1835	46.30	1895	81.2			1835	53.60	1895	96.50		
1836	50.26	1896	81.1			1836	53.44	1896	104.97		
1837	52.19	1897	80.7			1837	57.92	1897	104.53		
1838	53.42	1898	81.4			1838	56.20	1898	100.29		
1839	54.22	1899	82.5			1839	53.68	1899	101.67		
1840	54.48	1900	83.1			1840	52.40	1900	97.58		
1841	53.63	1901	84.1			1841	56.42	1901	97.68		
1842	52.15	1902	84.8			1842	51.14	1902	100.72		
1843	50.96	1903	86.2			1843	54.75	1903	96.74		
1844	50.25	1904	87.9			1844	59.02	1904	109.66		
1845	50.11	1905	88.8			1845	50.61	1905	110.73		
1846	49.89	1906	90.0			1846	46.23	1906	104.52		
1847	48.27	1907	90.8			1847	44.73	1907	103.00		
1848	46.85	1908	92.4			1848	49.81	1908	106.03		
1849	45.96	1909	94.5			1849	49.91	1909	106.05		
1850	46.36	1910	95.7			1850	53.21	1910	107.43		
1851	47.38	1911	97.2			1851	55.64	1911	102.27		
1852	48.22	1912	97.8			1852	53.52	1912	95.02		
1853	49.40	1913	100.0			1853	54.83	1913	100.00		
1854	49.67	1914	102.6			1854	44.79	1914	102.25		
1855	49.75	1915	103.2			1855	47.40	1915	81.11		
1856	51.17	1916	105.9			1856	48.30	1916	58.12		
1857	52.13	1917	123.0			1857	53.73	1917	38.42		
1858	53.62	1918	133.8			1858	53.61	1918	27.73		
1859	56.57	1919	143.1			1859	57.71	1919	32.96		

Table 12: Nominal rent index, London (1913=100)

1500	4.37	1560	7.12	1620	18.04	1680	16.36	1740	20.47	1800	41.09	1860	64.27	1920	100.7	1980	1506
1501	4.32	1561	7.29	1621	17.82	1681	16.12	1741	20.41	1801	43.49	1861	64.50	1921	108.7	1981	1715
1502	4.29	1562	7.57	1622	17.61	1682	16.17	1742	20.25	1802	45.08	1862	64.68	1922	129.6	1982	1939
1503	4.24	1563	7.82	1623	17.61	1683	16.64	1743	20.10	1803	46.78	1863	65.34	1923	165.8	1983	2048
1504	4.22	1564	7.90	1624	17.86	1684	17.07	1744	19.84	1804	48.49	1864	65.94	1924	161.5	1984	2307
1505	4.19	1565	8.01	1625	18.31	1685	17.44	1745	19.48	1805	50.16	1865	66.44	1925	196.2	1985	2409
1506	4.12	1566	8.13	1626	18.74	1686	17.79	1746	19.11	1806	51.67	1866	67.12	1926	207.4	1986	2743
1507	4.09	1567	8.17	1627	19.31	1687	18.12	1747	19.01	1807	53.33	1867	68.54	1927	227.2	1987	2850
1508	4.08	1568	8.17	1628	19.74	1688	18.35	1748	19.07	1808	54.73	1868	69.66	1928	237.0	1988	3059
1509	4.12	1569	8.21	1629	19.85	1689	18.43	1749	19.19	1809	55.87	1869	70.81	1929	228.3	1989	3339
1510	4.14	1570	8.22	1630	19.84	1690	18.28	1750	19.26	1810	56.43	1870	71.99	1930	230.3	1990	3744
1511	4.16	1571	8.28	1631	19.81	1691	18.07	1751	19.43	1811	56.53	1871	74.10	1931	257.4	1991	4206
1512	4.19	1572	8.35	1632	19.81	1692	17.84	1752	19.80	1812	56.13	1872	77.23	1932	216.6	1992	4585
1513	4.22	1573	8.43	1633	19.99	1693	17.72	1753	20.16	1813	55.92	1873	81.02	1933	215.6	1993	4937
1514	4.27	1574	8.56	1634	20.27	1694	17.63	1754	20.29	1814	55.76	1874	84.12	1934	205.7	1994	5212
1515	4.36	1575	8.85	1635	20.46	1695	17.48	1755	20.49	1815	55.54	1875	85.92	1935	205.3	1995	5507
1516	4.45	1576	9.30	1636	20.27	1696	17.47	1756	20.84	1816	55.23	1876	87.75	1936	208.3	1996	5757
1517	4.55	1577	9.82	1637	20.11	1697	17.66	1757	21.28	1817	54.68	1877	88.35	1937	213.8	1997	5952
1518	4.64	1578	10.25	1638	19.92	1698	17.75	1758	21.57	1818	53.70	1878	89.08	1938	229.2	1998	6137
1519	4.73	1579	10.77	1639	19.55	1699	17.95	1759	21.98	1819	53.46	1879	89.85	1939	229.9	1999	6324
1520	4.81	1580	11.22	1640	19.10	1700	18.18	1760	22.40	1820	53.48	1880	91.45	1940	232.2	2000	6533
1521	4.84	1581	11.50	1641	18.80	1701	18.46	1761	22.85	1821	53.55	1881	93.25	1941	232.2	2001	6758
1522	4.81	1582	11.66	1642	18.38	1702	18.81	1762	23.32	1822	53.74	1882	94.76	1942	232.2	2002	6934
1523	4.79	1583	11.65	1643	17.91	1703	19.34	1763	23.84	1823	54.52	1883	95.98	1943	232.2	2003	7039
1524	4.74	1584	11.56	1644	17.28	1704	19.96	1764	24.19	1824	55.89	1884	99.30	1944	232.2	2004	7195
1525	4.71	1585	11.57	1645	16.54	1705	20.53	1765	24.43	1825	56.79	1885	98.81	1945	234.5	2005	7440
1526	4.74	1586	11.70	1646	15.78	1706	21.00	1766	24.62	1826	56.79	1886	97.42	1946	234.8	2006	7611
1527	4.83	1587	11.79	1647	15.19	1707	21.61	1767	24.73	1827	56.65	1887	97.84	1947	234.6	2007	7837
1528	4.89	1588	11.61	1648	14.92	1708	22.05	1768	24.73	1828	56.33	1888	96.58	1948	233.4	2008	8193
1529	4.99	1589	11.43	1649	14.82	1709	22.17	1769	24.65	1829	55.82	1889	94.40	1949	234.7	2009	8381
