THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Economic History Working Papers No: 277/2018

European Goods Market Integration in the Very Long Run: From the Black Death to the First World War

Giovanni Federico
University of Pisa

Max-Stephan Schulze
London School of Economics

Oliver Volckart
London School of Economics

Economic History Department, London School of Economics and Political Science, Houghton Street, London, WC2A 2AE, London, UK. T: +44 (0) 20 7955 7084. F: +44 (0) 20 7955 7730

LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE
DEPARTMENT OF ECONOMIC HISTORY
WORKING PAPERS
NO. 277 – MARCH 2018

European Goods Market Integration in the Very Long Run: From the Black Death to the First World War[1]

Giovanni Federico
University of Pisa

Max-Stephan Schulze
London School of Economics

Oliver Volckart
London School of Economics

Abstract

The paper examines price convergence and increases in the efficiency of wheat markets across Europe from the mid-fourteenth to the early twentieth century. The analysis is based on a new data set of prices from more than 500 markets. Unlike previous research, we find that convergence was a predominantly pre-modern phenomenon. It started in the late fifteenth and reached a first high point in the early seventeenth century - a level of integration that was surpassed only in the nineteenth century. In terms of market integration, the 'little divergence' between parts of North-Western Europe and the rest of the continent appears since about 1600. Long-term improvements in market efficiency began in the early sixteenth century, with advances being temporarily as uneven as in price convergence. We trace this to uneven institutional change and the non-synchronous spread of modern media and systems of information transmission that affected the ability of merchants to react to news.

Keywords: European economic history, market integration, price convergence, market efficiency, long-run development, Little Divergence, Dynamic Factor Analysis
JEL Classification numbers: N13, N14, N53, N54, N73, N74, N90

[1] Generous research support by the European Research Council (ERC-grant 230484) is gratefully acknowledged. The authors would also like to thank David Chilosi, Sara Pecchioli and Coskun Tuncer for excellent research assistance and Walter Bauernfeind, who has shared with us the Nuremberg price series, one of the longest in the data set. Earlier versions of this paper have been presented at Bologna, Copenhagen, Dublin, Madrid (Carlos III and CUNEF) and Prato (Istituto Datini). We thank the participants for helpful comments and suggestions.

1. Introduction

Economic historians have always regarded the expansion of markets and the resulting increase in the division of labour and specialization as powerful sources of growth especially in pre-industrial Europe (Kelly 1997; Epstein 2000; Malanima 2009; Persson 2010; Chilosi et al. 2013; for dissenting voices see Clark 2007; Bateman 2012 and van Bavel 2016). Some have also argued that the development of more efficient and integrated markets in England and the Dutch Republic since the seventeenth century contributed crucially to the Little Divergence between these countries and the rest of Europe (Allen 2001, Fouquet and Broadberry 2015). Market integration and efficiency have thus been placed squarely at the centre of the economic development of Europe. Whether they deserve this place is difficult to test. Historians have spent decades investigating qualitative sources such as legal codes or contracts concluded between merchants, evidence that is difficult to quantify, to analyse the development of trade and markets. Even when they used sources that contained quantitative data – for example merchant books of account – they rarely collected and analysed them econometrically. We therefore know far less about the quantitative than the qualitative aspects of European commerce.[2]

This is why economic historians have increasingly turned to price data. Wheat prices especially are among the best quantitative evidence available: They are abundant and, given the fairly homogenous nature of wheat, relatively easy to standardise. As persistent spreads between local prices suggest that merchants left opportunities for arbitrage across space unexploited, price differentials allow inferences about how intensive trade between markets was. Moreover, where prices on different markets moved in step, this was probably the result of merchants using the same information to make decisions about buying commodities in the hope of being able to sell them later at a higher price, i.e. for arbitrage over time. Hence, analysing price differentials systematically helps compensating for the lack of evidence on actual trade flows.

Historians broadly agree on nineteenth- and twentieth-century trends in trade identified in this way. By contrast, a consensus on when, how far and how quickly markets integrated across Europe and over the very long term, let alone about why they did so, is still lacking. In particular, findings on the timing of pre-modern integration differ widely – unsurprisingly so, given that research has so far

[2] From the late Middle Ages onwards, a growing number of customs registers have been preserved, some of which have been examined in this context (cf. Carus-Wilson and Coleman, 1963). The most comprehensive are the Sound-Toll-Registers (cf. Christiansen 1934) that cover the years from 1497 to 1857.

failed to agree on a number of central methodological points. There is neither a consistent and precise definition of integration nor agreement on what measures of integration to use. Moreover, as scholars have focused on different product markets, regions and time periods, the results of their analyses are hard to compare (Federico 2012).

This paper adopts a theoretically grounded and consistent definition of integration and uses several analytical techniques to explore how markets integrated over time and space. Further, it builds on a new and by far the largest grain price data set examined up to now, covering a wider geographical area – most of Europe – and a longer period of time – from the Black Death to the First World War – than any previous analysis.[3] The focus of the paper is on defining, measuring and documenting goods market integration in Europe. We study the two dimensions of integration briefly sketched above: price convergence (a decrease in price differentials between markets) and improvements in market efficiency (the simultaneous reaction to common exogenous shocks as reflected in co-movement of prices). Both dimensions are related, but price convergence and adjustment to shocks do not necessarily move in step. They require separate analyses with different statistical techniques and may give rise to different views of historical integration processes. We address two core questions: First, when and by how much did wheat prices converge? Second, to what extent, if any, did markets become more efficient over time?

In contrast to previous work in the field, we find that price convergence in Europe was a long-term process that began in the mid-fifteenth and continued – with accelerations and setbacks – to the mid-nineteenth century. We also find that this convergence was associated with an improvement in market efficiency from the early sixteenth century (likewise with temporary setbacks). The next section reviews the recent literature on long-run market integration in Europe. We then set out the intuition of our approach and empirical strategy (Section 3). Section 4 describes the extensive new dataset, while Sections 5 and 6 discuss the estimation techniques and the main results on price convergence and market efficiency, respectively. Section 7 compares the timing of these two dimensions of the integration process and identifies the differences between them. The conclusion draws attention to the main implications of the new results.

[3] Froot et al. (1995) cover a similar span of time but analyse integration between England and the Netherlands only.

2. Literature Survey

The statistical analysis of market integration dates back to the 1950s (Achilles 1959), but research in this field has come into its own only since about the turn of the last century. While about half of the studies published between 2009 and 2012 and covered by Federico's (2012) survey concern the *modern* world, where price data are abundant, it is striking that market integration is one of the few topics where quantitative methods have made major inroads into research on *pre-modern* economic history. This is due to the extensive preservation of price data from the pre-statistical age. Most studies of integration using this kind of evidence focus on short periods, especially on the eighteenth century, and on individual European countries such as France (Tilly 1971, Chevet and Saint Amour 1991, Roehner 1994, Chevet 1996, O'Grada and Chevet 2002). The few long-term, Europe-wide papers agree neither on the timing nor the pace of integration. The pioneering work by Achilles (1959) identified increasing though incomplete integration all over Europe from 1550 to 1700, while Allen and Unger (1990) and Persson (1999) find an 'emerging integrated European wheat market' in the eighteenth century. On the other hand, van Bochove (2007) and Özmucur and Pamuk (2007) rule out any such integration from the seventeenth to the beginning of the nineteenth century. Area studies, too, yield mixed results. For instance, Jacks (2004) finds no clear trends in the Baltic before 1640, disintegration 1640-1670, and re-integration in the eighteenth century. The most recent studies do not settle the issue. Chilosi et al. (2013) and Studer (2015) focus on the period from the seventeenth to the late nineteenth or early twentieth century. They observe a trend towards price convergence in the early modern period, especially from the late seventeenth to the mid-eighteenth century.[4] Their measure of efficiency (i.e. the co-movement of prices across markets), though, remains almost constant until the late eighteenth century. Drawing on a smaller number of markets, Bateman (2011) estimates fifty year averages of price gaps since 1400. Her averages remained large until 1500 and thereafter moved erratically: they declined in 1500-1549, increased in 1550-1600, declined again in 1600-1649, rebounded in 1650-1700, hit a trough in 1700-1749 and increased again in the second half of the eighteenth century. Contradicting most other studies (Jacks 2005, Federico and Persson 2007, Federico 2011, Chilosi et al. 2013), she argues elsewhere that price gaps remained large in the first half of the nineteenth century and collapsed only between 1849 and 1900 (Bateman 2012).

[4] Note that Chilosi et al. (2013) and Studer (2015) rely on a subset of a preliminary version of our dataset (Epstein-Federico-Schulze-Volckart database) that has since been comprehensively corrected and expanded.

These conflicting results reflect the use of different data sets covering different markets and periods. Most works rely on small samples whose composition changes over time. For instance, Bateman (2011) quotes price series from 46 markets, but many of them have extensive gaps in observations.[5] Chilosi et al. (2013) find a substantial difference in dispersion of prices between a balanced sample of 13 markets and a wider unbalanced sample of about 60 markets in the nineteenth century. Sample composition evidently matters.

3. Empirical Strategy

Mapping *price convergence* is fairly uncontroversial. A standard measure is the coefficient of variation. It is easy to compute and comparable across time and space for the same product and allows comparisons of convergence patterns between different products. Moreover, it is reasonably robust to quality differentials for fairly homogenous products such as wheat. The analysis builds on annual grain prices and long-run and period-specific balanced samples. The relevant data and sampling technique, that seeks to maximize geographical coverage, are discussed below (Section 4. Data).

Selecting a measure of *efficiency* needs more explanation. The basic idea is to examine how far prices paid on spatially different markets reflect the simultaneous reaction of merchants to information about shocks, such as crop failures, wars, trade treaties and so on. Efficiency is thus indicated by the extent to which prices on several markets move in line with each other.

The reaction to price shocks can be estimated with different versions of autoregressive models for pairs of markets (Federico 2012). While this approach has proven popular, it involves both practical and theoretical problems. Results are meaningful only if the frequency of the series (say, in months) is higher than the expected reaction time (Brunt and Cannon 2014) and if there is trade between markets. For most cases, evidence on trade flows and time of adjustment is too scarce to assess either condition. Most available price series are annual, and it is unlikely that prices took more than a year to adjust. Furthermore, these models make restrictive assumptions about the working of markets and the type of available information. They assume that traders in each market know only

[5] Bateman estimates price gaps with a fixed-effect panel regression, with relative prices between pairs of markets as dependent variable, explained by time dummies. She computes price gaps between all markets of a 'country' (in late nineteenth-century borders) and markets in the rest of Europe, and then obtains the European gap as a mean of country-specific gaps. For instance her 'Italy' includes Tuscany (1263-1859 - itself a composite series of prices in Pisa and Florence), Naples (1474-1893), Sansepolcro (1500-1631), Catania (1512-1630), Udine (1600-1825), Milan (1700-1860), Ancona (1700-1825), and Pesaro (1700-1825). These markets belonged to the same polity only after 1860.

prices (in their domestic market and in the market they consider engaging in), and trade costs. For example, merchants in London would only learn of harvest failures in the Midwest if and when prices in Chicago rose as a consequence. Once the price gap exceeds the commodity points, they have the chance to engage in arbitrage. This view of the market is hardly realistic. It seems more plausible that merchants in London take all relevant non-price information, such as the *expected* outcome of a harvest into account whenever it becomes available. [6] In this case, London prices may adjust even *before* the gap with Chicago reaches the commodity points and without any grain having been shipped between these markets. Moreover, there is no *a priori* reason to assume that bilateral price differentials are only affected by bilateral trade flows or expectations concerning these two markets. They may also be affected by indirect trade between two locations or by expected price movements in other markets, or by both factors at the same time.

In modern, highly organized commodity markets all relevant information is likely embodied in a market-wide 'reference' price (e.g. Brent or WTI for oil) and local prices reproduce its movements. Markets before 1914, and especially in the early modern period, clearly do not conform to this type. However, they may resemble it to a smaller or larger degree, in particular in the case of markets for fairly homogenous products such as wheat. Therefore, the degree of correlation among local prices and the 'reference' (European) one is a broad measure of efficiency of the reaction of the market to shocks. This approach, unlike co-integration tests, does not make any *a priori* assumptions about the nature of information available to agents. Moreover, common movements may be determined by bi- or multi-lateral arbitrage if price differentials exceed trade costs, but also by a similar reaction of traders in all markets to the same news. Thus, in a way our approach harks back to the earlier literature on market integration prevalent before the co-integration revolution. However, it differs in terms of both the set-up of the test (correlation between prices in each market and a 'reference' price rather than between prices in two locations) and the interpretation of results in terms of efficiency rather than of integration.

In our case, a 'reference' price, though, is not directly observable. Ravaillon (1987) suggests using the price of a central market as a proxy, but choosing such market *a priori* for the whole of Europe over six centuries seems arbitrary. We explore two alternatives of approximating a European or 'reference' price. First, we take the simple average of prices for each year and across all markets, but use this as an input in the correlation analysis of residuals to trace market efficiency. In a

[6] From at least the late fourteenth century onward, commercial correspondence contains ample evidence that merchants took non-price information into account (cf. e.g. Stieda 1921).

second, corresponding step we use Dynamic Factor Analysis (henceforth DFA). This approach allows extracting endogenously the *common* shocks pertaining to any number of price series and measures the degree of co-movement between this *common* component and *local* market-specific shocks (Kose et al. 2003). In effect, the technique permits deriving a *European* 'price' (substituting for the missing 'reference' price) in relation to which we can assess the efficiency of adjustment of local markets. The details of both approaches are set out in Section 6 below.

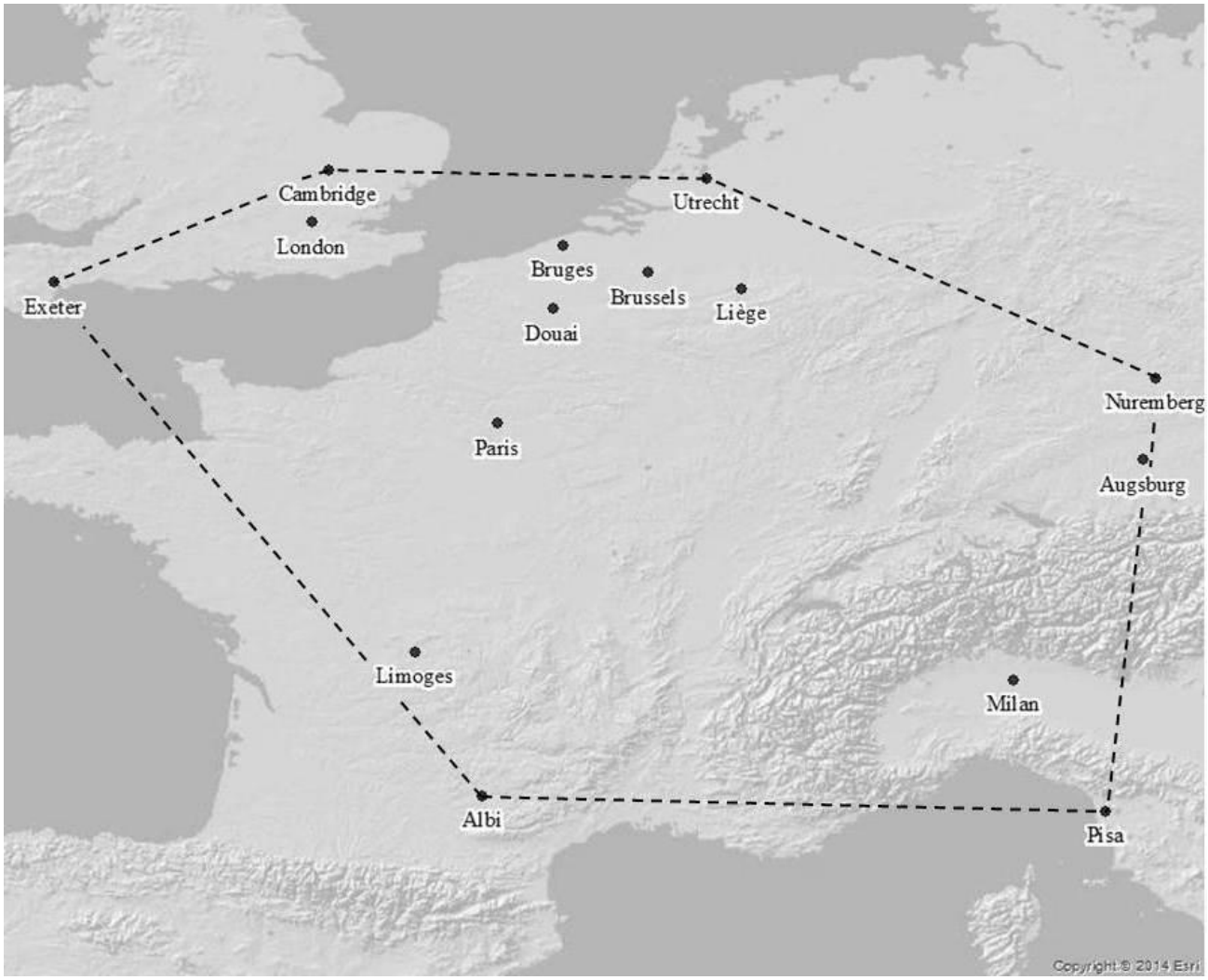
4. The Data

The analysis of price *convergence* and market *efficiency* is demanding in terms of sampling as, in the interest of consistency and as a means of avoiding or at least reducing bias, it ought to be based on the same (or very similar) set of markets over time. We dealt with the issue by, first, collecting more than 68,000 price observations for 1348 to 1913. Second, this new data base allowed constructing both a long-run balanced sample and a set of eight shorter period-specific balanced samples. In terms of new price data, we benefited particularly from the late eighteenth-century interest in grain prices. Many journals and monographs appearing in the context of the enlightenment did not only contain extensive discussions of grain price formation – Unger (1752) is a well-known example – but also published price series that in some cases stretch back for centuries (e.g. Anonymous 1765; Wullen 1771, Brueggemann 1800). Much of this material has not been used by economic historians before. All in all, our data set contains prices from more than 580 locations, thus going far beyond what earlier studies were able to exploit. It covers almost the whole continent from Portugal to Russia, though most of the markets cluster in the territories of modern Belgium, France, Germany, Italy and the Netherlands (Map 1).

Map 1: Total sample: all markets

All prices are standardized to grams of silver per hectolitre. For the period before the establishment of the international gold standard in the 1870s, conversions are based on the pure silver content of the coinage used locally, specifically on that of its largest denomination (the underlying assumption is that people typically did not use small change to buy grain). For the post-1870 gold standard period using the pure silver content of the coinage would not have made much sense. Here, we draw on exchange rates between the local currency and the Pound Sterling in combination with London silver prices. All prices have been aggregated at the level of calendar years if they were originally recorded in a higher frequency or applied to harvest years; they are thus fully comparable in the cross-section and over time.

Map 2: Long-run balanced sample: 15 markets



The dotted line defines the area covered in the construction of a sub-set of markets from the period-specific samples (Section 5 below).

The number of available price series is increasing over time, forming an unbalanced sample that at its maximum represents 300 markets. There are enough data to construct a number of balanced samples suitable for the techniques discussed in the previous section. In addition to a long-run balanced sample of fifteen markets (1450-1913, Map 2), we obtain a balanced sample of 31 markets that covers the period 1508 to 1785 (Map 3). A further set of seven *overlapping* period-specific balanced samples, each of which covers a period of eighty years, is designed to maximize the number of markets represented.[7] In order to ensure as even as possible geographical coverage in the

[7] See Appendix Table A.1 for a list of markets. Note that only markets with at least 95 per cent of observations available for the relevant time period have been selected for the sample. We interpolate the missing data (up to a maximum of 5 per cent) with a TRAMO routine (cf. Gómez and Maravall 1996). The choice of 80-year samples is

seven samples, we first superimposed a grid of 100km*100km cells onto the European map. In the next step, we checked whether any cell contained more than one market; wherever that was the case, we retained that market whose distance to markets in neighbouring grid cells is largest.