1530	5.08	1590	11.35	1650	14.82	1710	22.07	1770	24.58	1830	55.32	1890	93.06	1950	237.2	2010	8325
1531	5.13	1591	11.21	1651	15.07	1711	22.21	1771	24.86	1831	54.82	1891	93.85	1951	242.4	2011	8630
1532	5.17	1592	11.05	1652	15.27	1712	22.40	1772	25.27	1832	53.86	1892	93.46	1952	249.7	2012	9069
1533	5.28	1593	11.12	1653	15.25	1713	22.50	1773	25.70	1833	52.87	1893	93.10	1953	263.4	2013	9424
1534	5.39	1594	11.21	1654	15.07	1714	22.48	1774	26.08	1834	51.68	1894	92.78	1954	273.1	2014	9637
1535	5.51	1595	11.43	1655	14.80	1715	22.50	1775	26.61	1835	50.56	1895	93.21	1955	281.2	2015	9991
1536	5.68	1596	11.63	1656	14.50	1716	22.50	1776	27.33	1836	49.58	1896	92.80	1956	296.2		
1537	5.85	1597	11.85	1657	14.47	1717	22.53	1777	27.84	1837	49.06	1897	95.31	1957	317.3		
1538	5.97	1598	12.18	1658	14.82	1718	22.53	1778	27.96	1838	48.72	1898	96.89	1958	350.8		
1539	6.01	1599	12.71	1659	15.46	1719	22.51	1779	28.20	1839	49.06	1899	96.88	1959	368.3		
1540	5.90	1600	13.44	1660	16.03	1720	22.52	1780	28.59	1840	49.23	1900	100.7	1960	379.6		
1541	5.78	1601	14.32	1661	16.73	1721	22.56	1781	29.07	1841	49.18	1901	99.30	1961	396.5		
1542	5.68	1602	15.17	1662	17.44	1722	22.39	1782	29.22	1842	48.93	1902	97.84	1962	418.4		
1543	5.54	1603	16.15	1663	17.98	1723	22.26	1783	29.36	1843	48.82	1903	101.2	1963	440.6		
1544	5.39	1604	16.92	1664	18.51	1724	22.15	1784	29.26	1844	48.70	1904	99.91	1964	462.8		
1545	5.31	1605	17.27	1665	19.09	1725	22.00	1785	29.11	1845	48.90	1905	100.4	1965	486.3		
1546	5.20	1606	17.49	1666	19.61	1726	21.82	1786	28.98	1846	49.46	1906	101.7	1966	518.1		
1547	5.11	1607	17.69	1667	20.17	1727	21.80	1787	28.94	1847	51.15	1907	99.52	1967	600.9		
1548	5.00	1608	17.88	1668	20.56	1728	21.79	1788	29.04	1848	53.78	1908	101.0	1968	542.1		
1549	4.91	1609	18.20	1669	20.65	1729	21.73	1789	29.40	1849	56.29	1909	99.88	1969	550.2		
1550	4.89	1610	18.60	1670	20.34	1730	21.54	1790	29.86	1850	57.95	1910	98.24	1970	611.6		
1551	5.02	1611	18.90	1671	19.81	1731	21.30	1791	30.36	1851	59.04	1911	97.89	1971	627.6		
1552	5.21	1612	18.84	1672	19.45	1732	21.00	1792	30.84	1852	59.68	1912	96.89	1972	675.7		
1553	5.39	1613	18.67	1673	19.15	1733	20.65	1793	31.13	1853	59.76	1913	100.0	1973	673.0		
1554	5.60	1614	18.46	1674	18.68	1734	20.21	1794	31.27	1854	59.78	1914	100.0	1974	769.1		
1555	5.92	1615	18.19	1675	18.38	1735	19.99	1795	31.93	1855	60.40	1915	98.66	1975	825.2		
1556	6.30	1616	18.07	1676	18.07	1736	19.89	1796	33.00	1856	61.18	1916	98.24	1976	916.0		
1557	6.61	1617	18.24	1677	17.68	1737	19.95	1797	34.33	1857	62.08	1917	102.4	1977	1007		
1558	6.85	1618	18.23	1678	17.23	1738	20.14	1798	35.96	1858	62.96	1918	103.8	1978	1156		
1559	7.01	1619	18.17	1679	16.78	1739	20.37	1799	38.27	1859	63.55	1919	98.53	1979	1290		

Table 13: Real rent index, London (1913=100)

1500	36.69	1560	25.12	1620	35.85	1680	25.03	1740	27.59	1800	29.03	1860	58.70	1920	39.16	1980	57.70
1501	30.71	1561	23.47	1621	33.40	1681	23.75	1741	26.58	1801	29.09	1861	58.55	1921	46.26	1981	58.95
1502	29.38	1562	24.44	1622	28.99	1682	24.19	1742	30.72	1802	37.36	1862	58.88	1922	64.15	1982	61.70
1503	31.20	1563	24.28	1623	29.78	1683	25.17	1743	33.37	1803	40.31	1863	62.20	1923	87.28	1983	62.20
1504	30.38	1564	23.62	1624	31.38	1684	25.50	1744	34.09	1804	40.42	1864	65.34	1924	85.62	1984	67.32
1505	32.64	1565	28.12	1625	30.98	1685	24.88	1745	31.90	1805	37.77	1865	64.01	1925	103.74	1985	67.12
1506	33.20	1566	27.61	1626	31.72	1686	28.90	1746	29.00	1806	39.32	1866	61.34	1926	110.50	1986	74.30
1507	31.67	1567	29.90	1627	35.62	1687	29.94	1747	29.64	1807	39.89	1867	59.14	1927	124.07	1987	74.89
1508	31.73	1568	29.73	1628	36.81	1688	31.66	1748	28.88	1808	39.97	1868	60.93	1928	129.79	1988	77.33
1509	38.20	1569	27.53	1629	35.50	1689	32.34	1749	29.22	1809	37.54	1869	65.57	1929	126.13	1989	80.22
1510	36.97	1570	28.09	1630	30.32	1690	30.63	1750	29.48	1810	37.11	1870	66.66	1930	130.90	1990	84.07
1511	36.10	1571	29.42	1631	28.06	1691	31.07	1751	29.09	1811	38.32	1871	66.76	1931	152.93	1991	87.83
1512	32.01	1572	26.93	1632	30.63	1692	26.46	1752	27.82	1812	34.19	1872	65.45	1932	132.09	1992	91.84
1513	27.34	1573	25.85	1633	31.48	1693	23.54	1753	28.96	1813	33.27	1873	67.51	1933	134.29	1993	96.48