The procedure serves to minimize over- or under-representation of regions. Its advantage is that it does not impose *a priori* segmentation into periods assumed to be historically significant. It also avoids geographical clustering of markets along political borders whose choice is always arbitrary when long-run developments are at issue. Note that especially from the sixteenth century onwards, the samples show a strong overlap in terms of the markets represented (Table 1). This facilitates the interpretation of the results of our analyses from a long-term perspective.

Table 1: Balanced samples: number of overlapping markets

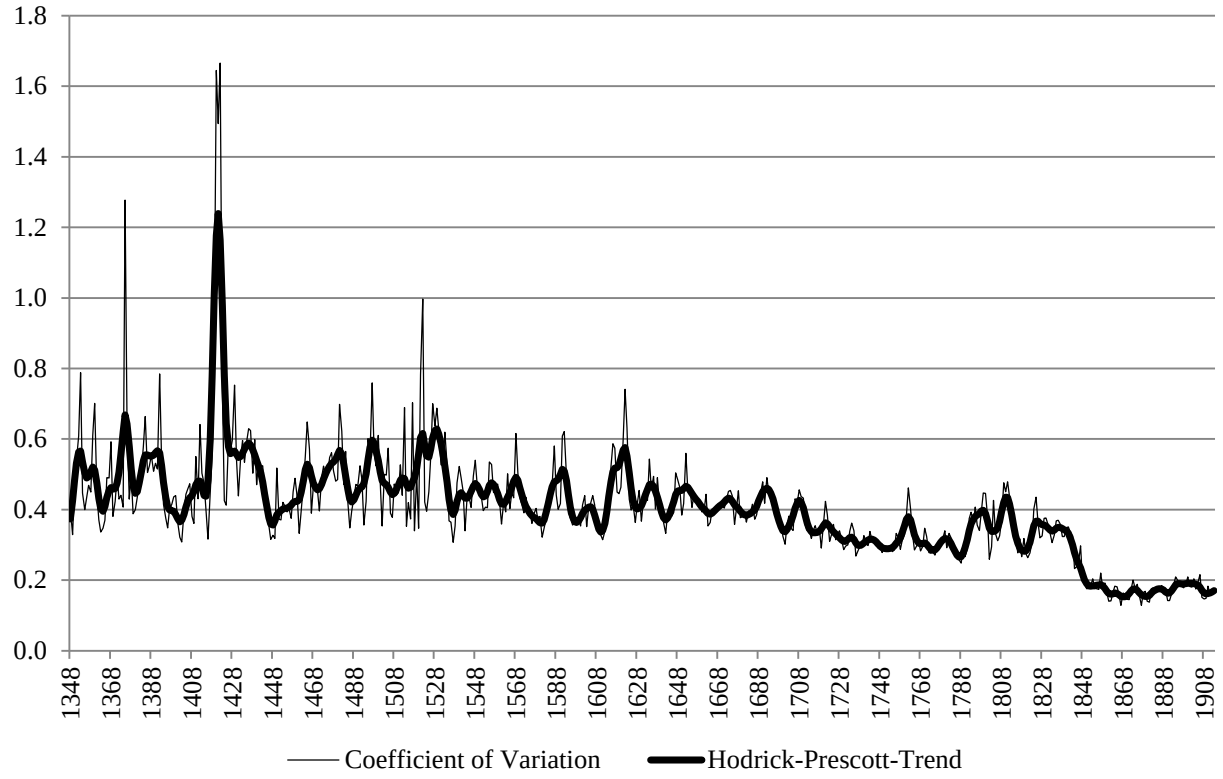
	Long-run	Period-specific							
	1450-1913	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913	1508-1785
sample size	15	13	30	53	89	115	84	102	31
1430-1509	9		8	8	9	10	10	7	
1508-1587	10			23	22	23	16	11	22
1581-1660	12				45	44	28	18	28
1644-1723	13					75	45	31	29
1706-1785	14						57	35	29
1772-1851	13							43	21
1834-1913	15								14

5. Price Convergence

As a first cut, Figure 2 below documents the coefficient of variation for the full *unbalanced* sample of markets, including a Hodrick-Prescott-trend to smooth short-run variations. The data suggest a trend fall in price dispersion from the first half of the sixteenth through to the mid-nineteenth century, interrupted by two temporary reversals in the early seventeenth century and during the French Revolutionary and Napoleonic Wars. From about 1850, price differentials remained more or less stable.

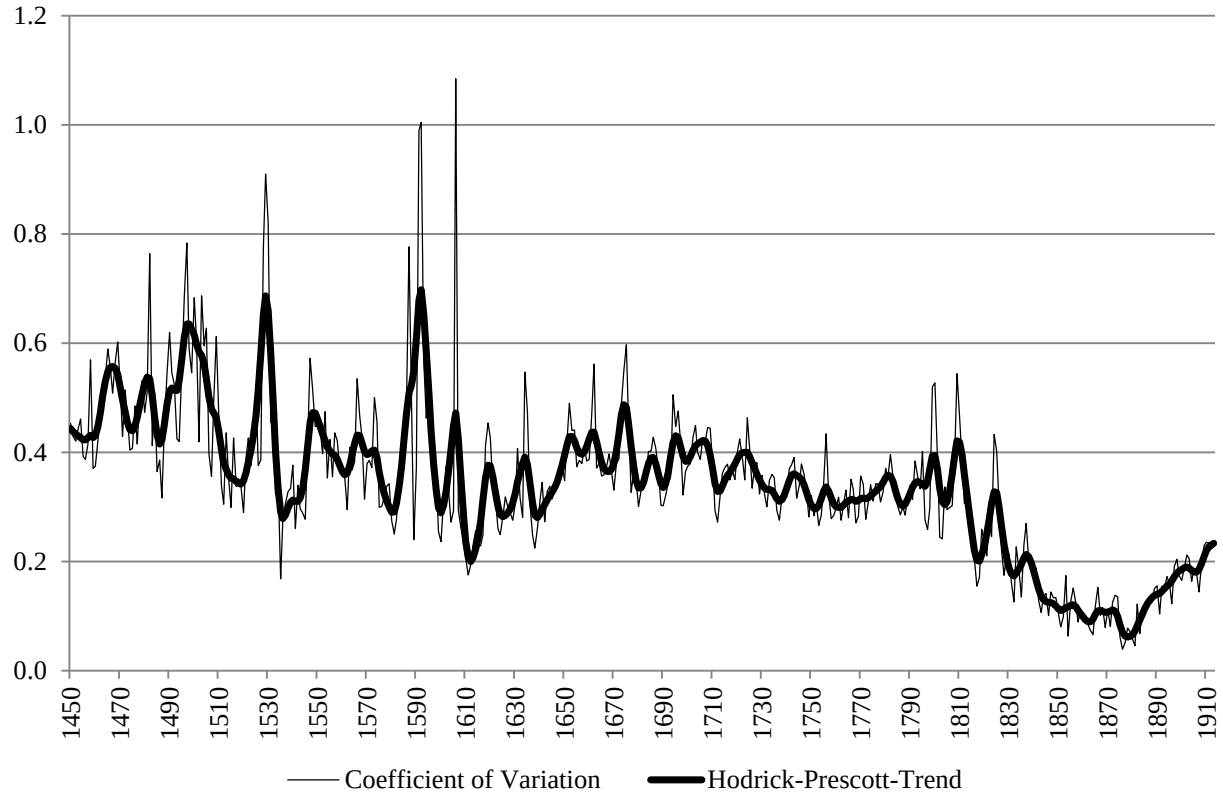
a pragmatic compromise, reflecting the desire to maximize the number of markets with unbroken price series and the need to work with periods of a length sufficient to derive historically meaningful results.

Figure 2: Long-run Price Convergence – Coefficient of Variation, Unbalanced Sample



Contrast this fairly gradual process with the evidence from the post-1450 *balanced* sample, which always includes the same fifteen markets (Figure 3). Here, the overall picture of a long-run decline in price dispersion is broadly similar to that shown by the much larger unbalanced sample (Figure 2). However, there are striking differences in the details and timing: Despite some pronounced variation, price differentials declined from a peak at the end of the fifteenth to a trough at the beginning of the seventeenth century. For the remainder of the early modern period, convergence did not progress beyond what had been achieved earlier on. On the contrary: in the seventeenth century prices diverged to an extent that was not made good before the end of the Napoleonic Wars. The minimum of dispersion was reached in the 1870s, with the decades thereafter seeing a major rollback in price convergence.

Figure 3: Long-run Price Convergence – Coefficient of Variation, Balanced Sample



How valid is the impression gained from the development of the coefficient of variation across markets shown in Figure 3? We explore trend breaks more formally, using a Bai-Perron (2003) test. The results point to breaks in 1599, 1649, 1798, 1842 and 1875. Further, for each of the six periods so determined, we estimate linear trends with an error correction model (Razzaque et al. 2007):

$$(1)\ \Delta \text{Ln}(CV_t) = c + \beta\ \text{TIME} + \psi\ \ln(CV_{t-1}) + \varphi \ln \Delta\ \text{Ln}(CV_{t-1}) + u_t$$

where TIME tests for the existence of a deterministic trend: prices converge if β is negative and significant. The coefficient ψ on the error correction term, which is expected to range between -1 and 0, measures the speed of return to this trend: the higher ψ is, the faster is the return to trend. The lagged shock term [$\ln \Delta\ \text{Ln}(CV_{t-1})$] is added to account for possible serial correlation. In this case, trend rates rate of change can be computed as $t = -(\beta/\psi)$.

Table 2: Trends in the coefficient of variation, long-run balanced sample (Bai-Perron periods)

	Annual change (*100)	X2 test	Number years	Percentage change	CV, initial Year (fitted)	Absolute change of CV
1452-1913	-0.26***	44.16	462	-70.2	0.56	-0.40
1452-1598	-0.17*	3.35	147	-22.1	0.49	-0.11
1599-1648	0.30	0.62	50	15.7	0.28	0.04
1649-1798	-0.20***	29.30	150	-26.1	0.41	-0.11
1799-1841	-1.87***	17.76	43	-54.4	0.39	-0.21
1842-1874	-0.54	1.37	33	-16.0	0.12	-0.02
1875-1913	3.77***	82.28	39	318.4	0.07	0.21

*significant at 10%; ** significant at 5%; *** significant at 1%

The table offers three important insights: First, arguably the most striking result is the early onset of price convergence in the fifteenth and sixteenth centuries. More than a quarter of the total decline in the coefficient of variation between 1450 and 1913 had been achieved already by the end of the sixteenth century. Thus, what Chilosi et al. (2013: 50) call 'early roots' of integration, referring to the late seventeenth and early eighteenth centuries, was no more than an intermediate stage in a process that had begun at least 150 years before the start date of their analysis. To illustrate the point: already by around 1600 price dispersion had reached a level lower than in the early nineteenth century (column 5, Table 2). Second, the (statistically insignificant) trend divergence of prices during the first half of the seventeenth century had no lasting impact as convergence resumed after the end of the Thirty Years War. Third, the table confirms that the first half of the nineteenth century was an age of rapid price convergence. In this context, two points merit attention. For one thing, the trend break that marks the end of significant price convergence (1842) coincides with the beginning of the railway age and the onset of the period of free trade in Europe. This would suggest that for the integration of markets, political conditions such as peace dominated technological and institutional change. Furthermore, the results shown in Table 2 contradict the interpretation of nineteenth-century developments advanced by prior research. Specifically, Bateman (2012: ch. 2) claimed that price gaps - in particular those between England and Europe - remained large until the mid-nineteenth century. In fact, the opposite was the case: The half century to 1841 saw by far the fastest progress in price convergence over the half millennium to 1913. What followed thereafter was, first, stagnation and, second, from the mid-1870s, a phase of rapid divergence that took dispersion back to levels prevalent at the end of the sixteenth century. This coincided with the rise of protectionism in much of Europe.

A glance at Figures 2 and 3 suggests that the story told by the evidence from the complete, unbalanced sample differs from what the long-run balanced sample shows. This may be due to either the changing composition of the unbalanced sample, or its broader geographical coverage, or both (Maps 1 and 2). How representative, then, is the smaller long-run balanced sample? To address this issue, we first contrast it with the evidence extracted from the set of *period-specific* balanced samples, almost all of which cover a much larger part of Europe (see Table 1). Second, we define subsets of the period-specific samples: These contain markets situated within a geographical perimeter drawn around the markets in the long-run balanced sample in a way that minimises its total length (Map 2). Using these sub-sets allows determining the extent to which the long-run balanced sample is representative of the part of Europe it covers, i.e. markets between Southern England and Northern Italy. There are two alternative periodizations. The first is based on seven 80-year period-specific samples. The second uses Bai-Perron break dates in the long-run balanced sample which is compared to a composite (spliced) series of the period-specific balanced samples. While there is some change in the make-up of the composite series, there is a large degree of overlap in the composition of the period-specific samples incorporated (Table 1).

Table 3 reports the results. Comparison is facilitated by a Wald test of the null hypothesis of equal coefficients. 'A' in Table 3 indicates acceptance of the hypothesis, implying that the rate of change of the coefficient of variation of the 80-year period-specific sample equals that of the long-run sample, and 'R' that it is rejected.

Table 3: Trends in the coefficient of variation - Comparison of the long-run and period-specific balanced samples

	Long run balanced	Period specific		Period specific (markets within perimeter only)	
	Rate of change	Rate of change	Equal rates	Rate of change	Equal rates
	(1)	(2)	(3)	(4)	(5)
Overlapping 80-year periodization: all samples balanced					
1450-1509	-0.66	0.18#	R***	0.25	R***
1508-1587	-0.04	-0.25**	R*	-0.11	A
1581-1660	-0.11	0.05	A	0.15	A
1644-1723	-0.06	-0.36**	R***	-0.14	A
1706-1785	-0.23**	-0.13	A	-0.26**	A
1772-1851	-1.42***	-0.53**	R***	-1.13***	A
1834-1913	0.74	0.14	R*	0.48	A
Bai-Perron breaks:	balanced	composite		composite	
1452-1598	-0.17*	-0.05	R**	-0.15**	A
1599-1648	0.30	0.10	A	0.65	A
1649-1798	-0.20***	-0.19**	A	-0.12***	A
1799-1841	-1.87***	-0.56	R**	-1.70***	A
1842-1874	-0.54	-1.42***	R*	-1.56***	R*
1875-1913	3.77***	1.18***	R***	2.19***	R**
1452-1913	-0.26***	-0.17***	R***	-0.24***	A

1430-1509; *significant at 10%; ** significant at 5%; *** significant at 1%

The upper panel shows that, apart from the period 1450-1509, the long-run balanced sample of 15 markets is representative not only of the direction but also the rates of change in price dispersion pertaining to the much larger number of markets located within its geographical perimeter. This is confirmed by the evidence presented in the lower panel (column 5): drawing on Bai-Perron periodization, dispersion between markets in the long-run balanced sample matched with the evidence from the period-specific samples within the perimeter; the only exception being the late nineteenth and early twentieth centuries where the rates of change significantly differ but, crucially, not their direction – both samples show statistically significant divergence after 1874. Over the whole period 1452-1913, the composite series of period-specific samples within the perimeter replicates the behaviour of the balanced long-run sample.

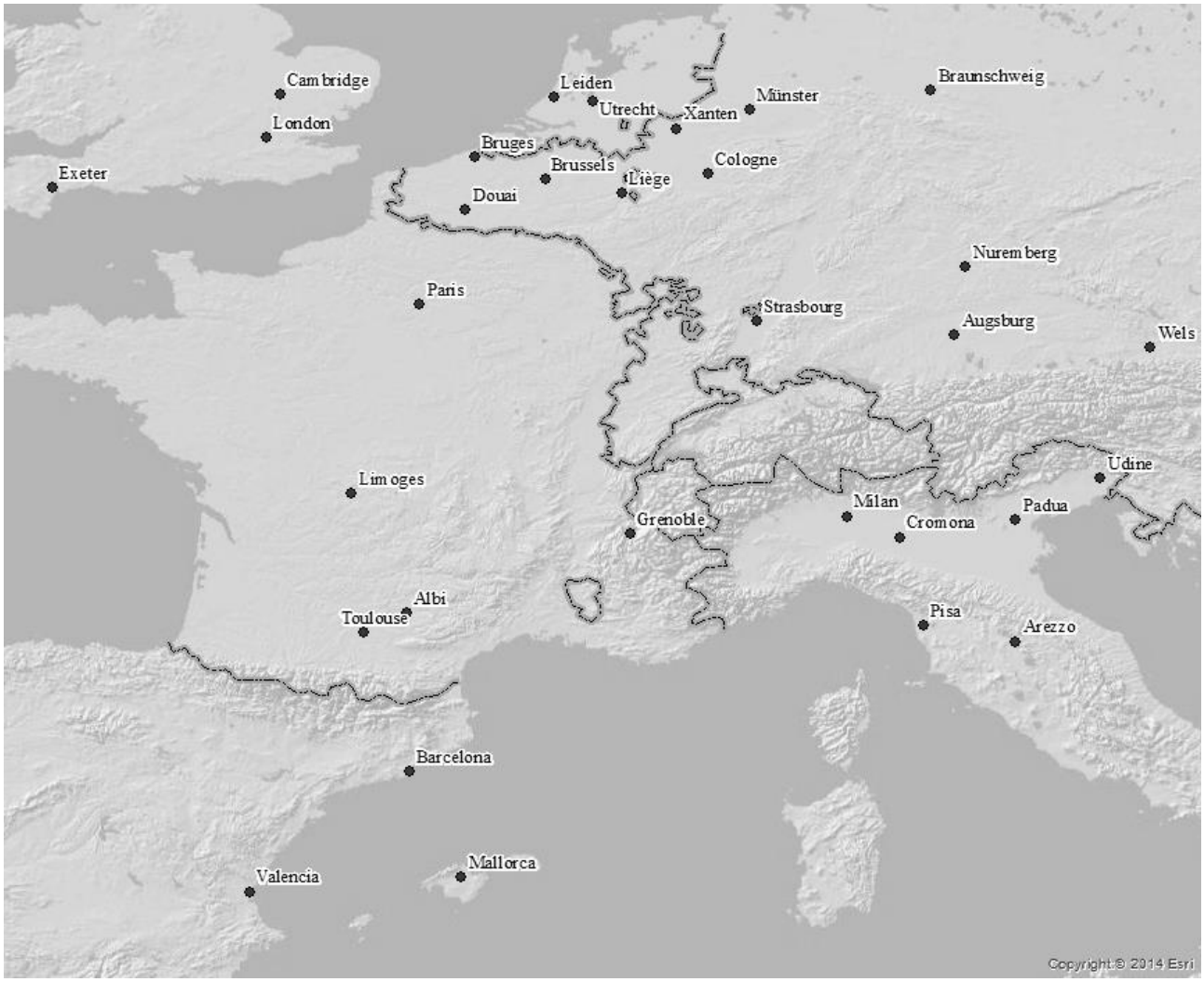
Extending the boundaries beyond the perimeter of the balanced long-run sample to *all* markets in the *full* period-specific samples leads to different results. The geographically broader full period-specific samples (column 2) display rates of change that are markedly different from those in both the balanced long-run sample (column 1) and the set including all markets within its perimeter (column 4). In other words, these robustness checks suggest that the long-run balanced sample represents the patterns of price divergence and convergence in the region between Southern

England and Northern Italy more accurately than those in the rest of the Continent. This necessitates a closer look at regional dimensions.

We address these issues by defining regional groups of markets broadly along polity boundaries as of 1649. Polity or state borders, rather than, for example, endogenously identified regional clusters are chosen to allow engagement with a historiography that argues for the comparatively early institutional advances in England and the Dutch Republic as causal factors in their emerging economic lead (Allen 2001; Broadberry et al. 2015; de Pleijt and van Zanden 2016). However, political borders changed significantly over the period, and using present-day boundaries as a means to impose intertemporal consistency makes little historical sense. This is especially an issue if one is working with data from as many markets as here. Though an *ad hoc* measure, we opted for 1649 borders because the mid-seventeenth century marks the centre of the period studied. It also corresponds well with the timing of the *Little Divergence* and the end of the Thirty-Years War. This yields six 'regions' covered in both the long-run *unbalanced* sample and a *balanced* sample of 31 markets for 1508 to 1785:[8] Britain (England/Scotland, which for most of our period were politically integrated to a smaller or larger extent), France, the Holy Roman Empire north of the Alps (i.e. those of its territories subject to the Imperial constitution, cf. Schmidt 2011: 46), Italy, which is a geographical rather than a political unit, the Dutch Republic and the Iberian Peninsula (Map 3).

8 In order to facilitate comparisons, the following discussion focuses on these six regions, though the more comprehensive unbalanced sample includes also markets from Eastern and Southeastern Europe, Scandinavia and Switzerland.

Map 3: 1508-1785 balanced sample: 31 markets



The size of regions differed and so did, *ceteris paribus*, average distance-related trade costs between markets in each area. Here, different levels of integration and their change over time are measured by comparing *actual* gaps between all pairs of markets in each region with year-specific, distance-adjusted price gaps:

First, we estimate the elasticity of price gaps with respect to distance, as a proxy for trade costs, by running the regression for all pairs of markets *i* and *j* in year *t*

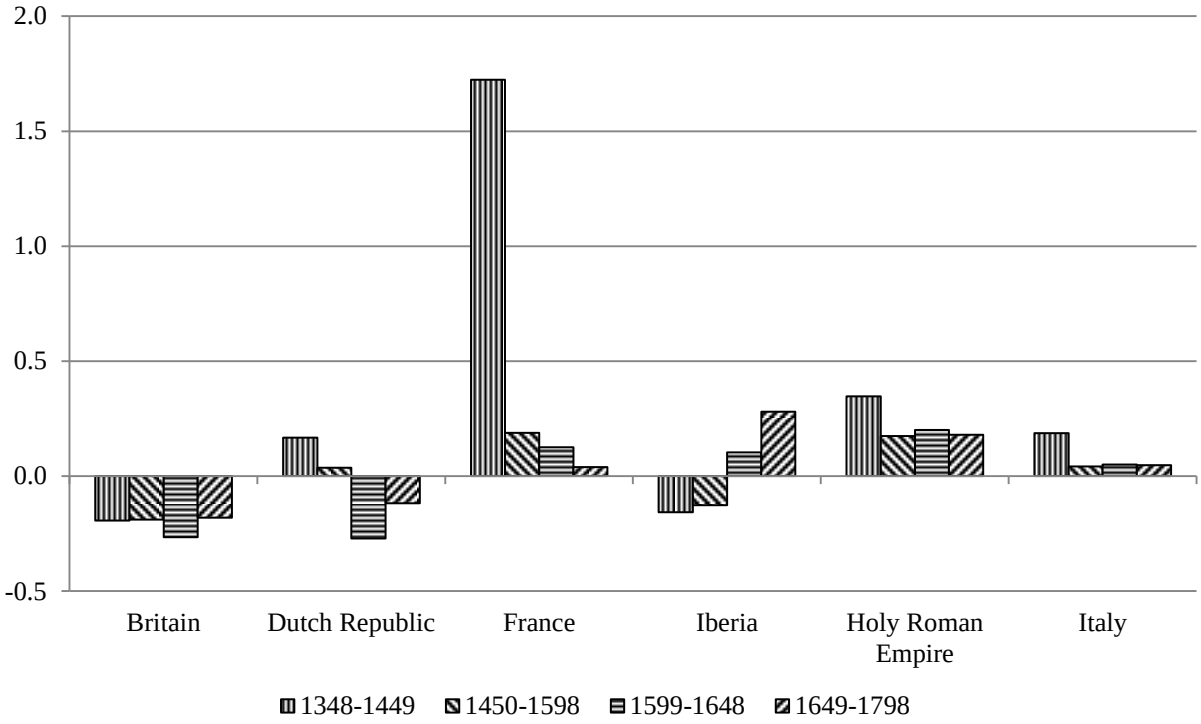
(2) $\text{abs}(\ln(P_{it}/P_{jt}))=\varphi \ln(\text{dist}_{ijt})$

Second, we smooth the yearly series of φ with an Epanechnikov kernel and then we compute the expected price gap for each pair of markets, given their distance.

Finally, we average the differences between actual and expected price gaps for the markets of each area in year *t* and divide the result by the (smoothed) average of all bilateral price gaps across all

European markets in the given year (minus one). A ratio below zero implies that markets within a given region are better integrated than the European average. Figures 5a and 5b report the average distance-adjusted price gaps by region.[9]

Figure 5a: Average distance-adjusted price gaps by region (unbalanced sample), 1348-1798



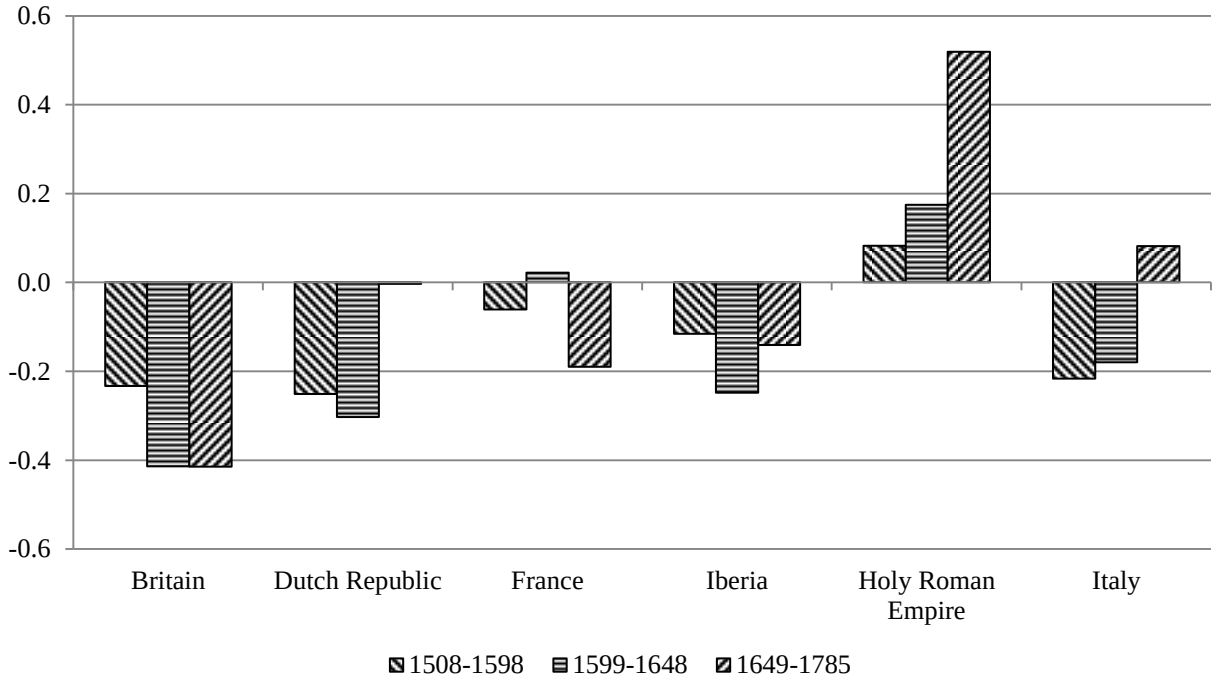
A first look at the data indicates strong regional deviations from the average European price gap. Markets in France, the Holy Roman Empire and Italy appear distinctly less well integrated than the average, whilst price gaps in Britain were consistently smaller. The position of the Dutch Republic and Iberia changed over time. In this context, the evidence on the Northern Netherlands ties in well with the idea of a *Little Divergence* beginning in the seventeenth century. However, Britain enjoyed an integration advantage over the rest of Europe *throughout* the period.

Comparing distance-adjusted price gaps between the markets in the *balanced* 1508 to 1785 sample (Figure 5b) shows that in the sixteenth century, English and Dutch markets were well-integrated, but not exceptionally so: Price differentials between them were smaller than those between markets in France, Iberia and most clearly the Empire, but Italian markets were still roughly on a par. From the early seventeenth century onwards, however, Britain and the Netherlands became truly exceptional. The Empire and Italy, by contrast, deteriorated progressively in relative terms. Taken

[9] The periodization corresponds with the Bai-Perron break-points estimated for the long-run balanced sample.

together, these findings lend some considerable support to the claim that the *Little Divergence* began in the seventeenth century. The results for Iberia need to be taken with a pinch of salt: all three markets are on the coast which made for comparatively easy communication between them.

Figure 5b: Average distance-adjusted price gaps by region (balanced sample), 1508-1785



While providing a comprehensive explanation of these findings is beyond the scope of this paper, offering a tentative hypothesis for future research is in order. Thus, the lack of internal custom borders and the relative rarity of destructive warfare on the British Isles are likely to have contributed to the exceptionally rapid and far-reaching advance of price convergence between markets in England. The Dutch Republic cannot but have benefited from easy access to internal water transport. The Empire, by contrast, was ravaged in the Thirty Years War which, though being a Europe-wide conflict, was mainly fought on its territory. In addition, the war acted as an 'institutional hothouse' (Ogilvie 1992/97): Governments attempted to cover the costs of warfare by selling regional monopoly rights that stayed in place long after the return of peace, tore apart existing trade links and prevented the creation of new ones.

6. Long-run Changes in Market Efficiency

Price convergence is only one of the dimensions of market integration that we consider. The other is efficiency as shown by the speed with which markets adjust to shocks. We use both correlation

and dynamic factor analyses to look at efficiency, exploring the evidence from the long-run balanced sample and a continuous chain-linked series of the period-specific balanced samples.[10]

For the correlation analysis, we begin by filtering the individual price series (Hodrick-Prescott) and taking the ('European') average of the residuals. Next, we compute overlapping 51-year (for the long-run sample) and 25-year (chain-linked series) 'rolling' correlation coefficients between this European *average* and the residuals of the individual price series.[11] Finally, the resulting correlation coefficients are aggregated into an average measure of co-movement between individual market prices and the 'European' market price. Ranging between 0 (no co-movement at all) and 1 (perfect co-movement), this measure can be interpreted as a broad indicator of market efficiency.

In parallel, and as a robustness check, we use Dynamic Factor Analysis (DFA) as an additional way to trace co-movement in the price data. DFA allows extracting *endogenously* the common shocks affecting any number of price series and measures the degree of co-movement between this *common* component and *local* market-specific shocks. In effect, the technique permits deriving a *European* 'price' in relation to which we can assess the efficiency of the adjustment of local markets.

We start the DFA by decomposing the residual from (Hodrick-Prescott) filtered series of prices HP_{it}:

$$(1)\quad HP_{it}=\lambda_i c_t+u_{it}$$

where c_t is the shock ('European component') common to all price series at time t, λ_i ('loading') is a time-invariant feature of the i-th market and u_{it} are the time-varying and market-specific residuals. The expression $\lambda_i c_t$ measures the contribution of common shocks to market-specific shocks in year t. Thus, the degree of co-movement between each market and the common 'European' component (or factor) over the whole period of estimation can be measured by the share in total variance

$$(2)\quad \tau_i =\lambda_i^2 * var(c_t)/var(HP_{it}).$$

---

[10] The period-specific samples have been normalized on the long-run balanced sample on the basis of the first year in which they overlap.

[11] The length of the period of each roll is determined by the need for a minimum number of total observations for a meaningful estimate. Given that the long-run sample includes only 15 markets (and the first period-specific sample only 13), as compared to between 30 and 117 markets included in the other period-specific samples, a longer run of 51 years gives a more appropriate number of observations.

A sample-wide ('European') measure of efficiency T_i can be obtained as an average of market-specific ratios τ_i. We set the few cases of negative loading ($\lambda i<0$) to zero. They correspond to a negative correlation with the common factor but they yield a positive τ, and thus including them would overstate the degree of co-movement.[12]

To ensure comparability between the correlation-based and the DFA-based measures of co-movement, we settle for 51-year rolls for the balanced long-run and the first period-specific sample (15 and 13 markets, respectively), and 25-year rolls for the other period-specific samples (between 30 and 117 markets). In the case of DFA, each roll yields estimates of the common factors (c_t) and of market loadings (λ_i) – and thus of τ_i and T_i. These parameters refer to all years of the roll. For instance, the earliest roll of the long-run sample is computed with the years 1450-1501, and it measures the efficiency in 1476, its 26th years. Interestingly, the correlation- and DFA-based approaches lead to practically identical results. Based on the long-run sample (Figure 6a), both series suggest that market efficiency grew over the long term, with a pronounced and sustained increase from the late 18th century. They also agree that efficiency fell in the first half of the 18th century. However, the two series differ slightly in the timing of changes in the earlier period. While the DFA-based measure of efficiency is basically flat up until 1650, the correlation-based measure suggests a decline in the second half of the sixteenth and up to the early seventeenth century.

[12] In principle, one could estimate a DFA model with several common components – e.g. by adding national or regional component to the overall, i.e. 'European' component. However, given changes in political geography, grouping markets according to political boundaries would be historically problematic. More importantly, this would distract from the focus on market integration across Europe. Hence, we consider only one common component (the 'European' price) and run the DFA model over rolling windows.

Figure 6a: 'Efficiency' Measures, Balanced Long-Run Sample

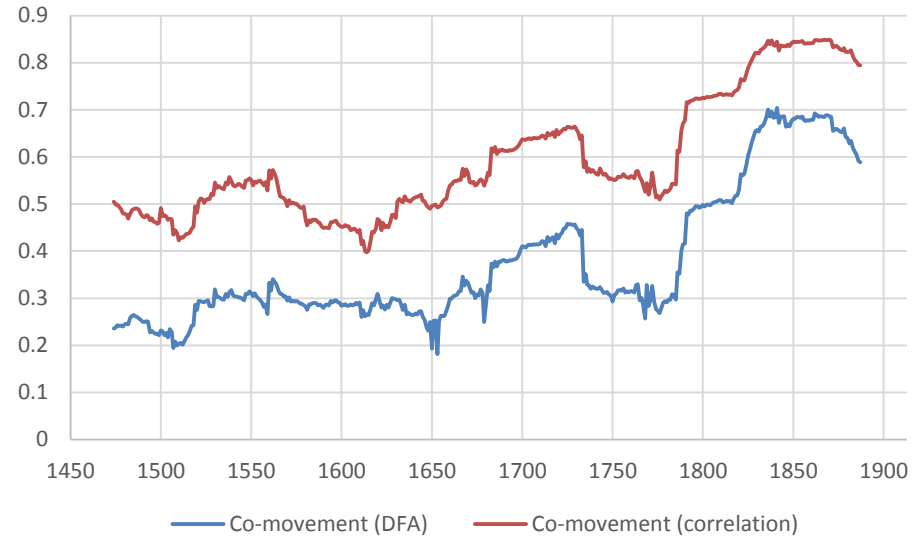
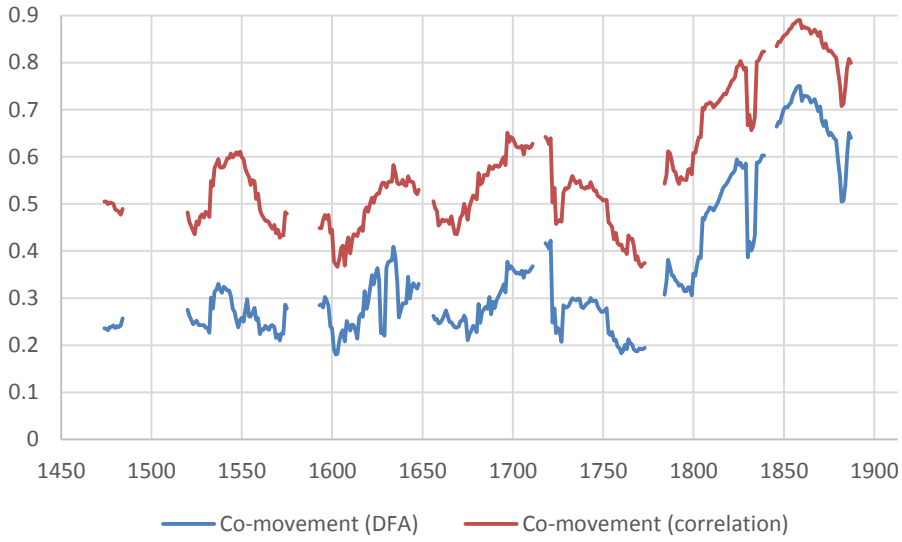


Figure 6b: 'Efficiency' Measures, Chained Period-Specific Samples



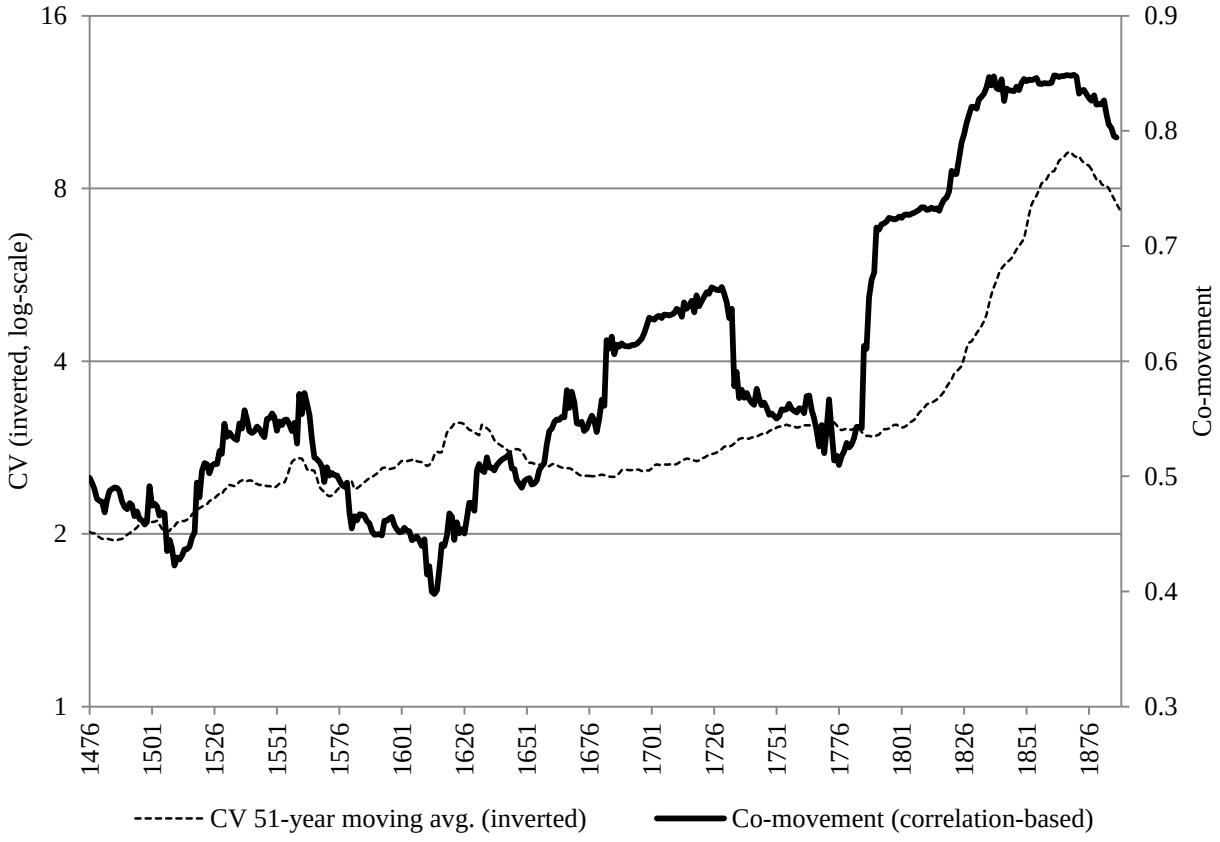
The results in Figure 6 (a) are in the main supported by a co-movement analysis that builds on the series composed of chained period-specific balanced samples and thus a far larger number of markets than our long-run sample (Figure 6 (b)). While in the latter case co-movement appears to have been subject to more pronounced fluctuations in the short to medium-term, there is broad agreement on the long-term pattern, in particular the decline in co-movement between the 1720s

and 1770s and the following increase.[13] Contrasting this evidence on co-movement with that on price convergence (Figure 2, Table 3) shows that these two dimensions of market integration followed different paths over time. This issue is explored further in the next section.