1514	31.93	1574	22.50	1634	31.45	1694	23.70	1754	29.35	1814	36.95	1874	74.44	1934	128.17	1994	99.88
1515	32.58	1575	26.75	1635	31.59	1695	25.03	1755	30.70	1815	39.80	1875	78.82	1935	127.00	1995	102.79
1516	30.89	1576	27.62	1636	30.51	1696	22.76	1756	29.12	1816	40.66	1876	81.25	1936	127.94	1996	104.86
1517	36.26	1577	26.89	1637	29.93	1697	22.37	1757	25.66	1817	37.10	1877	81.81	1937	127.02	1997	106.52
1518	33.07	1578	30.30	1638	28.52	1698	21.12	1758	28.17	1818	36.55	1878	87.33	1938	134.03	1998	108.10
1519	33.66	1579	31.79	1639	30.97	1699	23.10	1759	32.21	1819	38.63	1879	90.75	1939	130.78	1999	109.93
1520	30.16	1580	35.34	1640	32.24	1700	25.78	1760	33.04	1820	40.94	1880	88.78	1940	113.09	2000	112.68
1521	28.44	1581	31.49	1641	29.11	1701	28.98	1761	34.57	1821	44.16	1881	92.33	1941	102.07	2001	115.14
1522	31.61	1582	32.16	1642	30.02	1702	30.25	1762	33.45	1822	48.65	1882	94.76	1942	95.30	2002	116.68
1523	31.62	1583	33.76	1643	28.61	1703	32.26	1763	33.28	1823	49.05	1883	95.98	1943	92.17	2003	116.84
1524	32.50	1584	33.59	1644	28.14	1704	30.67	1764	32.14	1824	47.34	1884	104.53	1944	89.75	2004	117.86
1525	35.47	1585	31.59	1645	26.45	1705	33.41	1765	31.01	1825	44.52	1885	111.02	1945	88.17	2005	119.42
1526	36.40	1586	26.93	1646	24.08	1706	34.64	1766	31.78	1826	46.17	1886	111.98	1946	85.62	2006	119.38
1527	32.86	1587	27.16	1647	19.74	1707	35.81	1767	28.95	1827	47.95	1887	113.76	1947	79.95	2007	120.13
1528	23.72	1588	32.08	1648	17.68	1708	34.07	1768	29.87	1828	46.71	1888	112.30	1948	73.85	2008	121.22
1529	30.00	1589	30.31	1649	17.96	1709	27.35	1769	32.26	1829	47.74	1889	108.50	1949	72.23	2009	121.36
1530	30.52	1590	26.70	1650	18.58	1710	25.97	1770	32.35	1830	47.46	1890	106.97	1950	70.82	2010	116.72
1531	30.32	1591	26.68	1651	19.55	1711	29.16	1771	30.01	1831	48.15	1891	107.87	1951	66.35	2011	115.81
1532	30.05	1592	29.32	1652	22.01	1712	31.91	1772	29.07	1832	49.58	1892	106.20	1952	62.58	2012	118.36
1533	31.19	1593	28.14	1653	23.85	1713	31.88	1773	29.58	1833	49.81	1893	107.01	1953	64.01	2013	119.93
1534	36.12	1594	24.59	1654	27.04	1714	30.30	1774	29.65	1834	49.64	1894	111.78	1954	65.20	2014	120.87
1535	32.63	1595	22.43	1655	27.44	1715	33.92	1775	30.99	1835	50.71	1895	115.07	1955	64.25	2015	125.31
1536	32.37	1596	21.55	1656	23.25	1716	31.90	1776	34.56	1836	46.84	1896	114.56	1956	64.52		
1537	32.95	1597	19.12	1657	22.01	1717	32.61	1777	33.37	1837	43.65	1897	114.83	1957	66.65		
1538	38.29	1598	21.69	1658	20.71	1718	34.00	1778	33.33	1838	42.76	1898	112.66	1958	71.54		
1539	40.25	1599	27.74	1659	20.21	1719	35.03	1779	36.57	1839	41.03	1899	115.33	1959	74.66		
1540	37.66	1600	28.30	1660	22.25	1720	32.12	1780	36.54	1840	42.15	1900	113.16	1960	76.19		
1541	33.93	1601	29.94	1661	21.64	1721	33.53	1781	33.80	1841	43.25	1901	112.84	1961	76.95		
1542	34.45	1602	32.82	1662	22.04	1722	34.20	1782	33.39	1842	44.66	1902	111.18	1962	77.86		
1543	31.02	1603	36.83	1663	25.47	1723	33.70	1783	32.42	1843	47.34	1903	113.66	1963	80.40		
1544	28.27	1604	37.88	1664	26.33	1724	33.56	1784	33.24	1844	47.57	1904	111.01	1964	81.74		
1545	24.53	1605	36.20	1665	28.86	1725	31.28	1785	34.60	1845	47.68	1905	111.51	1965	81.96		
1546	22.23	1606	36.34	1666	31.76	1726	29.84	1786	35.61	1846	46.39	1906	111.80	1966	84.04		
1547	29.49	1607	35.99	1667	33.44	1727	30.68	1787	34.69	1847	43.67	1907	107.01	1967	95.09		
1548	29.30	1608	31.34	1668	33.89	1728	27.12	1788	34.54	1848	52.16	1908	110.98	1968	81.94		
1549	22.99	1609	31.38	1669	31.06	1729	28.74	1789	33.57	1849	57.11	1909	108.56	1969	78.90		
1550	18.02	1610	36.27	1670	31.26	1730	31.94	1790	33.21	1850	61.41	1910	104.51	1970	82.43		
1551	16.75	1611	35.80	1671	30.29	1731	34.16	1791	34.10	1851	64.14	1911	103.04	1971	77.32		
1552	19.59	1612	33.93	1672	30.99	1732	35.83	1792	35.78	1852	63.78	1912	98.87	1972	77.72		
1553	22.46	1613	31.84	1673	28.81	1733	33.95	1793	34.91	1853	58.19	1913	100.00	1973	70.89		
1554	23.68	1614	31.94	1674	24.63	1734	31.46	1794	33.67	1854	53.28	1914	100.30	1974	69.85		
1555	20.97	1615	32.44	1675	25.62	1735	29.89	1795	30.01	1855	53.04	1915	87.96	1975	60.34		
1556	18.31	1616	31.71	1676	29.29	1736	29.62	1796	29.40	1856	54.13	1916	74.16	1976	57.47		