7. The Integration of the European Market

Figure 7 compares the main findings on price convergence (Section Five) and on market efficiency (Section Six). The graph reproduces the correlation-based measure for the long-run sample from Figure 6 (a); for ease of comparison, the series of the coefficient of variation has been inverted and smoothed and is expressed on a log-scale.[14]

Figure 7: Price-convergence and Co-movement – Balanced Long Run Sample



[13] Of course, the use of annual price data and thus the implicit assumption that adjustment across markets to common shocks would occur within a year may be problematic. Cf. Chilosi et al (2013: 48), Uebele (2011), Bateman (2011).

[14] Specifically, after inverting the yearly coefficient of variation, we computed the 51year moving average of this measure, and constructed the smoothed trend by averaging all the averages that include a given year.

In the long run, market integration improved: prices converged and the market became more efficient in the sense of increases in co-movement. However, over much of the time the temporal pattern of changes in both dimensions of integration differed.

Against the background of a long-term trend in efficiency growth that began shortly after 1500 – a trend that was reversed temporarily in the second half of the sixteenth and the mid-eighteenth centuries – we detect three periods where price convergence and co-movement moved broadly in tandem: the first half of the sixteenth century, the decades between c. 1680 and 1730, and the time from about 1780 onwards. On the whole, however, the periods when both dimensions of integration developed in different directions were longer: the third quarter of the fifteenth century, the time between about 1560 and the beginning of the Thirty-Years-War, the decades of the war and its aftermath themselves, when efficiency improved while prices diverged, and the second quarter of the eighteenth century, when the opposite happened.

Concerning co-movement, our findings differ markedly from Chilosi et al.'s (2013). Examining a shorter time period, they could not identify the long-term trend that becomes apparent when the fifteenth and sixteenth centuries are included in the analysis. Further, they see the increase in co-movement from about the 1770s in the context of French physiocratic policies that 'lifted restrictions on the export of grains from localities', while at the same time pointing to 'stationary trading costs in the second half of the 18th century' and lauding the 'achievements of mercantilist policies of state formation' (Chilosi et al. 2013: 52). There are two problems with these claims, one of which is factual, the other conceptual. First, Turgot's French physiocratic experiment of domestic grain market liberalization lasted less than two years (from September 1774 to May 1776; Jones 2003: 296, 300; Persson 1999: 5-6, 142-143). It would seem unlikely to have had a strong effect on Europe over the period 1770 to 1850. Second, there is no *a priori* reason why a rise in co-movement should be 'difficult to reconcile' with either falling or stationary trade costs, as the authors seem to suggest.

In fact, both price convergence and co-movement depend ultimately on trade costs. Trade costs 'include all costs incurred in getting a good to a final user other than the marginal cost of producing the good itself: transportation costs (both freight costs and time costs), policy barriers (tariffs and non-tariff barriers), information costs, contract enforcement costs, costs associated with the use of different currencies, legal and regulatory costs, and local distribution costs (wholesale and retail)' (Anderson and Wincoop 2004: 691 f.). Some changes in these costs affect both convergence and efficiency in the same way. A fall in transport costs causes the commodity points to narrow and will

thus *ceteris paribus* foster convergence and reduce the scope for uncorrelated price movements. A similar parallel effect can be induced by institutional change which makes arbitrage between spatially distinct markets less risky – e.g. by increasing physical or legal security. However, changes in other components of trade costs may affect price convergence and efficiency in different ways. Consider for example information, and here not only the *costs*, but also the *kind* of information acquired. If such costs decline and the information is about *existing* price differentials, the scope for arbitrage *over space* increases, resulting in both price convergence between markets and stronger co-movement. If, however, information costs decline and the information is about *expected* price changes, then the outcome is an increase in the scope for arbitrage *over time*: Merchants may, for example, react by stockpiling grain, expecting to sell it at a *later date* and for a higher price. Arbitrage over time will therefore affect co-movement but not necessarily price convergence. Importantly, if the speed of transmitting such information differs regionally – for example, access to relevant news improves everywhere but more quickly in some markets than in others – the result will be a decline in overall co-movement. Relaxing institutional restrictions on stockpiling aimed at exploiting expected price changes (forestalling, in early modern parlance) earlier in some places than in others should have similar consequences.

These factors likely account for many of the ups and downs in co-movement we observe before the 1770s. While the introduction of printing with movable types from the mid-fifteenth century made information more accessible, the importance of this innovation should not be overrated in the present context. After all, the new technology affected mainly the storage of information, rather than its transmission between markets (cf. Dudley 1999: 601). Information transmission improved primarily through two channels: the emergence of postal systems from about 1500, and that of newspapers from c. 1600 onwards. Older ways of transmitting information had relied on sending irregular messengers who were often couriers in the literal sense of the word and therefore slow (Volckart 2007). Postal systems, by contrast, were characterized by regular links between markets, increasing speed and reliability – three features that resulted from the creation of relay 'posts', where messengers could change horses, and from the opening of public messenger services to private consumers. The first such system was established between the Habsburg territories in the Netherlands, the Tyrol and Milan from 1490 onwards, with private individuals being permitted to use the Imperial mail from 1516. While the postal network spread over the Holy Roman Empire, Habsburg Italy and Spain with a speed that historians have called a 'communications revolution'

(Behringer 2005: 43 f.; Behringer 2006: 121), France and England copied the system only from respectively 1603 and 1636 onwards (Morteveille 2009; Lewins 1865: 38 f.).

The first modern newspaper – a weekly – appeared in Strasbourg in 1605 (Weber 1992, 2005). By stimulating interest in political news, the Thirty Years War helped rather than hindered the spread of the new medium, with the first daily paper appearing in its immediate aftermath in Leipzig. As Germany was politically decentralized, effective censorship was not feasible and almost any fact and opinion could be printed somewhere. The Empire was therefore a particularly propitious environment for the emergence of a wide reading public that enjoyed access to a variety of news from many places. By the end of the seventeenth century, about 200 different newspapers appeared in more than 70 of its towns and cities (Schröder 1995: 6 f.). In England, the licensing act that restricted publications lapsed in 1694, and from then onwards newspapers began to proliferate. The first daily appeared in in London in 1702, and in the provinces 22 papers were founded between 1714 and 1725 alone. By 1780, there were 50 (Williams 2009: 49). Absolutist France, by contrast, had just one paper – the Gazette de France – that was allowed to publish political news, though between 1745 and 1785 the number of available foreign political papers increased from 5 to 19 (Censer 2002: 8, 10).

The ban on forestalling had restricted the ability of merchants to react to shocks that affected large numbers of markets simultaneously. Here, too, changes appeared in different regions at different times. Srinivasan (2004: 96, 271) has shown that while in South Germany traditional norms were still enforced in the fifteenth century, non-compliance spread and by the beginning of the seventeenth century the ancient ban on forestalling was a dead letter. In many English counties, by contrast, magistrates were still strictly enforcing such rules during the period of poor harvests in the mid-seventeenth century (Hindle 2008: 74-76).

In sum, both the access of merchants to information and their freedom to respond to this information developed unevenly across space and time. Agents located in regions with no effective censorship, a variety of news channels, and institutions that imposed only weak restrictions on arbitrage over time were able to react quickly while others were still lagging behind. It thus seems plausible that the decline in market efficiency in the middle decades of the eighteenth century was to some extent the result of the simultaneous spread of newspapers in the Holy Roman Empire and Great Britain and increasingly strict censorship in France during and after the Seven-Years-War (the number of royal censors grew from 79 in 1741 to nearly 200 in 1789, Jones 2003: 116). However, price convergence and the underlying arbitrage over space were affected by different

factors that could, though, be triggered by the same historical events or processes. Wars, for example, stimulated the interest in news which might *inter alia* concern the expected supply of grain, creating opportunities for arbitrage over time; but they also disrupted trade networks and so had an immediately negative effect on arbitrage between localities. It is therefore no surprise that we observe trends in the development of price convergence and co-movement that over long periods of time did not overlap.

8. Conclusions

This paper examines two dimensions of integration of the European market for wheat, the convergence in prices and the increase in efficiency, over the period from the Black Death to First World War. Geographically, this study covers most of Europe from the Atlantic to the Ural and from the White Sea to the Mediterranean.

Our results are based on data far more comprehensive across time and space than those used in earlier analyses. They suggest a distinctly different picture of the long-run process of price convergence from that drawn in the recent historiography. Convergence started in the late fifteenth century, advanced rapidly until the beginning of the seventeenth century when it temporarily stalled, resumed after the Thirty Years War and accelerated after the Napoleonic Wars. From the late 1840s convergence petered out and turned into divergence after 1875. Thus, most of the convergence in European grain prices took place well *before* the expansion of the Continental railway network and *before* trade liberalization following the Cobden-Chevalier agreements. Market integration in Europe was in the main a pre-industrial phenomenon.

The results of our regional analysis of price gaps lend support to the notion of the *Little Divergence* between a rapidly advancing North-West and the rest of the Continent beginning in the seventeenth century. However, a qualifier is required here: England enjoyed a significant integration advantage over the other European economies from as early as the fourteenth century. In the sixteenth century, both English and Dutch markets were better integrated than their counterparts but not by a large margin. It was from the early seventeenth century onwards that these two economies became exceptionally well-integrated as especially the Holy Roman Empire at the other end of the spectrum, but also Italy, deteriorated progressively in relative terms.

Long-term improvements in market efficiency as signalled by co-movement, began in the early sixteenth century, i.e. a few decades later than the onset of long-run price convergence. There were some temporary setbacks, notably in the second half of the sixteenth and in the mid-eighteenth

century. The patterns of price convergence and co-movement overlap only weakly and in a few periods. This is likely the consequence of uneven institutional change and the non-synchronous spread of modern media and systems of information transmission that affected differentially the ability of merchants to react to news. Advances were more rapid in some markets than in others would allow merchants in favoured localities to react quickly, while others lagged behind. As a result, *overall* co-movement declined in such phases of development. It was only the comprehensive adoption of new media and information transmission systems as well as the eventual continent-wide erosion of traditional institutions restricting arbitrage over time in the late eighteenth century that initiated a period when price convergence and co-movement advanced in tandem.

These results have some implications for our interpretation of pre-industrial economic history and thus for future research. First, the early modern period of European history emerges as *the great age of commercial intensification* at the Continent-wide level. The impact of industrialisation, railway construction and trade liberalisation in the nineteenth century was sizeable, but cannot possibly explain the extent and temporal pattern of price convergence since 1450 observed here. Second, a fuller account of the regional dimensions of European market integration and the Little Divergence will have to address explicitly the causes of England's exceptionalism in the late Middle Ages. Finally, price convergence and improvements in market efficiency were frequently out of phase. We hypothesize that this had to do with differences in the timing and extent of changes in the costs of information relevant for arbitrage over space and the costs of information relevant for arbitrage over time. Testing this proposition empirically requires operationalising transaction costs in a way that has rarely been attempted before (cf. Volckart 2007).

References

Achilles, W. (1959). Getreidepreise und Getreidehandelsbeziehungen europäischer Räume im 16. und 17. Jahrhundert. *Zeitschrift für Agrargeschichte und Agrarsoziologie* 7, 32-55.

Allen, R. C. (2001). The Great Divergence in European Wages and Prices from the Middle Ages to the First World War. *Explorations in Economic History* 38, 411-447.

Allen, R. C. and Unger, R. (1990). The Depth and Breath of the Market for Polish Grain 1500-1800. In *Baltic Affairs Relations between the Netherlands and North-Eastern Europe 1500-1800*, (Eds. Lemmink, J. P. S. and van Koningsbrugge, J. S. A. M.). Nijmegen: Institute of Northern and Eastern European Studies, 1-18.

Anderson, J. E. and van Wincoop, E. (2004). Trade Costs. *Journal of Economic Literature* 42, 691-751.

Anonymous (1765). Ein hundert und fünf und dreyßigjähriger Auszug des mittleren Getraide-Preisses der Churstadt Wittenberg, nach dem Stadtmaaße gerechnet. *Gnädigst privilegirtes Leipziger Intelligenz-Blatt*, 301-304.

Bai, J. and Perron, P. (2003). Computation and analysis of multiple structural change models. *Journal of Applied Econometrics* 18, 1-22.

Bateman, V. N. (2011). The Evolution of Markets in Early Modern Europe, 1350–1800: A Study of Wheat Prices. *Economic History Review*, 1-25.

Bateman, V.N. (2012) *Markets and growth in early modern Europe* London: Pickering and Chatto.

Behringer, W. (2005). "Von der Gutenberg-Galaxis zur Taxis-Galaxis". Die Kommunikationsrevolution: Ein Konzept zum besseren Verständnis der Frühen Neuzeit. *Historische Zeitschrift. Beihefte* 41, 39-54.

Behringer, W. (2006). Kaiser, Reichstag und Postwesen (1490-1615). In *Der Reichstag 1486 - 1613: Kommunikation, Wahrnehmung, Öffentlichkeit* (Eds. Lanzinner, M. and Strohmeyer, A.). Göttingen: Vandenhoeck & Ruprecht, 117-148.

Broadberry, S., Campbell, B. M. S., Klein, A., Overton, M. and Van Leeuwen, B. (2015). *British Economic Growth 1270-1870.* Cambridge: Cambridge University Press.

Brüggemann, L. W. (1800). Beiträge zu der ausfürlichen Beschreibung des Königl. Preußischen Herzogthums Vor- und Hinter-Pommern vol. 1. Stettin: Johann Samuel Leich.

Brunt L. and Cannon E. (2014) 'Measuring integration in the English wheat market, 1770-1820: new methods, new answers' *Explorations in economic history* 52 (2014) pp.111-130

Censer, J. (2002). *The French Press in the Age of Enlightenment.* London: Routledge.

Chevet J. M. (1996). National and regional corn markets in France from the sixteenth to the nineteenth century. *Journal of European Economic History* 25, 681-703

Chevet J. M. and P. Saint Amour (1991). L'integration des marchés du ble en France au XIX^{e} siècle'. *Histoire et mesure* 6, 93-119

Chilosi, D., Murphy, T. E., Studer, R. and Tunçer, A. C. (2013). Europe's many integrations: Geography and grain markets, 1620–1913. *Explorations in Economic History* 50, 46-68.

Clark, G. (2007). *A Farewell to Alms: A Brief Economic History of the World*, Princeton, N.J: Princeton University Press.

de Pleijt, A. M. and van Zanden, J. L. (2016). Accounting for the "Little Divergence": What drove economic growth in pre-industrial Europe, 1300–1800? *European Review of Economic History* 20, 387-409.

Dudley, L. (1999). Communications and Economic Growth. *European Economic Review* 43, 595-619.

Epstein, S. (2000). Freedom and Growth: The Rise of States and Markets in Europe, 1300-1750, London, New York: Routledge.

Federico, G. (2011). When did the European market integrate? *European Review of Economic History*, 15, 93-126

Federico, G. (2012). How Much Do We Know About Market Integration in Europe? *The Economic History Review*, 1-28.

Federico, G. and Persson, K. G. (2007). Market Integration and Convergence in the World Wheat Market, 1800-2000. In *The New Comparative Economic History: Essays in Honor of Jeffrey G. Williamson*, (Eds. Hatton, J., O'Rourke, K. and Taylor, A. M.). Cambridge/MA, London: : The MIT Press, 87-113.

Fouquet, R. and Broadberry, S. (2015). Seven Centuries of European Economic Growth and Decline. *The Journal of Economic Perspectives* 29, 227-244.

Froot K. A., M. Kim and K- Rogoff (1995) The law of one price over 700 years' NBER WP n.5132

Gómez, V. and Maravall, A. (1996). Programs TRAMO (Time series Regression with Arima noise, Missing observations, and Outliers) and SEATS (Signal Extraction in Arima Time Series). Instructions for the User. Working Paper 9628, Servicio de Estudios. Banco de España.

Hindle, S. (2008). Dearth and the English Revolution: The Harvest Crisis of 1647–50. *Economic History Review* 71, 64-98.

Jacks, D. S. (2004). Market Integration in the North and Baltic Seas, 1500-1800. *Journal of European Economic History* 33, 285-329.

Jacks, D. S. (2005). Intra- and International Commodity Market Integration in the Atlantic Economy, 1800–1913. *Explorations in Economic History* 42, 381-413.

Jones, C. (2003). *The Great Nation: France from Louis XV to Napoleon.* London: Penguin.

Kelly, M. (1997). The Dynamics of Smithian Growth. *Quarterly Journal of Economics* 112, 939-964.

Kose, M.A., Otrok, C. and Whiteman, C.H., 2003. International business cycles: World, region, and country-specific factors. *American Economic Review*, *93*(4), 1216-1239.

Lewins, W. (1865). *Her Majesty's Mails: A History of the Post-office, and an Industrial Account of Its Present Condition.* London: Sampson Low.

Malanima, P. (2009). Pre-Modern European Economy: One Thousand Years (10th-19th Centuries), Leiden: Brill.

Morteveille, G. (2009). *Guillaume Fouquet de la Varenne, Ministre de Henri IV, Surintendant général des Postes.* Bonchamp: Imprim'services.

Ogilvie, S. (1992/97). Germany and the Seventeenth-Century Crisis. In *The General Crisis of the Seventeenth Century* (Eds. Parker, G. and Smith, L. M.). London, New York: Routledge, 57-86.

O'Grada C. and J.M. Chevet (2002) Famine and market in Ancien Régime France, *Journal of Economic History* 62, 706-733.

Özmucur, S. and Pamuk, Ş. (2007). Did European Commodity Prices Converge During 1500-1800? In *The New Comparative Economic History: Essays in Honor of Jeffrey G. Williamson*, (Eds. Hatton, T. J., O'Rourke, K. and Taylor, A. M.). Cambridge/MA, London: The MIT Press, 59-85.

Persson K. G. (1999) *Grain markets in Europe 1500-1900* Cambridge: Cambridge University Press

Persson, K. G. (2010). An Economic History of Europe: Knowledge, Institutions and Growth, 600 to the Present, Cambridge: Cambridge University Press.

Ravaillon, M. (1987). *Markets and Famines*, Oxford: Clarendon Press.

Razzaque, M. A., Osafa-Kwaako, P. and Grynberg, R. (2007). Long-run trend in the relative price: empirical estimation for individual commodities. In *Commodity Prices and Development* (Eds. Grynberg, R. and Newton, S.). Oxford: Oxford University Press, 35-67.

Roehner B.M. (1994). *Theory of markets*. Berlin: Springer.

Schmidt, G. (2011). The State and Nation of the Germans. In *The Holy Roman Empire: 1495-1806* (Eds. Evans, R. J. W., Schaich, M. and Wilson, P. H.). Oxford: Oxford University Press, 43-62.

Schröder, T. (1995). *Die ersten Zeitungen: Textgestaltung und Nachrichtenauswahl.* Tübingen: G. Narr.

Sreenivasan, G. (2004). *The Peasants of Ottobeuren, 1487-1726: A Rural Society in Early Modern Europe.* Cambridge: Cambridge University Press.

Stieda, W. (Ed. 1921). Hildebrand Veckinghusen: Briefwechsel eines deutschen Kaufmanns im 15. Jahrhundert, Leipzig: Hirzel.

Studer, R. (2015). *The great divergence reconsidered: Europe, India and the rise to global economic power.* Cambridge: Cambridge University Press.

Tilly, L. A. (1971). The food riot as a form of political conflict in France. *Journal of interdisciplinary history* 2, 23-57

Uebele, M. (2011). National and International Market Integration in the 19th Century: Evidence from Comovement. *Explorations in Economic History* 48, 226-242.

Unger, J. F. (1752). *Von der Ordnung der Fruchtpreise, und deren Einflusse in die wichtigsten Angelegenheiten des menschlichen Lebens*. Göttingen.

Van Bavel, B (2016). *The invisible hand?* Oxford: Oxford University Press.

Van Bochove C. (2007) 'Market integration and the North Sea system' in Hanno Brand and Leos Müller (eds.) *The dynamics of economic culture in the North Sea- and Baltic region in the late Middle Ages and Early modern period* Uitgeverij Verloern Hilversum pp.155-169

Volckart, O. (2007). The Influence of Information Costs on the Integration of Financial Markets: Northern Europe, 1350-1560. In *Information Flows: New Approaches in the Historical Study of Business Information*, (Eds. Mueller, L. and Ojala, J.). Helsinki: Finnish Literature Society, 31-62.

Weber, J. (1992). "Unterthenige Supplication Johann Caroli / Buchtruckers": Der Beginn gedruckter politischer Wochenzeitungen im Jahre 1605. *Archiv für Geschichte des Buchwesens* 38, 257-265.

Appendix A: Balanced sample composition

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Abbeville						x	x	x	
Aberdeen							x		
Acquaviva								x	
Aix-en-Provence					x		x		
Albi	x	x				x	x		
Alcala de Henares					x	x	x		
Altenburg						x	x		
Alvsborg									x
Amsterdam								x	
Ancona							x		
Angers					x	x		x	x
Angoulême									x
Annonay					x	x			
Antwerp							x		
Appenzell							x		
Arezzo		x		x	x	x	x		
Arles						x	x		
Arnhem					x	x	x	x	x
Augsburg	x	x			x	x	x	x	
Avignon						x	x	x	x
Barcelona				x	x	x	x	x	x
Bar-le-Duc									x
Bassano					x	x	x		
Bayeux							x	x	x
Belfast									x
Bergen									x
Bergues			x						
Berlin						x	x	x	x
Béziers					x	x	x		
Blois									x
Bordeaux								x	x
Boulogne-sur-Mer							x	x	
Bourges									x
Bremen							x	x	
Brescia								x	x
Briançon				x					
Bruges	x	x	x	x	x	x	x	x	x
Brunswick				x	x	x	x	x	
Brussels	x	x	x	x	x	x	x	x	x
Budapest									x
Buis-les-Baronnies							x	x	

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Burgos									x
Cambridge	x	x	x	x	x	x	x	x	x
Carcassonne									x
Carmarthen									x
Castelnaudary						x			
Chalons-sur-Marne									x
Chartres							x		
Chateaudun					x	x	x	x	
Chateau-Gontier							x		
Chateauroux									x
Chaumont-en-Caux						x			
Clermont									x
Cologne		x			x	x	x		x
Coruña							x		
Coutances							x		
Cremona		x		x	x	x	x		
Dieppe									x
Diest							x		
Digne									x
Dole							x	x	
Dordrecht						x			x
Douai	x	x	x	x	x	x	x	x	x
Dover									x
Draguignan						x	x	x	
Dresden						x	x	x	
Durham			x						
Edinburgh						x	x		
Eeklo							x		
Emden								x	
Erfurt						x			
Exeter	x	x	x			x		x	x
Florence			x				x	x	x
Frankfurt									x
Gdańsk (Danzig)							x	x	x
Geneva					x	x	x		
Genoa						x	x		x
Gerona						x	x	x	x
Gloucester									x
Göttingen						x	x	x	
Granada									x
Grenoble		x			x	x	x		
Groningen						x	x		
Haddington						x	x		

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Halberstadt						x			
Halle						x			
Hamburg									x
Hanover						x	x	x	
Herborn							x		
Herford								x	
Issoire								x	
Kalmar								x	x
Königsberg							x	x	x
Krakow								x	x
Kristiansand									x
Langres					x	x	x		
Lausanne							x	x	
Le Mans									x
Le Puy-en-Velay						x	x	x	x
Leeds									x
Leiden		x		x	x	x	x		
Leipzig					x	x	x	x	x
Leon									x
Liège	x	x		x	x	x	x	x	x
Limoges	x	x	x	x	x	x	x	x	
Lisbon					x	x	x	x	x
Liverpool									x
Ljubljana (Laibach)						x		x	x
Lleida							x	x	
London	x	x		x	x	x	x	x	x
Lucerne						x	x	x	
Lüneburg								x	
Luneville									x
Luxembourg							x		
Lviv (Lemberg)									x
Lyon				x		x	x		x
Maastricht					x				x
Mâcon									x
Mallorca		x		x	x	x	x		
Malmö									x
Manchester									x
Mannheim									x
Mansilla						x	x		
Mantua								x	x
Marans									x
Marmande									x
Marseille						x			

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Mende									x
Meulan							x		
Milan	x	x	x				x	x	x
Modena					x				
Mons				x					
Montauban							x		
Montpellier				x					
Münster		x			x	x	x	x	
Munich						x	x	x	x
Murcia									x
Nantes									x
Naples							x		
Newcastle						x	x	x	x
Nijmegen						x	x		
Norwich									x
Nuremberg	x	x	x	x	x	x	x	x	
Odessa									x
Orléans					x				
Osnabrück						x	x	x	
Oslo									x
Oviedo									x
Oxford					x	x	x		
Paderborn						x	x	x	
Padua		x		x	x	x	x	x	x
Palermo				x			x	x	
Pamiers								x	
Pamplona					x				
Paris	x	x	x	x	x	x	x	x	
Parma				x	x				
Pau									x
Pesaro							x		
Pisa	x	x			x	x	x	x	x
Poitiers					x	x	x	x	
Pont-l'Abbé									x
Pont-Saint-Esprit								x	
Prague							x	x	x
Rattenberg								x	
Reggio Emilia						x			
Reims							x		
Rioseco								x	
Roermond								x	x
Romans				x					
Rome					x	x	x	x	

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Rostock								x	
Rouen							x	x	x
Rozay-en-Brie						x			
Saint-Affrique						x	x	x	
Saint-Brieuc					x	x	x	x	x
Saint-Etienne							x		
Saint-Lo									x
Sandoval de la Reina					x	x	x		
Santander									x
Schaffhausen						x	x		
Schwerin								x	
Segovia						x	x	x	x
Sevilla					x	x	x		
Siena					x	x	x		
Skaraborg								x	x
Soissons									x
Stirling							x		
Stockholm								x	x
Strasbourg					x	x	x	x	
Szczecin (Stettin)						x	x		
Tarascon-sur-Ariège							x		
Toledo									x
Toulouse		x		x	x	x	x	x	x
Trieste									x
Tulle						x	x		x
Turin						x	x		x
Udine		x		x	x	x	x	x	x
Überlingen							x		
Uppsala								x	x
Utrecht	x	x		x	x		x		
Valencia		x	x	x	x	x	x		
Vannes									x
Vercelli							x		
Venice							x		
Verona				x					
Vienna							x	x	x
Vitre									x
Waake								x	
Warsaw								x	x
Wels		x		x	x	x			
Weyer						x	x		
Winchester						x	x		
Windsor-Eton						x	x		

	Balanced long-run	Little divergence	Period specific samples						
	1450-1913	1508-1785	1430-1509	1508-1587	1581-1660	1644-1723	1706-1785	1772-1851	1834-1913
Wrocław (Breslau)									x
Xanten		x		x	x	x	x	x	
Zaragoza									x
Zürich					x			x	

Appendix B: Data sources

Austria, Switzerland

Wheat price sources

Appenzell:	1656-1810: Göttmann (1991, pp. 480-484).
Bern:	1801-1885: Földes (1905, p. 486); 1813-1907: Ritzmann-Blickenstorfer (1996, p. 404).
Geneva:	1567-1791: Wiedmer (1993, pp. 447 f.).
Gmunden:	1459-1867: Krackowizer (1900, pp. 93 ff.).
Graz:	1460-1775: Popelka (1930, pp. 167-171); 1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Innsbruck:	1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Klosterneuburg:	1371-1744: Pribram (1938, pp. 447-451).
Lausanne:	1536-1796: Personal communication by P. R. Monbaron; 1803-1907: Brugger (1968, pp. 320-321).
Linz:	1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Lucerne:	1601-1900: Haas-Zumbühl (1903, pp. 370 ff.).
Rattenberg:	1482-1861: Schmelzer (1972).
Schaffhausen:	1650-1810: Göttmann (1991, pp. 480-484).
St Pölten:	1736-1784: Pribram (1938, p. 523).
Vienna:	1439-1913: Pribram (1938, pp. 269-274); 1691-1913: Pribram (1938, pp. 371-373); 1871-1900: Földes (1905, p. 484).
Wels:	1472-1769: Pribram (1938, pp. 528-531).
Weyer:	1627-1784: Pribram (1938, pp. 532-535).

Conversion sources

Altherr (1910); Becher (1838); Chelius and Hauschild (1830); Demole (1887); Hirsch (1760); Krüger (1830); Miller zu Aichholz et al. (1948); Pribram (1938); Nagl (1908; 1920); Nelkenbrecher and Gerhardt (1793); Reichs-Gesetz-Blatt (1857); Schalk (1880); Schrötter (1930); Zich (2009).

Croatia, Greece, Hungary, Romania, Slovenia, Turkey

Wheat price sources

Arad: 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Athens: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Budapest: 1801-1902: Houses of Parliament (1905, pp. 217, 241).

Chalcis: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Cluj-Napoca (Kolozsvár): 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Debrecen: 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Ermoupoli: 1843-1882: Pizanias and Mitrophanis (1991, vols. I and II)

Hydra: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Istanbul: 1656-1863: www.ottoman.uconn.edu/Data/istanbul(Pamuk).xls.

Kalamata: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Košice (Kassa): 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Lamia: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Ljubljana (Laibach): 1650-1750: Valenčič (1977, pp. 139 ff.); 1706-1817: Valenčič (1977, pp. 142-166); 1815-1914: Valenčič (1977, pp. 167-196).

Mesolongi (Missolonghi): 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Nafplio: 1843-1858: Pizanias and Mitrophanis (1991, vols. I and II)

Oradea (Nagyvárad): 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Patras: 1843-1903: Pizanias and Mitrophanis (1991, vols. I and II)

Pécs: 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Piraeus:	1867-1909: Pizanias and Mitrophanis (1991, vols. I and II)
Rijeka (Fiume):	1788-1826: House of Commons (1826, p. 85).
Sopron:	1438-1741: Dányi Dezső (1989); 1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).
Szeged:	1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).
Timişoara (Temesvár):	1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).

Conversion sources

Becher (1838); Feavearyear (1963); Hirsch (1756); Nelkenbrecher and Gerhardt (1793); Schrötter (1930).

Belgium, Netherlands, Luxembourg

Wheat price sources

Aalst:	1729-1802: Wyffels (1959c, pp. 116 f.).
Amsterdam:	1562-1800: Posthumus (1964, pp. 768-772); 1579-1880: Posthumus (1943, pp. 1-15); 1707-1785: House of Commons (1826, p. 29); 1786-1826: House of Commons (1826, pp. 30 ff.).
Antwerp:	1426-1600: Scholliers (1959, pp. 253 f.); 1608-1816: Craeybeckx (1959b, pp. 508-512, 519 f.); 1765-1792: Vandenbroeke (1973, pp. 7-35); 1780-1825: House of Commons (1826, p. 68); 1808-1850: Scholliers (1965, pp. 942-950); 1896-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Arnhem:	1567-1914: Tijms (1977, pp. 136-144).
Bergues:	1381-1549: van Houtte (1902, Tables A to F, follow p. 60).
Bruges:	1348-1801: Verhulst (1965, pp. 33-42); 1400-1501: Croisiau (1959, pp. 35 f.); 1526-1603: Wyffels (1959b, pp. 54 f.); 1796-1914: Vanderpijpen (1973, pp. 177-182).
Brussels:	1400-1499: Tits-Dieuaide (1975, pp. 270 ff.); 1501-1792: Craeybeckx (1959a, pp. 501 ff.); 1569-1793: Craeybeckx (1959a, pp. 486-495); 1801-1888: Vandenbroeke (1972, pp. 297-301).

Diest:	1545-1818: van Buyten (1966, pp. 372-402).
Dixmude:	1482-1615: Wyffels (1959d, pp. 58-61).
Dordrecht:	1585-1909: Priester (1998, pp. 676-683).
Eeklo:	1701-1832: Coppejans-Desmedt (1965, pp. 467-492).
Furnes:	1381-1549: van Houtte (1902, Tables A to H, follow p. 60).
Ghent:	1400-1501: Croisiau (1959, pp. 36 f.); 1489-1599: Toch (1973, pp. 338 ff.); 1765-1792: Vandenbroeke (1973, pp. 7-35); 1800-1914: Vandenbroeke and Vanderpijpen (1972, pp. 100-108).
Groningen:	1630-1855: Tijms (2000, table 06-1) (http://www.rug.nl/research/nederlands-agronomisch-historisch-instituut/download, accessed 14 July 2014); 1823-1913: Van Riel, http://www.iisg.nl/hpw/monthly-grain-groningen.xls (Accessed 11 April 2014)
Kampen:	1675-1847: Tijms (1977).
Leiden:	1392-1800: Posthumus (1964, pp. 768-772).
Leuven:	1404-1499: Tits-Dieuaide (1975, pp. 270 ff.); 1668-1826: House of Commons (1826, pp. 42 f.); 1769-1792: Vandenbroeke (1973, pp. 7-35).
Liège:	1400-1792: Pieyns and Tijms (1993, pp. 114-117); 1528-1586: Pieyns and Tijms (1993, pp. 130 f.); 1577-1793: Pieyns and Tijms (1993, pp. 137-141); 1630-1792: Pieyns and Tijms (1993, pp. 133-136); 1795-1940: Pieyns and Tijms (1993, pp. 151-154).
Lier:	1427-1600: van der Wee (1963, pp. 183-188).
Luxembourg:	1700-1795: Hélin (1966, pp. 218-252); 1839-1889: Institut national de la statistique et des études économiques du Grand-Duché de Luxembourg, 1990, p. 458).
Maastricht:	1579-1914: Tijms (1983, pp. 55-80).
Middelburg:	1603-1691: Priester (1998, pp. 676-683).
Mons:	1500-1599: Delatte (1937-38).

Namur:	1773-1840: Genicot (1938-39, p. 273).
Nijmegen:	1558-1913: Tijms (1983).
Roermond:	1599-1914: Tijms (1989, pp. 148-156).
Rotterdam:	1769-1825: House of Commons (1826, p. 36).
Tirlemont (Tienen):	1663-1779: Coppejans-Desmedt (1959, pp. 525-531).
Utrecht:	1460-1851: Posthumus (1964, pp. 70-73, 141-145, 217, 243-254, 418-423); 1800-1913: Personal communication by A. van Riel.
Zutphen:	1483-1553: Schaïk (1978, pp. 249-253).

Conversion sources

Blockmans and Blockmans (1979); Chelius and Hauschild (1830); Enno van Gelder and Hoc (1960); Enno van Gelder (1971-72); Grolle (2000); Krüger (1830); Munro (1972); Nelkenbrecher and Gerhardt (1793); Nelkenbrecher et al. (1858); Praun (1784); Pusch (1932); Schrötter (1930); Verkade (1848); Verlinden (1965); Wyffels (1959a).

Czech Republic, Poland, Slovakia

Wheat price sources

Bratislava (Pozsony):	1870-1913: Preisstatistik (1913, pp. 206-7, 217, 225).
Děčín:	1746-1870: Salz (1913, pp. 539-541).
Działdowo (Soldau):	1548-1628: North (1982, pp. 266 f.).
Gdańsk (Danzig):	1703-1815: Furtak (1935, pp. 121-124); 1816-1860: Engel (1861, p. 257); 1845-1894: Kaiserliches Statistisches Amt (1895, 19); 1879-1913: Jacks (2005) (http://www.sfu.ca/~djacks/data/publications/index.html).
Karlštejn:	1424-1431: Mika (1959, p. 551).
Kołobrzeg (Kolberg):	1740-1756: Naudé (1910, pp. 648-663).
Kraków:	1389-1592: Pelc (1935); 1601-1795: Tomaszewski (1934, pp. 28 ff.); 1796-1914: Górkiewicz (1950, pp. 83 ff.).
Louny:	1453-1546: Mika (1959, pp. 557 ff.); 1598-1618: Janáček (1957, p. 59).
Malbork (Marienburg):	1514-1591: Szpak (1982).

Ostróda (Osterode):	1548-1628: North (1982, pp. 266 f.).
Poznań (Posen):	1816-1860: Engel (1861, p. 257); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html); 1887-1906: Anonym (1900; Anonym (1908)
Prague:	1655-1872: Schebek (1873, pp. 94-100); 1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Słupsk (Stolp):	1740-1756: Naudé (1910, pp. 607-614).
Stříbro:	1503-1527: Mika (1959, p. 555).
Svrcovec:	1540-1547: Mika (1959, p. 562).
Szczecin (Stettin):	1600-1726: Brüggemann (1800, pp. 440 ff.); 1600-1740: Naudé (1901, pp. 610 ff.); 1727-1799: Brüggemann (1800, pp. 443 f.); 1740-1756: Naudé (1910, pp. 607-614); 1816-1860: Engel (1861, p. 257); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Warsaw:	1526-1699: Adamczyk (1938, p. 12); 1701-1800: Siegel (1936); 1797-1818: Jacob (1826, p. 178); 1816-1914: Siegel (1949).
Wrocław (Breslau):	1517-1618: Wolański (1996); 1695-1810: Anonym (1867, pp. 113 f.); 1740-1750: Naudé (1910, pp. 635-642); 1775-1820: Anonym (1867, p. 116); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).; 1816-1860: Engel (1861, p. 257); 1845-1894: Kaiserliches Statistisches Amt (1895, 19).

Conversion sources

Becher (1838); Castelin (1973); Chelius and Hauschild (1830); Dost (1990); Hirsch (1760); Krüger (1830); Miller zu Aichholz et al. (1948); Pribram (1938); Nelkenbrecher and Gerhardt (1793); Praun (1784); Schrötter (1930); Zich (2009); Volckart (1996).

Eastern Europe (Latvia, Russia, Ukraine)

Wheat price sources

Archangelsk:	1802-1825: House of Commons (1826, p. 7).

Chernivtsi (Czernowitz):	1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Königsberg:	1688-1730: Naudé (1901, pp. 618 f.); 1700-1825: House of Commons (1826, pp. 12 f.); 1740-1756: Naudé (1910, pp. 664-671); 1792-1913: Jacobs and Richter (1935, pp. 52 f.); 1797-1913: Anonym (1935, pp. 296 ff.); 1816-1860: Engel (1861, p. 257.)
Liepāja:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Lviv (Lemberg):	1520-1696: Hoszowski (1928, p. 166); 1702-1800: Hoszowski (1934, pp. 6 f.); 1800-1914: Hoszowski (1934, pp. 98 ff.).
Moscow:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Mykolaiv (Nikolayev):	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Novorossiysk:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Odessa:	1814-1832: de Hagemeister (1836); 1815-1859: Fairlie (1965, p. 574); 1842-1900: Földes (1905, p. 493); 1843-1895: Houses of Parliament (1905); 1850-1906: Knick Harley (1980, pp. 246 f.).
Riga:	1800-1826: House of Commons (1826, p. 9); 1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Rostov:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Samara:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Saratov:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
St. Petersburg:	1791-1825: House of Commons (1826, p. 3); 1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).