1557	17.98	1617	31.39	1677	27.05	1737	30.95	1797	33.82	1857	56.39	1917	61.72	1977	54.52		
1558	27.07	1618	31.41	1678	24.93	1738	32.40	1798	36.29	1858	62.27	1918	51.32	1978	57.84		
1559	25.77	1619	33.90	1679	23.84	1739	31.43	1799	35.04	1859	62.90	1919	44.23	1979	57.47		

Table 14: Nominal rent index, Paris (1913 = 100)

1500	0.262	1560		1620		1680		1740		1800		1860	73.2	1920	110.5	1980	76463
1501		1561		1621		1681		1741		1801		1861	79.2	1921	115.8	1981	86403
1502	0.298	1562	1.121	1622	4.663	1682	8.38	1742	11.01	1802		1862	71.3	1922	113.7	1982	94738
1503		1563		1623		1683		1743		1803		1863	75.7	1923	156.8	1983	103990
1504		1564		1624		1684		1744		1804		1864	76.0	1924	174.3	1984	112018
1505	0.187	1565	0.883	1625	4.621	1685	8.07	1745	12.42	1805		1865	76.0	1925	193.1	1985	119206
1506		1566		1626		1686		1746		1806		1866	76.0	1926	221.6	1986	125782
1507		1567		1627		1687		1747		1807		1867	77.4	1927	239.2	1987	132893
1508	0.185	1568	1.058	1628	4.897	1688	8.43	1748	10.16	1808		1868	84.3	1928	258.3	1988	141533
1509		1569		1629		1689		1749		1809		1869	84.0	1929	307.9	1989	149332
1510		1570		1630		1690		1750		1810	23.55	1870	84.4	1930	358.8	1990	156520
1511	0.254	1571	1.205	1631	5.090	1691	7.63	1751	11.97	1811		1871	86.1	1931	378.2	1991	164249
1512		1572		1632		1692		1752		1812		1872	85.8	1932	391.7	1992	172531
1513		1573		1633		1693		1753		1813	25.33	1873	85.7	1933	396.2	1993	179984
1514	0.247	1574	1.174	1634	4.962	1694	6.86	1754	14.39	1814		1874	87.5	1934	391.6	1994	185229
1515		1575		1635		1695		1755		1815		1875	86.3	1935	385.3	1995	189922
1516		1576		1636		1696		1756		1816	26.77	1876	86.0	1936	359.2	1996	194063
1517	0.278	1577	1.481	1637	6.220	1697	6.60	1757	11.64	1817		1877	89.5	1937	355.6	1997	196823
1518		1578		1638		1698		1758		1818		1878	91.8	1938	376.2	1998	200688
1519		1579		1639		1699		1759		1819	29.15	1879	93.4	1939	382.3	1999	204000
1520	0.314	1580	1.732	1640	5.054	1700	6.97	1760	17.06	1820		1880	94.9	1940	375.2	2000	204277
1521		1581		1641		1701		1761		1821		1881	96.3	1941	381.0	2001	204829
1522		1582		1642		1702		1762		1822	31.12	1882	97.3	1942	384.8	2002	210074
1523	0.322	1583	2.306	1643	7.372	1703	7.84	1763	15.55	1823		1883	100.7	1943	396.2	2003	215871
1524		1584		1644		1704		1764		1824		1884	101.0	1944	401.9	2004	221944
1525		1585		1645		1705		1765		1825	35.06	1885	100.6	1945	497.2	2005	229949
1526	0.441	1586	2.153	1646	6.193	1706	7.26	1766	17.61	1826		1886	100.0	1946	599.2	2006	237844
1527		1587		1647		1707		1767		1827		1887	98.6	1947	729.4	2007	245297
1528		1588		1648		1708		1768		1828	38.09	1888	97.9	1948	1067	2008	250763
1529	0.384	1589	1.886	1649	7.484	1709	8.43	1769	16.12	1829		1889	96.3	1949	2636	2009	255843
1530		1590		1650		1710		1770		1830		1890	95.9	1950	3820	2010	259928
1531		1591		1651		1711		1771		1831	33.99	1891	95.7	1951	4666	2011	263020
1532	0.626	1592	0.657	1652	7.388	1712	7.05	1772	17.28	1832		1892	95.7	1952	6677	2012	267161
1533		1593		1653		1713		1773		1833		1893	95.7	1953	6946	2013	271467
1534		1594		1654		1714		1774		1834	37.84	1894	95.6	1954	7173	2014	274283
1535	0.459	1595	1.564	1655	6.662	1715	9.09	1775	17.14	1835		1895	95.6	1955	8180	2015	276049
1536		1596		1656		1716		1776		1836		1896	95.4	1956	8745		
1537		1597		1657		1717		1777		1837	42.35	1897	95.0	1957	9252		
1538	0.521	1598	1.356	1658	8.241	1718	10.32	1778	20.11	1838		1898	95.1	1958	10628		
1539		1599		1659		1719		1779		1839		1899	94.9	1959	12158		
1540		1600		1660		1720		1780		1840	41.69	1900	95.1	1960	14222		
1541	0.700	1601	2.037	1661	8.027	1721	10.59	1781	19.64	1841		1901	95.1	1961	16134		
1542		1602		1662		1722		1782		1842		1902	95.0	1962	17357		
1543		1603		1663		1723		1783		1843	46.66	1903	94.8	1963	19345		
1544	0.670	1604	2.306	1664	8.277	1724	12.24	1784	16.37	1844		1904	94.0	1964	20339		
1545		1605		1665		1725		1785		1845		1905	94.0	1965	22327		
1546		1606		1666		1726		1786		1846	51.68	1906	94.0	1966	24315		
1547	0.734	1607	3.693	1667	9.361	1727	11.24	1787	17.54	1847		1907	94.1	1967	26839		
1548		1608		1668		1728		1788		1848		1908	94.3	1968	29056		
1549		1609		1669		1729		1789		1849	46.03	1909	94.6	1969	31809		
1550	0.880	1610	2.819	1670	9.402	1730	9.87	1790		1850		1910	95.1	1970	34179		