Yelets:	1893-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).

Conversion sources

Feavearyear (1963); Nelkenbrecher and Gerhardt (1793); Nelkenbrecher and Schellenberg (1820); Nelkenbrecher et al. (1858).

France

Wheat price sources:

Abbeville:	1591-1858: Pannier (1867, pp. 211-229); 1797-1872 (Dpt. Somme): Labrousse et al. (1970, pp. 200 f.); 1895-1913 (Dpt. Somme): Institut national de la statistique et des études économiques (1895-1913).
Aigueperse:	1666-1787: Frêche (1979, pp. 46 ff.).
Aix:	1570-1789: Baehrel (1961, p. 535).
Albertville:	1861-1913: Drame et al. (1991, p. 218).
Albi:	1289-1783: Usher (1930, p. 162); 1696-1793: Frêche (1967b); 1797-1872 (Dpt. Tarn): Labrousse et al. (1970, pp. 202 f.); 1825-1913: Drame et al. (1991, p. 218, pp. 226 f.).
Angers:	1580-1789: Hauser (1936, pp. 258-262); 1797-1824 (Dpt. Maine-et-Loire): Labrousse et al. (1970, pp. 140 f.); 1825-1913: Drame et al. (1991, p. 218, pp. 186 ff.).
Angouleme:	1797-1872 (Dpt. Charente): Labrousse et al. (1970, pp. 74 f.); 1825-1913: Drame et al. (1991, p. 218, pp. 138 f.).
Annecy:	1861-1913: Drame et al. (1991, p. 218, pp. 220 f.).
Annonay:	1570-1775: Vaschalde (1874, pp. 6-11).
Arles:	1570-1789: Baehrel (1961, p. 554).
Arras:	1806-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html); 1825-1913: Drame et al. (1991, p. 218, pp. 226 f.).

Aubenas:	1670-1798: Vaschalde (1874, pp. 15-18).
Auzerre:	1797-1872 (Dpt. Yonne): Labrousse et al. (1970, pp. 218 f.); 1825-1913: Drame et al. (1991, p. 218, pp. 228 f.).
Avignon:	1570-1789: Allen-Unger Global Commodity Price Database (http://www.gcpdb.info/index.html); 1797-1872 (Dpt. Vaucluse): Labrousse et al. (1970, pp. 208 f.); 1825-1913: Drame et al. (1991, pp. 230 f.).
Ayen:	1615-1755: Boutier (1976, p. 117).
Bar-le-Duc:	1801-1872 (Dpt. Meuse): Labrousse et al. (1970, pp. 152 f.); 1825-1908: Drame et al. (1991, pp. 198 f.); 1909-1913 (Dpt. Meuse): Institut national de la statistique et des études économiques (1895-1913).
Bayeux:	1690-1814: Pluquet (1829, pp. 209 f.); 1797-1872 (Dpt. Calvados): Labrousse et al. (1970, pp. 70 f.); 1825-1913: Drame et al. (1991, pp. 132 f.).
Bayonne:	1796-1825: House of Commons (1826, pp. 65 f.); 1826-1872 (Dpt. Basses-Pyrénées): Labrousse et al. (1970); 1895-1913 (Dpt. Basses-Pyrénées): Institut national de la statistique et des études économiques (1895-1913).
Beaugency:	1825-1913: Drame et al. (1991, pp. 180 f.).
Beaumont-sur-Oise:	1671-1761: Dupâquier and Meuvret (1968, pp. 40-83).
Bernay:	1797-1872 (Dpt. Eure): Labrousse et al. (1970, pp. 96 f.); 1825-1913: Drame et al. (1991, pp. 148 f.).
Béziers:	1587-1759: Le Roy Ladurie (1966, pp. 821 f.); 1600-1792: Géraud-Parracha (1957).
Billom:	1725-1747: Frêche (1979, pp. 47 f.).
Blois:	1797-1872 (Dpt. Loire-et-Cher): Labrousse et al. (1970, pp. 124 f.); 1825-1913: Drame et al. (1991, pp. 172 f.).
Bordeaux:	1700-1826: House of Commons (1827b, pp. 78 f.); 1825-1913: Drame et al. (1991, pp. 162 f.).

Boulogne: 1700-1826: House of Commons (1827b, pp. 72 f.); 1802-1872 (Dpt. Pas de Calais): Labrousse et al. (1970).

Bourges: 1797-1872 (Dpt. Cher): Labrousse et al. (1970, pp. 78 f.); 1825-1909: Drame et al. (1991, pp. 142 f.).

Briançon: 1501-1627: Hauser (1936, pp. 330 ff.); 1797-1872 (Dpt. Hautes Alpes): Labrousse et al. (1970, pp. 53 f.).

Brioude: 1693-1790: Frêche (1979, pp. 46 ff.).

Brive-la-Gaillarde: 1767-1783: Boutier (1976, p. 115).

Buis-les-Baronnies: 1501-1793: Hauser (1936, pp. 337-342); 1797-1872 (Dpt. Drôme): Labrousse et al. (1970, pp. 94 f.); 1895-1913 (Dpt. Drôme) Institut national de la statistique et des études économiques (1895-1913).

Caen: 1326-1663: de La Rue (1842, pp. 145-175); 1727-1792: Perrot (1975, p. 1029).

Cambrai: 1361-1633: Neveux (1980, pp. 396-399); 1370-1555: Neveux (1973, pp. 333 f.).

Cany: 1777-1790: Vovelle (1989).

Carcassonne: 1708-1792: Frêche (1967a); 1825-1913: Drame et al. (1991, pp. 132 f.).

Castelnaudary: 1599-1784: Frêche (1967a); 1797-1872 (Dpt. Aude): Labrousse et al. (1970, pp. 64 f.); 1895-1913 (Dpt. Aude) Institut national de la statistique et des études économiques (1895-1913).

Castres: 1616-1650; 1742-1790: Frêche (1967b).

Châlons-en-Champagne: 1797-1872 (Dpt. Marne): Labrousse et al. (1970, pp. 144 f.); 1825-1913: Drame et al. (1991, pp. 192 f.).

Charleville: 1797-1872 (Dpt. Ardennes): Labrousse et al. (1970, pp. 58 f.); 1825-1913: Drame et al. (1991, pp. 130 f.).

Chartres: 1300-1400: de Lépinois (1854, pp. 560 ff.); 1699-1789: Aclocque Croy (1917, pp. 309-312); 1825-1913: Drame et al. (1991, pp. 154 f.).

Chateaudun:	1584-1867: de Belfort (1864-69, pp. 163-170); 1825-1913: Drame et al. (1991, pp. 154 f.).
Chateau-Gontier:	1713-1800: Hauser (1936, pp. 208 f.); 1801-1872 (Dpt. Mayenne): Labrousse et al. (1970, pp. 148 f.); 1895-1913 (Dpt. Mayenne): Institut national de la statistique et des études économiques (1895-1913).
Chateauroux:	1797-1872 (Dpt. Indre): Labrousse et al. (1970, pp. 114 f.); 1825-1913: Drame et al. (1991, pp. 168 f.).
Chaumont-en-Caux:	1644-1744: Vovelle (1989).
Chaumont-en-Vexin:	1644-1792: Dupâquier and Meuvret (1968, pp. 31-101); 1797-1872 (Dpt. Oise): Labrousse et al. (1970, pp. 162 f.); 1895-1913 (Dpt. Oise): Institut national de la statistique et des études économiques (1895-1913).
Cherbourg:	1825-1904: Drame et al. (1991, pp. 188 f.).
Clermont:	1825-1913: Drame et al. (1991, pp. 208 f.).
Colmar:	1797-1872 (Dpt. Haut Rhin): Labrousse et al. (1970, pp. 178 f.); 1820-1875: Hanauer (1878, pp. 89 f.); 1895-1913 (Dpt. Haut Rhin): Institut national de la statistique et des études économiques (1895-1913).
Cordes:	1593-1695: Portal (1895, pp. 87 f.); 1708-1787: Frêche (1967b).
Coutances:	1676-1778: Hauser (1936, pp. 171 ff.); 1797-1872 (Dpt. Manche): Labrousse et al. (1970, pp. 142 f.); 1895-1913 (Dpt. Manche): Institut national de la statistique et des études économiques (1895-1913).
Die:	1501-1613: Hauser (1936 , pp. 359 f.).
Dieppe:	1825-1910: Drame et al. (1991, pp. 222 f.).
Digne:	1797-1872 (Dpt. Basses Alpes): Labrousse et al. (1970, pp. 51 f.); 1825-1913: Drame et al. (1991, pp. 128 f.).
Dole:	1710-1789: Lefebvre-Teillard (1969, pp. 76 f.); 1797-1872 (Dpt. Jura): Labrousse et al. (1970, pp. 120 f.); 1895-1913 (Dpt. Jura): Institut national de la statistique et des études économiques (1895-1913).

Douai:	1329-1792: Mestayer (1963, pp. 168 ff.); 1797-1872 (Dpt. Nord): Labrousse et al. (1970, pp. 160 f.); 1825-1913: Drame et al. (1991, pp. 202 f.).
Draguignan:	1616-1790: Baehrel (1961, p. 555); 1797-1872 (Dpt. Var): Labrousse et al. (1970, pp. 106 f.); 1895-1913 (Dpt. Var): Institut national de la statistique et des études économiques (1895-1913).
Eu:	1691-1781: Vovelle (1989).
Evreaux:	1825-1913: Drame et al. (1991, pp. 150 f.).
Foix:	1726-1791: Frêche (1969a, pp. 181 f.).
Fontenay:	1740-1792: Dehergne (1963, pp. 75 f.); 1797-1872 (Dpt. Vendée): Labrousse et al. (1970, 210 f.); 1895-1913 (Dpt. Vendée): Institut national de la statistique et des études économiques (1895-1913).
Gonesse:	1647-1790: Dupâquier and Meuvret (1968, pp. 32-99).
Grenade:	1642-1793: Frêche (1969b).
Grenoble:	1501-1780: Hauser (1936, pp. 365-370); 1714-1785: Hauser (1936, pp. 363 f.); 1797-1872 (Dpt. Isère): Labrousse et al. (1970, pp. 118 f.); 1895-1913 (Dpt. Isère): Institut national de la statistique et des études économiques (1895-1913).
Gueret:	1668-1783: Frêche (1979, pp. 46 ff.); 1797-1872 (Dpt. Creuse): Labrousse et al. (1970, pp. 88 f.); 1895-1913 (Dpt. Creuse): Institut national de la statistique et des études économiques (1895-1913).
Issoire:	1702-1792: Frêche (1979, pp. 47 f.); 1797-1872 (Dpt. Puy-de-Dôme): Labrousse et al. (1970, pp. 168 f.); 1895-1913 (Dpt. Puy-de-Dôme): Institut national de la statistique et des études économiques (1895-1913).
Langres:	1549-1870: Daguin (1894, pp. 343-350); 1797-1872 (Dpt. Haute-Marne): Labrousse et al. (1970, pp. 146 f.); 1895-1913 (Dpt. Haute-Marne): Institut national de la statistique et des études économiques (1895-1913).
Laval:	1825-1904: Drame et al. (1991, pp. 194 f.).
Lavaur:	1719-1793: Frêche (1967b).

Le Havre:	1760-1786: Vovelle (1989).
Le Mans:	1797-1872 (Dpt. Sarthe): Labrousse et al. (1970, pp. 186 f.); 1825-1913: Drame et al. (1991, pp. 216 f.).
Le Puy-en-Velay:	1647-1792: Frêche (1979, pp. 46 ff.); 1797-1872 (Dpt. Haute-Loire): Labrousse et al. (1970, pp. 128 f.); 1825-1913: Drame et al. (1991, pp. 176 f.).
Lille:	1713-1790: Lefèvre (1925, p. 152); 1825-1913: Drame et al. (1991, pp. 204 f.).
Limoges:	1400-1860: Duffaud (1862, pp. 309-321); 1797-1872 (Dpt. Haute-Vienne): Labrousse et al. (1970, pp. 214 f.); 1895-1913 (Dpt. Haute-Vienne): Institut national de la statistique et des études économiques (1895-1913).
Louviers:	1825-1912: Drame et al. (1991, pp. 152 f.).
Lunéville:	1797-1872 (Dpt. Meurthe): Labrousse et al. (1970, pp. 150 f.); 1825-1910: Drame et al. (1991, pp. 196 f.); 1895-1913 (Dpt. Meurthe): Institut national de la statistique et des études économiques (1895-1913).
Lyon:	1472-1600: Gascon (1971, pp. 920 f.); 1630-1778: Rambaud (1911, pp. 262 ff.); 1797-1872 (Dpt. Rhône): Labrousse et al. (1970, pp. 180 f.); 1825-1913: Drame et al. (1991, pp. 208 f.).
Mâcon:	1797-1872 (Dpt. Saône-et-Loire): Labrousse et al. (1970, pp. 184 f.); 1825-1913: Drame et al. (1991, pp. 214 f.).
Magny-en-Vexin:	1693-1790: Dupâquier and Meuvret (1968, pp. 48-98).
Marans:	1825-1913: Drame et al. (1991, pp. 140 f.).
Maringues:	1707-1771: Frêche (1979, pp. 47 f.).
Marmande:	1797-1872 (Dpt. Lot-et-Garonne): Labrousse et al. (1970, pp. 136 f.); 1825-1908: Drame et al. (1991, pp. 182 f.); 1895-1913 (Dpt. Lot-et-Garonne): Institut national de la statistique et des études économiques (1895-1913).

Marseilles:	1617-1703: Morineau (1970, pp. 161 f.); 1700-1789: Baehrel (1961, p. 545); 1797-1872 (Dpt. Bouches-du-Rhône): Labrousse et al. (1970, pp. 68 f.); 1825-1913: Drame et al. (1991, pp. 134 f.).
Melun:	1642-1729: Mireaux (1958, pp. 305 ff.).
Mende:	1797-1872 (Dpt. Lozère): Labrousse et al. (1970, pp. 138 f.); 1825-1913: Drame et al. (1991, pp. 184 f.).
Meulan:	1700-1792: Dupâquier and Meuvret (1968, pp. 51-99).
Montauban:	1691-1789: Frêche and Frêche (1967, p. 101); 1797-1872 (Dpt. Tarn-et-Garonne): Labrousse et al. (1970, pp. 204 f.); 1825-1913: Drame et al. (1991, pp. 228 f.).
Montbrison:	1825-1913: Drame et al. (1991, pp. 174 f.).
Montélimar:	1501-1625: Hauser (1936, pp. 412 ff.).
Montpellier:	1477-1601: Le Roy Ladurie (1966, pp. 819 f.); 1520-1789: Géraud-Parracha (1957); 1797-1872 (Dpt. Hérault): Labrousse et al. (1970, pp. 110 f.); 1895-1913 (Dpt. Hérault): Institut national de la statistique et des études économiques (1895-1913).
Mulhouse:	1789-1875: Hanauer (1878, pp. 86 ff.).
Nantes:	1797-1872 (Dpt. Loire-Atlantique): Labrousse et al. (1970, pp. 130 f.); 1825-1909: Drame et al. (1991, pp. 178 f.); 1895-1913 (Dpt. Loire-Atlantique): Institut national de la statistique et des études économiques (1895-1913).
Narbonne:	1751-1764: Frêche (1969b); 1762-1781: Géraud-Parracha (1957).
Orléans:	1340-1750: Mantellier (1862, pp. 145-170); 1797-1872 (Dpt. Loiret): Labrousse et al. (1970, pp. 132 f.); 1895-1913 (Dpt. Loiret): Institut national de la statistique et des études économiques (1895-1913).
Pamiers:	1644-1792: Frêche (1969a, pp. 184-187); 1797-1872 (Dpt. Ariège): Labrousse et al. (1970, pp. 60 f.); 1895-1913 (Dpt. Ariège): Institut national de la statistique et des études économiques (1895-1913).

Paris:	1202-1745: Herbert (1755, pp. 243-255); 1431-1788: Baulant (1968, pp. 537-540); 1797-1870 (Dpt. Seine): Labrousse et al. (1970, pp. 190 f.); 1879-1896 (Dpt. Seine): *Annuaire Statistique de la France* (annual issues); 1895-1913 (Dpt. Seine): Institut national de la statistique et des études économiques (1895-1913).
Pau:	1825-1913: Drame et al. (1991, pp. 210 f.).
Peyrehorade:	1797-1870 (Dpt. Landes): Labrousse et al. (1970, pp. 122 f.); 1825-1913: Drame et al. (1991, pp. 170 f.).
Poitiers:	1548-1860: Duffaud (1862, pp. 300-308; cf. Raveau (1931, pp. 74-81); 1797-1872 (Dpt. Vienne): Labrousse et al. (1970, pp. 212 f.); 1895-1913 (Dpt. Vienne): Institut national de la statistique et des études économiques (1895-1913).
Pont-l'Abbé:	1797-1872 (Dpt. Finistère): Labrousse et al. (1970, pp. 100 f.); 1825-1913: Drame et al. (1991, pp. 158 f.); 1895-1913 (Dpt. Finistère): Institut national de la statistique et des études économiques (1895-1913).
Pontoise:	1640-1790: Dupâquier and Meuvret (1968, pp. 31-99).
Pont-Saint-Esprit:	1674-1794: Géraud-Parracha (1957); 1797-1872 (Dpt. Gard): Labrousse et al. (1970, pp. 102 f.); 1895-1913 (Dpt. Gard): Institut national de la statistique et des études économiques (1895-1913).
Puylaurens:	1754-1806: Frêche (1970, pp. 286 f.).
Réalmont:	1692-1716: Frêche (1967b).
Reims:	1711-1792: Vonglis (1980).
Rennes:	1615-1786: Hauser (1936 , pp. 291-294); 1797-1872 (Dpt. Ille-et-Vilaine): Labrousse et al. (1970, pp. 112 f.); 1895-1913 (Dpt. Ille-et-Vilaine): Institut national de la statistique et des études économiques (1895-1913).
Revel:	1736-1773: Frêche and Frêche (1967, p. 100).
Riom:	1701-1789: Frêche (1979).
Romans:	1501-1793: Hauser (1936, pp. 419-423).