1551		1611		1671		1731		1791		1851		1911	96.2	1971	36014		
1552		1612		1672		1732		1792		1852	49.87	1912	98.0	1972	37467		
1553	0.816	1613	3.681	1673	9.064	1733	11.44	1793		1853		1913	100.0	1973	40678		
1554		1614		1674		1734		1794		1854		1914	101.8	1974	43508		
1555		1615		1675		1735		1795		1855	53.35	1915	102.5	1975	47713		
1556	0.890	1616	4.056	1676	8.020	1736	12.64	1796		1856		1916	102.4	1976	52607		
1557		1617		1677		1737		1797		1857		1917	102.7	1977	57118		
1558		1618		1678		1738		1798		1858	68.32	1918	103.6	1978	61629		
1559	0.936	1619	3.967	1679	8.699	1739	11.26	1799		1859		1919	106.6	1979	68052		

Table 15: Real rent index, Paris (1913 = 100)

1500	6.67	1560		1620		1680		1740		1800		1860	86.69	1920	29.17	1980	92.38
1501		1561		1621		1681		1741		1801		1861	88.76	1921	30.53	1981	92.05
1502	6.14	1562	10.29	1622	20.12	1682	27.29	1742	24.47	1802		1862	82.60	1922	31.08	1982	90.27
1503		1563		1623		1683		1743		1803		1863	88.57	1923	43.43	1983	90.39
1504		1564		1624		1684		1744		1804		1864	89.64	1924	41.86	1984	90.65
1505	4.35	1565	7.44	1625	20.75	1685	23.82	1745	31.51	1805		1865	90.18	1925	43.95	1985	91.15
1506		1566		1626		1686		1746		1806		1866	85.34	1926	40.09	1986	93.69
1507		1567		1627		1687		1747		1807		1867	82.63	1927	39.54	1987	95.97
1508	4.26	1568	8.08	1628	20.22	1688	30.89	1748	22.52	1808		1868	89.02	1928	43.07	1988	99.53
1509		1569		1629		1689		1749		1809		1869	94.50	1929	52.54	1989	101.36
1510		1570		1630		1690		1750		1810	28.03	1870	88.01	1930	61.97	1990	102.77
1511	6.39	1571	9.03	1631	16.72	1691	25.33	1751	26.35	1811		1871	83.81	1931	64.04	1991	104.44
1512		1572		1632		1692		1752		1812		1872	89.95	1932	71.95	1992	107.09
1513		1573		1633		1693		1753		1813	29.68	1873	85.85	1933	75.97	1993	109.41
1514	5.12	1574	5.68	1634	21.10	1694	14.75	1754	31.51	1814		1874	90.12	1934	78.54	1994	110.77
1515		1575		1635		1695		1755		1815		1875	93.15	1935	81.08	1995	111.62
1516		1576		1636		1696		1756		1816	27.28	1876	88.89	1936	73.50	1996	111.82
1517	5.27	1577	8.99	1637	21.56	1697	19.55	1757	24.24	1817		1877	91.06	1937	59.38	1997	112.10
1518		1578		1638		1698		1758		1818		1878	92.91	1938	58.58	1998	113.57
1519		1579		1639		1699		1759		1819	37.57	1879	96.03	1939	56.97	1999	114.86
1520	6.06	1580	11.35	1640	17.94	1700	17.51	1760	36.36	1820		1880	94.90	1940	47.65	2000	113.00
1521		1581		1641		1701		1761		1821		1881	97.30	1941	39.71	2001	111.50
1522		1582		1642		1702		1762		1822	48.58	1882	98.31	1942	33.79	2002	112.28
1523	6.33	1583	13.40	1643	21.18	1703	26.21	1763	35.07	1823		1883	100.53	1943	28.61	2003	112.92
1524		1584		1644		1704		1764		1824		1884	103.84	1944	23.32	2004	113.68
1525		1585		1645		1705		1765		1825	54.40	1885	106.81	1945	21.81	2005	115.77
1526	8.63	1586	10.21	1646	22.18	1706	26.07	1766	36.10	1826		1886	107.74	1946	16.06	2006	117.82
1527		1587		1647		1707		1767		1827		1887	107.01	1947	12.43	2007	119.74
1528		1588		1648		1708		1768		1828	49.87	1888	107.65	1948	11.25	2008	119.06
1529	5.58	1589	8.35	1649	20.93	1709	17.11	1769	28.18	1829		1889	105.50	1949	21.24	2009	121.37
1530		1590		1650		1710		1770		1830		1890	103.13	1950	28.10	2010	121.46
1531		1591		1651		1711		1771		1831	44.39	1891	101.98	1951	29.40	2011	120.36
1532	8.57	1592	2.28	1652	17.47	1712	20.36	1772	31.66	1832		1892	101.79	1952	39.06	2012	119.90
1533		1593		1653		1713		1773		1833		1893	106.84	1953	41.45	2013	120.80
1534		1594		1654		1714		1774		1834	53.63	1894	103.57	1954	43.54	2014	121.43
1535	7.74	1595	5.77	1655	23.37	1715	29.72	1775	30.58	1835		1895	106.94	1955	49.17	2015	122.17
1536		1596		1656		1716		1776		1836		1896	106.91	1956	51.54		
1537		1597		1657		1717		1777		1837	57.79	1897	106.26	1957	52.72		
1538	7.95	1598	5.24	1658	26.77	1718	30.96	1778	35.67	1838		1898	106.99	1958	52.63		
1539		1599		1659		1719		1779		1839		1899	107.18	1959	56.71		
1540		1600		1660		1720		1780		1840	52.91	1900	109.30	1960	64.11		
1541	10.98	1601	10.97	1661	20.85	1721	24.46	1781	35.64	1841		1901	109.09	1961	70.37		
1542		1602		1662		1722		1782		1842		1902	109.19	1962	72.31		
1543		1603		1663		1723		1783		1843	59.09	1903	108.11	1963	76.88		
1544	8.60	1604	11.48	1664	23.93	1724	24.35	1784	27.11	1844		1904	111.54	1964	78.26		