Rouen:	1389-1458: Bois (1968, pp. 1273-1277); 1695-1790: Vovelle (1989); 1797-1872 (Dpt. Seine-Maritime): Labrousse et al. (1970, pp. 192 f.); 1825-1913: Drame et al. (1991, pp. 224 f.).
Rozay-en-Brie:	1596-1745: Dupré de Saint-Maur (1746, pp. 166-180); 1797-1872 (Dpt. Seine-et-Marne): Labrousse et al. (1970, pp. 194 f.); 1895-1913 (Dpt. Dpt. Seine-et-Marne): Institut national de la statistique et des études économiques (1895-1913).
Saint-Affrique:	1632-1792: Frêche (1979); 1797-1872 (Dpt. Aveyron): Labrousse et al. (1970, pp. 66 f.); 1895-1913 (Dpt. Aveyron): Institut national de la statistique et des études économiques (1895-1913).
Saint-Brieuc:	1550-1843: Meyer (1966, pp. 848-851); 1825-1913: Drame et al. (1991, pp. 146 f.); 1895-1913 (Dpt. Côtes-d'Armor): Institut national de la statistique et des études économiques (1895-1913).
Saint-Etienne:	1641-1798: Gras (1906, pp. 143-147); 1799-1872 (Dpt. Loire): Labrousse et al. (1970, pp. 126 f.); 1895-1913 (Dpt. Loire): Institut national de la statistique et des études économiques (1895-1913).
Saint-Lo:	1825-1913: Drame et al. (1991, pp. 190 f.).
Soissons:	1797-1872 (Dpt. Aisne): Labrousse et al. (1970, pp. 47 f.); 1825-1913: Drame et al. (1991, pp. 126 f.).
Strasbourg:	1342-1875: Hanauer (1878, pp. 91-101); 1891-1906: Anonym (1900; Anonym (1908).
Tarascon-sur-Ariège:	1701-1792: Frêche (1969a, p. 180).
Toulouse:	1371-1450: Frêche and Frêche (1967, pp. 94 f.); 1486-1849: Frêche and Frêche (1967, pp. 38-82); 1806-1868: Frêche and Frêche (1967, p. 99); 1825-1913: Drame et al. (1991, pp. 160 f.).
Treignac:	1615-1755: Boutier (1976, p. 116).
Tulle:	1562-1792: Boutier (1976, pp. 113 ff.); 1797-1872 (Dpt. Corrèze): Labrousse et al. (1970, pp. 80 f.); 1825-1913: Drame et al. (1991, pp. 132 f.).

Valences: 1501-1753: Hauser (1936, pp. 437 ff.)

Valenciennes: 1349-1499: Sivéry (1965).

Vannes: 1797-1872 (Dpt. Morbihan): Labrousse et al. (1970, pp. 154 f.); 1825-1913: Drame et al. (1991, pp. 200 f.).

Verfeil: 1637-1724: Frêche (1969b).

Vic-le-Comte: 1720-1789: Frêche (1979, pp. 47 f.).

Vienne: 1501-1638: Hauser (1936, pp. 449-452).

Villeneuve-de-Berg: 1700-1794: Vaschalde (1874, pp. 12 ff.).

Vitre: 1825-1913: Drame et al. (1991, pp. 164 f.).

Voiron: 1501-1638: Hauser (1936, pp. 455-458).

Conversion sources

Anonym (1842); Arnoul (1835); Blanchet and Dieudonné (1916); Doursther (1840); Feavearyear (1963); Krüger (1830); Nelkenbrecher and Gerhardt (1793); Neveux (1990); Paucton (1780); Poitrineau (1996); Schrötter (1930); Tremblay (1823); Varin (1840).

Germany

Wheat price sources

Aachen: 1816-1860: Engel (1861, p. 257); 1845-1894: Kaiserliches Statistisches Amt (1895, 19).

Altenburg: 1530-1844: Kresse (1845 r, pp. 115 f., 175 ff., 292 f.); 1845-1864: Scheel (1866, p. 171).

Anklam: 1740-1756: Naudé (1910, pp. 648-663).

Augsburg: 1417-1820: Elsas (1936, pp. 593-600); 1675-1820: Elsas (1936, pp. 596-599); 1815-1855: Seuffert (1857, p. 282); 1845-1894: Kaiserliches Statistisches Amt (1895, 19).

Bamberg: 1815-1855: Seuffert (1857, p. 282).

Bayreuth: 1815-1855: Seuffert (1857, p. 282).

Berlin:	1624-1770: Naudé (1901, pp. 568 ff.); 1624-1934: Anonym (1935, pp. 319 ff.); 1740-1756: Naudé (1910, pp. 616-622); 1757-1806: Skalweit (1931/86, pp. 647-663).
Boizenburg:	1771-1870: Grossherzogliches Statistisches Bureau (1873, pp. 22-25).
Bremen:	1673-1850: Gerhard and Kaufhold (1990, pp. 203 ff.); 1846-1858: Statistisches Bureau des Großherzogthums Oldenburg (1860, p. 18).
Brunswick:	1330-1850: Gerhard and Kaufhold (1990, pp. 197-202); 1780-1856: Soetbeer (1858); 1888-1892: Anonym (1894).
Camburg:	1775-1817: Thümmel (1818).
Celle:	1727-1871: Gerhard and Kaufhold (1990, pp. 207 ff.).
Cologne:	1368-1563: Irsigler (1975); 1531-1797: Ebeling and Irsigler (1976); 1797-1813 (Dpt. Roer): Labrousse et al. (1970, p. 240); 1816-1860: Engel (1861, p. 257); 1816-1913: Anonym (1935, pp. 296 ff.).
Delitzsch:	1719-1774: Anonym (1776).
Detmold:	1648-1850: Gerhard and Kaufhold (1990, pp. 210 f.).
Dresden:	1602-1782: Hunger (1789, pp. 127-173); 1750-1824: House of Commons (1827a, p. 84); 1820-1831: Statistischer Verein für das Königreich Sachsen (1832); 1832-1852: Seuffert (1857, p. 375); 1845-1894: Kaiserliches Statistisches Amt (1895, 19); 1891-1906: Anonym (1900).
Duderstadt:	1672-1850: Gerhard and Kaufhold (1990, pp. 212 ff.).
Duisburg:	1692-1781: Jägers (2001, GESIS Köln, Deutschland ZA8162 Datenfile).
Einbeck:	1634-1750: Unger (1752, p. 269).
Eisenberg:	1775-1817: Thümmel (1818).
Elberfeld:	1715-1818: Benzenberg (1819, pp. 322-326).
Emden:	1746-1850: Gerhard and Kaufhold (1990, pp. 215 f.); 1748-1832: Gerhard and Kaufhold (1990, p. 218).
Erding:	1815-1855: Seuffert (1857, p. 282).
Erfurt:	1538-1574: Kius (1864); 1651-1775: Rosenthal (1784, pp. 4-10).

Frankfurt a.M.:	1373-1820: Elsas (1940, pp. 461 ff.); 1837-1847: Seuffert (1857, p. 400); 1845-1894: Kaiserliches Statistisches Amt (1895, 19); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Freiburg i.Br.:	1845-1894: Kaiserliches Statistisches Amt (1895, 19).
Görlitz:	1768-1784: Lausitzisches Magazin (ad annum); 1803-1825: Neuer Görlitzer Anzeiger (ad annum)
Göttingen:	1661-1867: Gerhard and Kaufhold (1990, pp. 219-222).
Grabow:	1780-1870: Grossherzogliches Statistisches Bureau (1873, pp. 22-25).
Halberstadt:	1638-1740: Naudé (1901, pp. 561 ff.).
Halle:	1600-1749: Anonym (1867, pp. 108 f.); 1692-1740: Naudé (1901, pp. 541 ff.); 1740-1756: Naudé (1910, pp. 616-622); 1888-1892: Anonym (1894).
Hamburg:	1380-1560: Koppmann (1869; 1873; 1878; 1880; 1883; 1892; 1894); 1736-1850: Gerhard and Kaufhold (1990, pp. 223 ff.); 1792-1913: Jacobs and Richter (1935, pp. 52 f.).
Hanover:	1590-1819: Seuffert (1857, p. 395 f.); 1623-1748: Unger (1752, pp. 223-228); 1750-1850: Gerhard and Kaufhold (1990, pp. 225 f.); 1764-1863: Oberschelp (1986, pp. 82 ff.); 1888-1905: Anonym (1894; Anonym (1908).
Herborn:	1584-1785: Steubing (1792, pp. 293-296).
Herford:	1771-1850: Gerhard and Kaufhold (1990, p. 227).
Hildesheim:	1567-1829: Zeppenfeldt (1830, pp. 239-248); 1764-1863: Oberschelp (1986, pp. 82 ff.).
Kahla:	1775-1817: Thümmel (1818).
Kempten:	1815-1855: Seuffert (1857, p. 282).
Konstanz:	1697-1795: Göttmann (1991, pp. 480-484).
Landshut:	1584-1700: Seuffert (1857, p. 138); 1770-1784: Meidinger (1785, pp. 212-215); 1815-1855: Seuffert (1857, p. 282).

Leipzig:	1564-1820: Elsas (1940, pp. 516-520); 1593-1695: Roscher (1857, pp. 463 ff.); 1593-1888: Dittmann (1889, pp. 33 ff.); 1719-1774: Anonym (1776); 1823-1852: Engel (1853, p. 485); 1845-1913: Anonym (1935. Pp. 296 ff.)
Lindau:	1815-1855: Seuffert (1857, p. 282); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Lübeck:	1399-1698: Hansen (1912, pp. 129-141); 1751-1799: Jessen (1800); 1811-1825: House of Commons (1826, p. 27); 1891-1906: Anonym (1900; Anonym (1908).
Lüneburg:	1550-1850: Gerhard and Kaufhold (1990, pp. 229-231); 1764-1863: Oberschelp (1986, pp. 82 ff.).
Magdeburg:	1666-1740: Naudé (1901, pp. 545 f.); 1740-1756: Naudé (1910, pp. 607-614); 1816-1860: Engel (1861, p. 257); 1879-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Mannheim:	1791-1913: Anonym (1935, pp. 295 ff.).
Mainz:	1730-1792: Dreyfus (1956, p. 251); 1888-1906: Anonym (1894; Anonym (1900; Anonym (1908).
Memmingen:	1815-1855: Seuffert (1857, pp. 123 f.).
Minden:	1658-1740: Naudé (1901, pp. 534 ff.); 1740-1747: Naudé (1910, pp. 602 ff.); 1775-1850: Gerhard and Kaufhold (1990, pp. 232-234).
Munich:	1637-1855: Seuffert (1857, pp. 123 f.); 1698-1820: Elsas (1936, pp. 588 f.); 1748-1797: Frohn (1799, table VI); 1791-1913: Anonym (1935, pp. 295 ff.); 1792-1913: Jacobs and Richter (1935, pp. 52 f.).
Münster:	1532-1863: Gerhard and Kaufhold (1990, pp. 235-238); 1816-1860: Engel (1861, p. 257).
Nordhausen:	1668-1771: Wullen (1771, 657-727).
Nördlingen:	1815-1855: Seuffert (1857, p. 282).
Nuremberg:	1427-1498: Bauernfeind (1993); 1498-1855: personal communication by Walter Bauernfeind; 1815-1855: Seuffert (1857, p. 282); 1845-1894: Kaiserliches Statistisches Amt (1895, 19).

Oldenburg:	1796-1825: House of Commons (1826, p. 27).
Osnabrück:	1624-1861: Gerhard and Kaufhold (1990, pp. 239-241).
Paderborn:	1640-1850: Gerhard and Kaufhold (1990, pp. 242-244).
Parchim:	1800-1870: Grossherzogliches Statistisches Bureau (1873).
Quedlinburg:	1750-1800: Schulze (1965).
Radolfzell:	1720-1810: Göttmann (1991, pp. 480-484).
Regensburg:	1815-1855: Seuffert (1857, p. 282).
Rendsburg:	1688-1734: Waschinski (1959, pp. 185 f.).
Rostock:	1771-1870: Grossherzogliches Statistisches Bureau (1873).
Schweinfurt:	1725-1782: Fabri (1794, pp. 437-440).
Schwerin:	1771-1870: Grossherzogliches Statistisches Bureau (1873).
Spandau:	1699-1783: Dilschmann (1785, pp. 91-94).
Stockach:	1690-1799: Göttmann (1991, pp. 480-484).
Straubing:	1815-1855: Seuffert (1857, p. 282).
Stuttgart:	1845-1894: Kaiserliches Statistisches Amt (1895, 19); 1891-1906: Anonym (1900; Anonym (1908).
Trier:	1581-1645: Weisenstein (1991, pp. 115 f.); 1731-1792: Dreyfus (1956, p. 251).
Überlingen:	1650-1810: Göttmann (1991, pp. 480-484).
Ulm:	1845-1894: Kaiserliches Statistisches Amt (1895, 19).
Untertürkheim:	1528-1628: Helferich (1858, pp. 476-480).
Vreden:	1652-1874: Terhalle (1981).
Waake:	1749-1850: Gerhard and Kaufhold (1990, pp. 246 f.).
Wesel:	1740-1756: Naudé (1910, pp. 607-614).
Wismar:	1776-1870: Grossherzogliches Statistisches Bureau (1873).
Wittenberg:	1656-1764: Anonym (1765).

Würzburg:	1500-1799: Elsas (1936, pp. 635-640); 1815-1855: Seuffert (1857, p. 282).
Xanten:	1372-1860: Beissel (1885, pp. 118-133); 1502-1801: Rive (1824, pp. 379-389).

Conversion sources

Anonym (1935); Arnold (1980); Beissel (1885); Benzenberg (1819); Bode (1847); Elsas (1936); Engel (1855); Gerhard and Kaufhold (1990); Grossherzogliches Statistisches Bureau (1873); Ilisch (1982); Jacobs and Richter (1935); Jesse (1928); Jesse and Buck (1962); Joseph and Fellner (1896); Kerl (1860); Klotzsch (1780); Krüger (1830); Leonhardi (1796); Metz (1990); Nelkenbrecher and Gerhardt (1793); Nelkenbrecher et al. (1858); Praun (1784); Schneider (1981; 1990); Scholler (1916); Schrötter (1904; 1907; 1908; 1910; 1913; 1922; 1930); Verordnungsblatt (1853).

Great Britain, Ireland

Wheat price sources

Aberdeen:	1398-1532: Gemmill and Mayhew (1995, pp. 151-160); 1581-1780: Gibson and Smout (1995, pp. 54, 102-105).
Adderbury:	1208-1405: David Farmer papers, Farmer Archive at the University of Saskatchewan Library, Saskatoon, Saskatchewan.
Ayr:	1713-1780: Gibson and Smout (1995, pp. 103 ff.).
Belfast:	1785-1911: Personal communication by P. Solar.
Cambridge:	1279-1355: Rogers (1866, pp. 16-133); 1403-1800: London School of Economics and Political Science, Library, Beveridge Archive, Boxes G3, J22; 1404-1582: Rogers (1887a, pp. 5-117); 1583-1703: Rogers (1887b, pp. 5-190); 1703-1794: Rogers (1902, pp. 4-225); 1800-1913: Personal communication by D. Jacks.
Carmarthen:	1800-1913: Jacks (2006) (http://www.sfu.ca/~djacks/data/publications/index.html).
Chester:	1378-1502: Public Record Office, Class SC6; Manuscript notes held by Victoria County History (Chester).

Chesterfield:	1770-1789: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.
Dover:	1600-1615: London School of Economics and Political Science, Library, Beveridge Archive, Box J22; 1800-1913: Personal communication by D. Jacks.
Dublin:	1815-1830: Barrow (1834, p. 3443); 1829-1841: House of Commons (1842, p. 3); 1849-1903: Houses of Parliament (1905, p. 214).
Ebbesbourne:	1213-1453: David Farmer papers, Farmer Archive at the University of Saskatchewan Library, Saskatoon, Saskatchewan.
Edinburgh:	1263-1530: Gemmill and Mayhew (1995, pp. 151-160); 1556-1780: Gibson and Smout (1995, pp. 55, 102-105).
Ely:	1315-1435: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.
Exeter:	1316-1820: Beveridge (1929, p. 530); 1800-1913: Personal communication by D. Jacks.
Fareham:	1208-1451: David Farmer papers, Farmer Archive at the University of Saskatchewan Library, Saskatoon, Saskatchewan.
Gloucester:	1800-1913: Personal communication by D. Jacks.
Haddington:	1627-1780: Gibson and Smout (1995, pp. 102-106).
Leeds:	1800-1913: Personal communication by D. Jacks.
Lincoln:	1539-1834: Hill (1956, pp. 222-226).
Linlithgow:	1654-1780: Gibson and Smout (1995, pp. 102-107).
Liverpool:	1800-1913: Personal communication by D. Jacks.
London:	1446-1793: London School of Economics and Political Science, Library, Beveridge Archive, Price series, Box I5; 1770-1914: Solar and Klovland (2011, pp. 84-87).
Maidstone:	1687-1791: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.

Manchester:	1800-1913: Personal communication by D. Jacks.
Newcastle:	1600-1850: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.
Norwich:	1285-1536: London School of Economics and Political Science, Library, Beveridge Archive, Price series Box G5; 1550-1615: London School of Economics and Political Science, Library, Beveridge Archive, Price series Box J22; 1800-1913: Personal communication by D. Jacks.
Nottingham:	1729-1770: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.
Oxford:	1274-1487: London School of Economics and Political Science, Library, Beveridge Archive, Prices and Wages, Box J22; 1546-1583: Rogers (1887a, pp. 104-118); 1583-1770: Tooke and Newmarch (1859, pp. 509-513); 1771-1793: London School of Economics and Political Science, Library, Beveridge Archive, Prices and Wages, Box J22.
Perth:	1630-1780: Gibson and Smout (1995, pp. 102-107).
Portsmouth:	1678-1776: London School of Economics and Political Science, Library, Beveridge Archive, Box J22.
Shrewsbury:	1626-1800: London School of Economics and Political Science, Library, Beveridge Archive, Prices and Wages, Box I15.
Stirling:	1526-1780: Gibson and Smout (1995, pp. 54, 104-107).
Wargrave:	1208-1415: David Farmer papers, Farmer Archive at the University of Saskatchewan Library, Saskatoon, Saskatchewan.
West Wycombe:	1208-1453: David Farmer papers, Farmer Archive at the University of Saskatchewan Library, Saskatoon, Saskatchewan.
Westminster:	1300-1532: London School of Economics and Political Science, Library, Beveridge Archive, Prices and Wages, Box J22.
Winchester:	1359-1739: London School of Economics and Political Science, Library, Beveridge Archives, Prices and Wages, Box J22.

Windsor-Eton: 1583-1820: Usher (1931, p. 106); 1594-1820: Mitchell and Deane (1971, pp. 486 f.); 1595-1770: Tooke and Newmarch (1859, pp. 509-513); 1646-1826: Tooke (1838, pp. 387 ff.); 1723-1793: Granger and Elliott (1967, p. 265).

Worcester: 1800-1913: Personal communication by D. Jacks.

York: 1583-1799: London School of Economics and Political Science, Library, Beveridge Archives, Prices and Wages, Box J22.

Conversion sources

Allen (2012); Challis (1992); Cochran-Patrick (1876); Gemmill and Mayhew (1995); Nelkenbrecher et al. (1858).

Italy

Wheat price sources

Acquaviva: 1675-1700: Palumbo and Rossiello (1985, p. 153); 1701-1750: Palumbo and Rossiello (1984, p. 171); 1701-1875: Palumbo (1981, pp. 344-347).

Adria: 1626-1700: Turri (1994, pp. 113-141).

Alcamo: 1602-1712: Cancila (1983, pp. 164 f.).

Alessandria: 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).

Altamura: 1675-1700: Palumbo and Rossiello (1984, p. 141); 1701-1750: Palumbo and Rossiello (1985, p. 172); 1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1815-1830: Rossiello and Palumbo (1981, p. 311).