1545		1605		1665		1725		1785		1845		1905	108.89	1965	83.77		
1546		1606		1666		1726		1786		1846	62.99	1906	108.25	1966	88.75		
1547	11.20	1607	18.49	1667	35.32	1727	24.90	1787	29.02	1847		1907	107.31	1967	95.37		
1548		1608		1668		1728		1788		1848		1908	105.68	1968	98.88		
1549		1609		1669		1729		1789		1849	63.21	1909	104.81	1969	101.67		
1550	9.99	1610	13.77	1670	35.10	1730	22.93	1790		1850		1910	103.03	1970	103.75		
1551		1611		1671		1731		1791		1851		1911	97.70	1971	103.60		
1552		1612		1672		1732		1792		1852	69.14	1912	98.17	1972	101.49		
1553	9.81	1613	18.01	1673	34.84	1733	28.58	1793		1853		1913	100.00	1973	102.81		
1554		1614		1674		1734		1794		1854		1914	97.95	1974	96.62		
1555		1615		1675		1735		1795		1855	56.03	1915	81.47	1975	94.81		
1556	10.52	1616	20.08	1676	27.53	1736	31.00	1796		1856		1916	70.31	1976	95.29		
1557		1617		1677		1737		1797		1857		1917	53.83	1977	94.66		
1558		1618		1678		1738		1798		1858	81.24	1918	41.51	1978	93.66		
1559	11.13	1619	18.56	1679	25.67	1739	25.16	1799		1859		1919	36.43	1979	93.32		

Table 16: Consumer price index, Belgium (1913 = 100)

1500	7.43	1560	20.38	1620	43.82	1680	50.24	1740	68.44	1800	77.19	1860	104.95	1920	457.0	1980	9129
1501	9.63	1561	21.13	1621	47.24	1681	49.32	1741	58.17	1801	80.78	1861	112.87	1921	401.0	1981	9826
1502	10.16	1562	27.69	1622	60.78	1682	51.39	1742	48.60	1802	99.16	1862	104.95	1922	375.0	1982	10683
1503	9.72	1563	21.96	1623	63.26	1683	50.51	1743	46.82	1803	98.22	1863	95.05	1923	430.1	1983	11502
1504	9.13	1564	21.97	1624	56.55	1684	59.56	1744	45.68	1804	91.99	1864	92.08	1924	502.6	1984	12232
1505	9.00	1565	30.81	1625	66.28	1685	58.52	1745	55.79	1805	92.03	1865	100.00	1925	519.8	1985	12827
1506	9.02	1566	28.24	1626	84.61	1686	41.75	1746	50.88	1806	82.15	1866	107.92	1926	620.6	1986	12994
1507	9.07	1567	24.44	1627	67.85	1687	42.56	1747	55.42	1807	77.32	1867	119.80	1927	788.6	1987	13196
1508	8.67	1568	24.35	1628	59.62	1688	44.55	1748	55.40	1808	84.75	1868	107.92	1928	823.1	1988	13349
1509	8.38	1569	26.27	1629	67.43	1689	48.98	1749	55.11	1809	78.19	1869	101.98	1929	878.0	1989	13764
1510	8.19	1570	26.72	1630	71.78	1690	54.26	1750	53.34	1810	83.68	1870	105.94	1930	877.4	1990	14239
1511	9.24	1571	30.29	1631	78.84	1691	54.41	1751	53.51	1811	84.32	1871	107.92	1931	800.9	1991	14695
1512	10.55	1572	38.08	1632	71.12	1692	67.06	1752	54.04	1812	96.91	1872	105.94	1932	722.9	1992	15053
1513	12.32	1573	40.84	1633	70.26	1693	77.68	1753	49.20	1813	86.32	1873	115.84	1933	708.1	1993	15467
1514	10.69	1574	41.51	1634	72.54	1694	76.16	1754	47.30	1814	82.66	1874	111.88	1934	669.0	1994	15835
1515	11.11	1575	35.39	1635	72.83	1695	69.98	1755	45.03	1815	89.11	1875	109.90	1935	657.0	1995	16068
1516	12.36	1576	38.38	1636	72.96	1696	69.63	1756	47.12	1816	109.92	1876	116.83	1936	688.1	1996	16399
1517	11.16	1577	38.42	1637	71.64	1697	77.11	1757	55.38	1817	130.64	1877	118.81	1937	737.8	1997	16666
1518	10.21	1578	39.46	1638	72.40	1698	87.47	1758	52.74	1818	102.94	1878	112.87	1938	764.1	1998	16825
1519	10.43	1579	40.02	1639	76.07	1699	70.14	1759	48.41	1819	88.23	1879	112.87	1939	772.7	1999	17013
1520	12.89	1580	40.97	1640	79.38	1700	50.54	1760	49.60	1820	82.19	1880	112.87	1940	858.4	2000	17446
1521	15.70	1581	42.18	1641	81.02	1701	53.35	1761	48.28	1821	66.70	1881	104.95	1941		2001	17878
1522	12.14	1582	42.82	1642	74.67	1702	54.63	1762	51.81	1822	59.92	1882	104.95	1942		2002	18172
1523	12.82	1583	49.49	1643	73.34	1703	57.52	1763	58.16	1823	70.56	1883	106.93	1943		2003	18461
1524	15.82	1584	66.23	1644	77.23	1704	60.15	1764	52.59	1824	59.42	1884	99.01	1944		2004	18847
1525	11.85	1585	96.31	1645	70.23	1705	56.59	1765	57.01	1825	64.25	1885	97.03	1945		2005	19372
1526	12.36	1586	111.30	1646	59.85	1706	56.59	1766	56.77	1826	75.24	1886	91.09	1946		2006	19719
1527	13.37	1587	88.45	1647	64.98	1707	54.34	1767	57.01	1827	80.72	1887	100.00	1947	2503	2007	20078
1528	14.21	1588	46.62	1648	75.20	1708	62.89	1768	57.66	1828	75.98	1888	91.09	1948	2872	2008	20980
1529	14.01	1589	45.51	1649	84.21	1709	96.38	1769	55.25	1829	81.08	1889	90.10	1949	2778	2009	20969
1530	15.91	1590	50.86	1650	84.61	1710	78.43	1770	59.37	1830	89.77	1890	90.10	1950	2755	2010	21427
1531	17.76	1591	46.32	1651	87.72	1711	61.47	1771	66.37	1831	91.79	1891	94.06	1951	3013	2011	22184
1532	13.21	1592	40.58	1652	80.10	1712	60.08	1772	62.73	1832	87.58	1892	91.09	1952	3040	2012	22815
1533	12.21	1593	49.07	1653	60.27	1713	64.65	1773	56.20	1833	88.15	1893	84.16	1953	3031	2013	23069
1534	12.15	1594	64.26	1654	52.44	1714	69.37	1774	59.73	1834	85.37	1894	83.17	1954	3084	2014	23147
1535	14.11	1595	75.68	1655	54.74	1715	54.86	1775	58.24	1835	86.37	1895	84.16	1955	3069	2015	23276
1536	16.41	1596	70.62	1656	60.86	1716	52.75	1776	53.87	1836	94.06	1896	77.23	1956	3141		
1537	13.01	1597	69.55	1657	55.93	1717	52.91	1777	53.49	1837	90.10	1897	77.23	1957	3241		
1538	16.19	1598	57.49	1658	59.70	1718	49.03	1778	57.98	1838	95.05	1898	81.19	1958	3283		
1539	15.77	1599	50.52	1659	61.52	1719	49.15	1779	56.73	1839	100.99	1899	81.19	1959	3323		
1540	15.18	1600	58.21	1660	65.73	1720	53.59	1780	59.66	1840	103.96	1900	85.15	1960	3333		
1541	14.53	1601	54.11	1661	73.92	1721	46.31	1781	61.54	1841	95.05	1901	86.14	1961	3365		
1542	15.91	1602	41.27	1662	81.32	1722	44.49	1782	61.93	1842	101.98	1902	84.16	1962	3413		
1543	17.98	1603	44.09	1663	67.74	1723	46.34	1783	61.90	1843	93.07	1903	89.11	1963	3487		
1544	19.58	1604	44.94	1664	60.60	1724	50.64	1784	61.84	1844	85.15	1904	80.20	1964	3632		
1545	21.15	1605	41.40	1665	56.97	1725	55.04	1785	65.18	1845	99.01	1905	80.20	1965	3780		
1546	14.82	1606	40.52	1666	55.31	1726	52.80	1786	64.72	1846	107.92	1906	86.14	1966	3937		
1547	14.08	1607	44.48	1667	55.36	1727	51.86	1787	72.46	1847	107.92	1907	88.12	1967	4050		
1548	15.63	1608	62.06	1668	51.60	1728	49.31	1788	70.26	1848	94.06	1908	87.13	1968	4162		
1549	17.94	1609	53.81	1669	49.14	1729	52.18	1789	73.91	1849	92.08	1909	89.11	1969	4318		
1550	16.23	1610	44.43	1670	50.66	1730	44.17	1790	61.85	1850	87.13	1910	89.11	1970	4486		
1551	21.20	1611	46.62	1671	49.50	1731	46.25	1791	61.39	1851	85.15	1911	95.05	1971	4681		
1552	21.03	1612	53.55	1672	52.55	1732	46.01	1792	65.03	1852	90.10	1912	102.97	1972	4936		
1553	21.08	1613	44.41	1673	53.52	1733	42.25	1793	76.94	1853	90.10	1913	100.00	1973	5280		
1554	19.22	1614	43.86	1674	62.93	1734	42.36	1794	72.07	1854	110.89	1914	100.38	1974	5949		
1555	26.38	1615	48.43	1675	75.82	1735	43.19	1795	108.31	1855	104.95	1915	127.21	1975	6708		
1556	34.41	1616	52.60	1676	66.45	1736	41.65	1796	91.71	1856	105.94	1916	182.14	1976	7323		
1557	20.86	1617	51.82	1677	61.94	1737	43.56	1797	54.40	1857	97.03	1917	320.22	1977	7843		
1558	20.87	1618	52.94	1678	57.89	1738	45.85	1798	61.79	1858	100.00	1918	482.45	1978	8194		
1559	22.62	1619	44.61	1679	52.99	1739	51.37	1799	69.18	1859	98.02	1919	434.06	1979	8560		

Table 17: Nominal wage index, Belgium (1913 = 100)

1500	7.38	1560	12.60	1620	33.36	1680	40.14	1740	35.32	1800	37.20	1860	50.15	1920	484.1	1980	51456
1501	7.34	1561	14.03	1621	34.05	1681	39.53	1741	35.49	1801	39.72	1861	51.38	1921	518.3	1981	56069
1502	7.57	1562	15.19	1622	33.70	1682	40.04	1742	35.65	1802	39.62	1862	52.15	1922	503.7	1982	60119
1503	7.06	1563	16.42	1623	33.55	1683	40.67	1743	35.39	1803	39.53	1863	54.38	1923	581.7	1983	63592
1504	7.15	1564	16.46	1624	34.24	1684	39.92	1744	35.12	1804	39.43	1864	56.08	1924	674.4	1984	66878
1505	7.28	1565	16.24	1625	33.57	1685	40.87	1745	35.83	1805	39.34	1865	58.85	1925	673.2	1985	68836
1506	7.16	1566	15.77	1626	34.29	1686	40.60	1746	36.09	1806	39.24	1866	60.39	1926	765.9	1986	69775
1507	7.40	1567	15.24	1627	33.84	1687	38.44	1747	36.35	1807	39.15	1867	60.31	1927	936.6	1987	70392
1508	7.43	1568	14.63	1628	34.39	1688	38.21	1748	36.03	1808	39.05	1868	60.00	1928	1048	1988	72054
1509	7.23	1569	15.12	1629	33.92	1689	38.44	1749	35.71	1809	38.95	1869	62.08	1929	1220	1989	74857
1510	7.09	1570	14.65	1630	33.45	1690	39.00	1750	35.51	1810	38.86	1870	63.23	1930	1312	1990	78840
1511	7.43	1571	15.25	1631	34.75	1691	37.81	1751	35.35	1811	38.76	1871	62.92	1931	1232	1991	82971
1512	7.35	1572	15.69	1632	35.01	1692	36.40	1752	35.41	1812	38.67	1872	69.31	1932	1124	1992	86712
1513	7.55	1573	16.24	1633	35.19	1693	35.23	1753	35.57	1813	38.57	1873	76.38	1933	1091	1993	89582
1514	7.66	1574	16.74	1634	35.39	1694	36.03	1754	35.36	1814	39.00	1874	74.54	1934	1045	1994	91915
1515	7.66	1575	17.01	1635	35.58	1695	40.08	1755	35.94	1815	42.49	1875	74.16	1935	999	1995	93283
1516	7.52	1576	17.42	1636	35.77	1696	39.14	1756	36.53	1816	43.24	1876	71.23	1936	1088	1996	94866
1517	7.71	1577	19.55	1637	34.85	1697	37.78	1757	36.43	1817	42.60	1877	66.15	1937	1207	1997	96676
1518	7.88	1578	20.35	1638	34.40	1698	38.41	1758	36.49	1818	41.40	1878	67.54	1938	1272	1998	98688
1519	7.78	1579	20.67	1639	34.32	1699	37.50	1759	36.53	1819	41.58	1879	66.00	1939	1280	1999	100833
1520	7.99	1580	21.96	1640	33.83	1700	37.60	1760	35.73	1820	41.78	1880	68.62	1940	1274	2000	103676
1521	8.02	1581	23.17	1641	33.52	1701	38.07	1761	36.04	1821	44.16	1881	68.85	1941		2001	107458
1522	7.94	1582	24.72	1642	33.26	1702	36.92	1762	36.00	1822	41.00	1882	67.08	1942		2002	111709
1523	8.19	1583	26.46	1643	33.00	1703	36.66	1763	36.07	1823	42.07	1883	70.00	1943		2003	114136
1524	8.04	1584	27.45	1644	32.78	1704	35.98	1764	36.42	1824	43.57	1884	67.54	1944		2004	114136
1525	8.20	1585	25.60	1645	32.92	1705	37.61	1765	35.29	1825	42.59	1885	66.15	1945	3286	2005	120225
1526	8.14	1586	25.94	1646	33.05	1706	37.07	1766	35.85	1826	42.54	1886	67.54	1946	3894	2006	123162
1527	8.03	1587	26.43	1647	34.14	1707	37.15	1767	36.90	1827	43.18	1887	66.62	1947	4176	2007	125576
1528	8.34	1588	26.94	1648	34.53	1708	37.52	1768	37.22	1828	43.36	1888	68.62	1948	4572	2008	129733
1529	8.31	1589	27.02	1649	34.93	1709	37.95	1769	38.24	1829	43.99	1889	69.16	1949	4804	2009	133206
1530	8.25	1590	26.49	1650	35.32	1710	36.98	1770	36.98	1830	42.72	1890	72.62	1950	5003	2010	134105
1531	7.50	1591	26.66	1651	35.72	1711	36.55	1771	38.40	1831	42.57	1891	72.46	1951	5546	2011	137699
1532	8.39	1592	26.48	1652	36.10	1712	35.93	1772	38.08	1832	41.63	1892	71.84	1952	5546	2012	142097
1533	8.61	1593	26.65	1653	36.48	1713	35.86	1773	38.15	1833	40.49	1893	70.85	1953	5784	2013	145007
1534	7.90	1594	27.57	1654	36.71	1714	37.06	1774	38.55	1834	42.08	1894	72.31	1954	5899	2014	146120
1535	8.05	1595	27.69	1655	36.91	1715	35.93	1775	38.70	1835	42.16	1895	70.92	1955	6113	2015	146375
1536	7.94	1596	27.91	1656	37.10	1716	37.10	1776	39.57	1836	42.24	1896	73.23	1956			6622
1537	8.43	1597	27.85	1657	36.32	1717	37.99	1777	35.99	1837	42.32	1897	73.69	1957			7247
1538	8.42	1598	29.30	1658	36.50	1718	36.66	1778	35.92	1838	42.40	1898	74.92	1958			7553
1539	8.12	1599	29.13	1659	36.67	1719	37.22	1779	36.44	1839	41.94	1899	78.00	1959			7715
1540	7.87	1600	31.02	1660	36.56	1720	36.10	1780	38.74	1840	40.85	1900	83.85	1960			7996
1541	8.08	1601	31.44	1661	36.80	1721	36.96	1781	38.26	1841	39.87	1901	78.92	1961			7996
1542	8.23	1602	31.60	1662	37.04	1722	36.70	1782	37.16	1842	39.92	1902	80.77	1962			8450
1543	8.49	1603	31.55	1663	37.28	1723	37.35	1783	38.05	1843	38.84	1903	81.15	1963			8846
1544	8.70	1604	32.23	1664	37.52	1724	36.87	1784	37.35	1844	40.15	1904	81.15	1964			9522
1545	8.31	1605	31.31	1665	37.75	1725	36.84	1785	37.73	1845	39.08	1905	80.77	1965			10246
1546	8.87	1606	31.84	1666	37.71	1726	35.40	1786	36.81	1846	42.23	1906	82.92	1966			11158
1547	9.19	1607	31.39	1667	37.61	1727	36.84	1787	36.54	1847	40.15	1907	89.62	1967			12847
1548	9.49	1608	31.91	1668	37.52	1728	37.21	1788	36.26	1848	39.15	1908	86.62	1968			13478
1549	9.71	1609	32.53	1669	37.42	1729	37.20	1789	36.75	1849	40.00	1909	87.16	1969			14550
1550	10.05	1610	33.15	1670	37.37	1730	37.34	1790	38.77	1850	40.92	1910	90.31	1970			16066
1551	9.75	1611	34.37	1671	37.77	1731	36.89	1791	37.75	1851	42.54	1911	90.46	1971			17863
1552	10.21	1612	34.55	1672	38.37	1732	36.43	1792	38.84	1852	43.77	1912	95.92	1972			20263
1553	9.86	1613	32.96	1673	37.96	1733	36.79	1793	38.90	1853	44.46	1913	100.0	1973			23415
1554	9.93	1614	33.63	1674	38.89	1734	37.51	1794	39.21	1854	46.77	1914	118.1	1974			28363
1555	10.46	1615	34.03	1675	39.34	1735	38.22	1795	38.11	1855	46.62	1915	101.5	1975			33875
1556	10.74	1616	33.86	1676	39.96	1736	35.66	1796	37.75	1856	48.54	1916	111.0	1976			37992
1557	10.33	1617	33.49	1677	40.01	1737	36.78	1797	38.13	1857	49.08	1917	140.5	1977			41733
1558	11.60	1618	34.28	1678	40.74	1738	36.01	1798	38.95	1858	49.54	1918	187.7	1978			44415
1559	11.80	1619	34.54	1679	39.83	1739	35.24	1799	38.38	1859	49.38	1919	259.8	1979			47393