Ancona: 1700-1825: House of Commons (1827b, pp. 87-90); 1874-1892: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Aquila: 1816-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Arezzo: 1385-1527: Archivio della Fraternita dei Laici di Arezzo: Prezzi medi mensili del grano ad Arezzo, 1204, 1522, 1618-1769, 2243-4, 2529-31, 3353, 3411, 3532-3; 1528-1632: Fanfani (1940, pp. 139-142), 1585-1809:

	Archivio di Stato Arezzo: Squarci dei prezzi del grano, 1-19; 1830-1879: Mazzini (1882, pp. 395 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Ascoli Piceno:	1867-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Ascoli Satriano:	1810-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Asti:	1874-1890: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Avellino:	1807-1848: Storchi (1991, pp. 13, 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Avezzano:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Bari:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Barletta:	1807-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1884-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Bassano:	1501-1799: Lombardini (1963, pp. 58-65).
Belluno:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Benevento:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Bergamo:	1457-1592: Biblioteca civica ‘A.Mai’, Bergamo, Archivio della Misericordia Maggiore (MIA); 1601-1725: Bergamo, Biblioteca civica ‘A.Mai’, Archivio veneto, Serie 41.1, nn.1-30, 32-79; 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Bibbiena:	1470-1498: Archivio di Stato, Firenze: Corporazioni religiose soppresse dal Gov. francese, 30: S. Domenico, Bibbiena, n.12 (1470-98), 27 (1519-37), 28 (1543-61).
Bisceglie:	1761-1805: Palumbo (1979, pp. 54 f.).
Bitonto:	1701-1750: Palumbo and Rossiello (1985, p. 173).
Bologna:	1459-1505: Iradiel Murugarren (1978, p. 527); 1824-1859: Pinchera (1957, p. 7); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Bovino:	1810-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Brescia:	1415-1578: Archivio di Stato di Brescia, Archivio Martinengo dalle Palle, buste 69, 70, 74, 78, 84, 88, 90; 1685-1862: MAIC: Ministero di agricoltura industria e commercio (1886: XXXV-XXXIX); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Cagliari:	1832-1890: Delogu (1959, p. 16); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Caltanisetta:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Campi:	1807-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Campobasso:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Carmagnola:	1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Casalmaggiore:	1896-1914: Il Sole (ad annum).
Caserta:	1817-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f).
Castel del Piano:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Castelponzone:	1896-1914: Il Sole (ad annum).
Castrovillari:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Catania:	1414-1497: Petino (1952); 1512-1630: Petino (1949, pp. 213 ff.); 1801-1890: Petino (1959, pp. 11 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Catanzaro:	1820-1848: Storchi (1991, pp. 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, p. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Chieti:	1807-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Chiogga:	1409-1717: Personal communication by Stephan R. Epstein.
Chivasso:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Cologna:	1896-1914: Il Sole (ad annum).
Como:	1427-1683: Personal communication by Stephan R. Epstein; 1512-1658: Mira (1941, pp. 203, 206); 1605-1700: Targetti et al. (1964, table 2, pp. 293 f.); 1725-1798: Personal communication by Stephan R. Epstein; 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Conegliano:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Cortona:	1440-1576: Archivio di Stato, Firenze: Corporazioni religiose soppresse dal Gov. francese, 59: S. Francesco, Cortona, nn.2 (1440-62); 3 (1462-77); 4 (1479-84); 5 (1485-93); 6 (1534-48); 7 (1548-57); 8 (1557-68); 9 (1573-6).
Cosenza:	1816-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Cremona:	1450-1782: Jacopetti (1965, pp. 206-218); 1580-1650: Meroni (1957, pp. 140-145); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).

Crotone:	1820-1848: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Cuneo:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Dolo:	1880-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Eboli:	1824-1847: Storchi (1991, pp. 13, 15-18, 24, 53 f., 66).
Fano:	1896-1914: Il Sole (ad annum).
Ferrara:	1786-1873: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXVII-XXXIX); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Florence:	1309-1500: Tognetti (1995, pp. 317 f.); 1335-1378: de la Roncière (1982, p. 821); 1359-1566: Goldthwaite (1995, pp. 33 f.); 1701-1815: Gori (1989, table 5); 1748-1805: Mauri et al. (1970, p. 645); 1800-1890: Bandettini (1957, pp. 13 f.); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Foggia:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Foligno:	1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Forli:	1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Francavilla:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Galatina:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).

Genoa:	1433-1469: Heers (1961, pp. 621 f.); 1596-1792: Giacchero (1979, pp. 686-689); 1829-1890: Felloni (1957a, pp. 15 f.); 1845-1905: Vazza et al. (1965, p. 902).
Genzano:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Girgenti:	1603-1712: Cancila (1983, pp. 164 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Iesi:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Lagonegro:	1816-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Lanciano:	1807-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Larino:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Lecce:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Licata:	1602-1712: Cancila (1983, pp. 164 f.).
Livorno:	1748-1763: Mauri et al. (1970, p. 645); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Lodi:	1897-1914: Il Sole (ad annum).
Lucca:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Macerata:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Maddaloni:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Manfredonia:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).

Mantua:	1752-1795: Vivanti (1959, p. 337); 1796-1876: MAIC: Ministero di agricoltura industria e commercio (1886: XXXVII-XXXIX); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Massa Carrara:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Messina:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Matera:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Mazzara:	1604-1705: Cancila (1983, pp. 164 f.).
Melfi:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Mercato San Severino:	1824-1847: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Milan:	1413-1599: di Raimondo (1975-76, Appendix); 1599-1697: Milan, Archivio delle Istituzioni pubbliche di assistenza e beneficenza: Libri Mastri, Quattro Marie, nn. 1436-1444; Quattro Marie Aggregati, nn. 1462, 1468-69; Luogo Pio Carita', nn. 1629-1636; Misericordia, nn. 1755-1770; 1700-1873: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXV-XXXIX); 1801-1890: de Maddalena (1957, p. 13); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (1886).
Modena:	1458-1705: Basini (1974, pp. 165 f.); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Molfetta:	1534-1606: Palumbo (1971, p. 211); 1778-1805: Palumbo (1965, pp. 128 f.); 1806-1861: Palumbo (1968, 270 f.).
Montaldeo:	1569-1798: Doria (1968, pp. 413-420).
Montecorvino:	1824-1847: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Monteleone:	1820-1848: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Montesarchio:	1824-1847: Storchi (1991, p. pp. 13, 15-18, 24, 53 f., 66).

Montorio:	1807-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Naples:	1474-1615: Coniglio (1951, p. 164); 1550-1860: Faraglia (1878, pp. 111 f., 296 ff., 344); 1734-1805: Romano (1965, p. 69); 1824-1833: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Nereto:	1811-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Nicastro:	1820-1848: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Noale:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Novara:	1896-1914: Il Sole (ad annum).
Padua:	1500-1594: Corazzol (1979, pp. 110 f.); 1600-1796: Archivio di Stato di Padova, Esposti, regg.; Ivi, vettovaglie, busta 127 (ZII 890), c.57; 1800-1881: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXVIII f.); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, p. 88-91).
Palermo:	1407-1822: Cancila (1983, pp. 160-163); 1802-1888: Petino (1959, pp. 11 f); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Palmi:	1822-1848: Storchi (1991, pp. 17 f., 24, 53 f., 66).
Paola:	1816-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Parma:	1500-1700: Romani (1975, p. 305-309); 1821-1890: Spaggiari (1959, p. 14); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Pavia:	1398-1698: Zanetti (1964, pp. 155-159); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Penne:	1824-1847: Storchi (1991, pp. 13 f., 17 f., 24, 53 f., 66).

Pesaro:	1700-1825: House of Commons (1827b, pp. 87-90); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Piacenza:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Piedimonte d'Alife:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Pieve di Teco:	1874-1895: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Piove di Sacco:	1705-1796: Archivio di Stato di Padova, Esposti, regg.; Ivi, vettovaglie, busta 127 (ZII 890), c.57
Pisa:	1208-1322: Herlihy (1958, pp. 198 f.); 1454-1537: Archivio di Stato Pisa, Opera del Duomo, 91, 120-1, 442-8, 1084-90, 1164-5; Corporazioni religiose soppresse 1012; 1548-1859: Malanima (www.iisg.nl/hpw/grainprices.xls); 1748-1805: Mauri et al. (1970, p. 645); 1860-1872: Archive of the Chamber of Commerce of Pisa, folder Comune; 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1913: .
Pistoia:	1477-1573: Archivio di Stato Firenze, Conventi soppressi dal G.no francese, 184 (S. Bartolomeo di Pistoia), nn. 5-6; 198 (S. Maria delle Nevi, Pistoia), 23-5; 188 (S. Francesco, PT), 18-27, 33; Archivio di Stato Pistoia, Opera di S. Jacopo 9-10, 407-8, 413-14, 425-7, 430, 432, 434, 435bis, 436-36bis, 439-41, 443, 505, 764.
Potenza:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Porrona:	1790-1894: Barsanti and Rombai (1981, pp. 169 ff.).
Portogruaro:	1825-1877: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXVIII f.).
Prato:	1589-1785: Menzione (1986, pp. 211-215).
Ravenna:	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Reggio Calabria:	1822-1848: Storchi (1991, pp. 17 f., 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Reggio Emilia:	1651-1750: Basini (1979, p. 115); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Rome:	1563-1797: Reinhardt (1991, pp. 505-565); 1703-1870: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXV-XXXIX); 1823-1890: Pinchera (1957, p. 13); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1907-1913: Cianci (1933, table XXIII).
Rossano Calabro:	1816-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Rovigo:	1773-1872: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXVII ff.); 1870-1913: Cianci (1933, table XXIII). 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Salerno:	1810-1847: Storchi (1991, pp. 13, 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
San Germano:	1824-1847: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Sansepolcro:	1500-1631: Fanfani (1940, pp. 79-111).
Sassari:	1828-1890: Delogu (1959, p. 15); 1876-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Scarperia:	1464-1566: Archivio di Stato Firenze, Corporazioni religiose soppresse dal Gov. francese, 252 (S. Barnaba di Scarperia), nn.1 (1464-83), 2 (1501-19), 3 (1522-53), 4 (1519-33), 6 (1545-54), 7 (1555-66).
Sciacca:	1603-1712: Cancila (1983, pp. 164 f.).
Senigallia:	1729-1825: House of Commons (1827b, pp. 87-90).
Siena:	1546-1765: Parenti (1942, pp. 38-41); 1748-1800: Mauri et al. (1970, p. 645); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Squinzano:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66).
Sulmona:	1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Syracuse:	1573-1658: Personal communication by S. R. Epstein; 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Teano:	1826-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).
Teramo:	1809-1848: Storchi (1991, pp. 13 f., 15-18, 24, 53 f., 66); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Termini Imerese:	1607-1712: Cancila (1983, pp. 164 f.).
Terranova (Gela):	1604-1705: Cancila (1983, pp. 164 f.).
Tirano:	1875-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Trani:	1827-1855: Palumbo (1979, p. 177).
Trapani	1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).
Treviso:	1530-1616: Gasparini (1987, p. 230); 1600-1699: personal communication by Professor Pezzolo (Venice) on data from unpublished MA thesis by F. Prasco; 1870-1929: Cianci (1933); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).
Trieste:	1801-1824: House of Commons (1827b, p. 83); 1825-1890: Beltrami (1959, p. 9 f.); 1870-1913: ÖSH (1883-1914, annual issues), SJB (1872-1884, annual issues)
Tropea:	1824-1847: Storchi (1991, pp. 15-18, 24, 53 f., 66).
Turin:	1630-1798: Prato (1908, pp. 160 f.); 1815-1890: Felloni (1957b, p. 15); 1896-1914: Il Sole (ad annum).
Udine:	1500-1829: Personal communication by P. Malanima (data collected by A. Fornasin); 1600-1875: MAIC: Ministero di agricoltura industria e commercio (1886, pp. XXXV-XXXIX); 1700-1783: House of Commons

(1827b, pp. 108 ff.); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88-91); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).

Venice: 1388-1479: Mueller (1997, pp. 654 f.); 1672-1782: Toaldo (1802, pp. 135-138); 1896-1914: Il Sole (ad annum).

Vercelli: 1701-1906: Pugliese (1908, pp. 271-275).

Verona: 1500-1630: Borelli (1982, pp. 298-304); 1862-1885: MAIC: Ministero di agricoltura industria e commercio (1886, pp. 88 f.); 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum); 1896-1914: Il Sole (ad annum).

Vicenza: 1600-1694: Biblioteca Civica Bertoliana, Vicenza, Dipartimento Bacchiglione, busta 7; 1874-1896: MAIC: Ministero di agricoltura industria e commercio (ad annum).

Vieste: 1816-1848: Storchi (1991, pp. 14, 15-18, 24, 53 f., 66).

Volterra: 1378-1552: AS Volterra, + (Croce nera), Conventi soppressi - S. Agostino, 72-73, 80, 82; idem, S. Chiara, 92, 97, 98; G' 146: Deliberazioni degli Otto Deputati sopra l'Abbondanza, 1412-1555.

Conversion sources

Basini (1967); Becher (1838); Bernocchi (1976); Cipolla (1990); Dell'Erba (1934); Felloni (1968); Galeotti (1930); Londei (1990); Malanima (2002); Martini (1883); Papadopoli (1885); Pesce and Felloni (1976); Romano (1965); Stumpo (1979).

Portugal, Spain

Wheat price sources

Alava: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).

Albacete: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).

Alcala de Henaress	1554-1650: Hamilton (1934, Appendix IV and V): 1651-1799: Hamilton (1947, Appendix I)
Alicante:	1790-1849: Barquin Gil (2001, Appendix A4, pp. 1666-167); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Almaden:	1758-1835: Dobado González (1982).
Almeria:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Avila:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Badajoz:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Balaguer:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Barcelona:	1493-1808: Feliu (1991); 1813-1890: Sarda (1998); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de Estudios de historia rural (1980)
Burgos:	1800-1860: Martinez Vara (1999); 1814-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de Estudios de historia rural (1980)
Caceres:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Cadiz:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Casarrubios del Monte:	1651-1800: Lopez Losa (2013)
Castellon:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Cervera:	1753-1802: Feliu (1991)
Ciudad Real:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).

Cordoba:	1816-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de Estudios de historia rural (1980)
Cuellar:	1604-1713: Alvarez Anes and Le Flem (1965)
Coruna:	1700-1825 (House of Commons 1826 p.67); 1827-1832: House of Commons (1828, 1829, 1830, 1831, 1834a); 1834-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Cuenca:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Fernan-Nunez:	1734-1808: Ponsot (1987);
Fraga:	1834-1883: Barquin Gil (2001)
Gerona:	1569-1799: Feliu (1991); 1765-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Granada:	1814-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Guadalajara:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Guipuzcoa:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Huelva:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Huesca:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Jaen:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Leon:	1800-1860: Martinez Vara (1999); 1829-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Lisbon:	1500-1910: personal communication by Jaime Reis.
Lleida (Lerida):	1700-1802: Vicedo Ruis (1983a); 1800-1845: Vicedo Ruis (1983 b)1814-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Logrono:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Lorca:	1829-1883: Barquin Gil (2001)
Lugo:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Madrid:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de Estudios de historia rural (1980)
Maduerelo:	1613-1704: Alvarez Anes and Le Flem (1965)
Mallorca:	1317-1550: Portella (1993 vol. II p.485-487), integrated with data 1386-1397: Lopez Bonnet (1986 p.60); 1500-1777 Benassar (1977)
Mansilla:	1651-1799 Lopez Losa (2013)
Medina:	1800-1860: Martinez Vara (1997)
Merida:	1829-1883: Barquin Gil (2001)
Murcia:	1675-1796: Caro Lopez (1985); 1836-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Orense:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).
Oviedo:	1786-1860: Martinez Vara (1997); 1801-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Palencia:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Pamplona:	1546-1766: Cela Arizcun (1989); 1765-1883: Barquin Gil (2001)
Pontevedra:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Rioseco:	1766-1883: Barquin Gil (2001); 1800-1860: Martinez Vara (1997)
Ribera de Sort:	1741- 1798: Giralt i Raventos (1958)
Rioseco:	1800-1860: Martinez Vara (1997); 1766-1883: Barquin Gil (2001)
Salamanca:	1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)
Sandoval;	1584- 1808: Sebastian Amarila (1992)

Santander: 1800-1860: Martinez Vara (1997); 1821-1883: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Segovia: 1613-1704: Alvarez Anes and Le Flem (1965) and Perez Moreda et al. (provided by David Reher), average of the two series; 1705-1808: Perez Moreda et al. (provided by David Reher); 1809-1855: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Seu d'Urgell: 1705- 1793: Giralt i Raventos (1958)

Sevilla: 1546—1833: Ponsot (1986); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Soria: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Tarragona: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980).Tarrega: 1719-1811: Garrabou (1970)

Teruel: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Toledo 1835-1855: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Tolosa: 1765-1883: Barquin Gil (2001)

Torrelavega: 1866-1883: Barquin Gil (2001)

Tudela: 1814-1883: Barquin Gil (2001)

Valencia: 1413-1500: Hamilton (1936 Appendix III); 1551-1650 Hamilton (1934 Appendix IV and V); 1651-1800: Lopez Losa (2013); 1719-1805: Palop Ramos (1975)

Valladolid: 1856-1890: Sanchez-Albornoz (1975); 1891-1906: Grupo de Estudios de historia rural (1980)Vitoria: 1829-1859: Barquin Gil (2001)

Zamora: 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo deestudios de historia rural (1980).

Zaragoza: 1382-1497: Hamilton (1936 Appendix III); 1649-1813: Peiro (1987); 1814-1855: Barquin Gil (2001); 1856-1890: Sanchez-Albornoz (1975); 1891-1907: Grupo de estudios de historia rural (1980)

Conversion sources

Carreras and Tafunell (2005); Feliu (1991); Hamilton (1934) Hamilton (1947).

Scandinavia (Denmark, Finland, Norway, Sweden)

Wheat price sources

Älvsborg:	1830-1914: Jörberg (1972, pp. 125-131).
Ängelholm:	1839-1868: Jörberg (1972, pp. 125-128).
Bergen:	1830-1913: Personal communication by D. Jacks.
Copenhagen:	1723-1800: Friis and Glamann (1958, pp. 207-224); 1801-1903: Houses of Parliament (1905).
Gothenburg:	1853-1914: Jörberg (1972, pp. 128-131).
Jönköping:	1855-1914: Jörberg (1972, pp. 127-130).
Kalmar:	1776-1914: Jörberg (1972, pp. 122-130).
Kopparberg:	1741-1775: Jörberg (1972, pp. 120 f.); 1776-1802: Jörberg (1972, p. 123); 1837-1914: Jörberg (1972, pp. 126-132).
Kristiansand:	1839-1868: Jörberg (1972, pp. 125-128).
Malmö:	1840-1914: Jörberg (1972, pp. 128-131).
Örebro:	1886-1914: Jörberg (1972, p. 132).
Oslo (Christiania):	1786-1826: House of Commons (1826, p. 18); 1830-1913: Personal communication by D. Jacks.
Simrishamn:	1838-1868: Jörberg (1972, pp. 125-128).
Skaraborg:	1732-1775: Jörberg (1972, pp. 120 f.); 1776-1802: Jörberg (1972, p. 122); 1803-1914: Jörberg (1972, pp. 125-131).
Stockholm:	1733-1775: Jörberg (1972, pp. 119 ff.); 1776-1802: Jörberg (1972, p. 122); 1803-1914: Jörberg (1972, pp. 124-130).
Stavanger:	1842-1913: Personal communication by D. Jacks.

Uppsala: 1732-1775: Jörberg (1972, pp. 119 ff.); 1776-1802: Jörberg (1972, p. 122); 1803-1914: Jörberg (1972, pp. 124-130).

Conversion sources

Friis and Glamann (1958); Jörberg (1972).

General conversion sources for the period 1870-1913

Ciocca and Ulizzi (1990); Denzel (2010); Edvinsson et al. (2010); Officer and Williamson (2014).

References

Aclocque Croy, G. v. (1917). *Les Corporations l'industrie et le commerce a Chartres du XI^e siecle a la Revolution*. Paris: Picard.

Adamczyk, W. (1938). *Ceny w Warszawie w XVI i XVII wieku*. Lwów: Kasa im. Mianowskiego.

Allen, M. (2012). *Mints and Money in Medieval England*. Cambridge: Cambridge University Press.

Altherr, H. (1910). *Das Münzwesen der Schweiz bis zum Jahre 1798 auf Grundlage der eidg. Verhandlungen und Vereinbarungen*. Bern: Stämpfli & Cie.

Alvarez Anes, G. and J.P Le Flem (1965). 'Las crisis del siglo XVII: Produccion agricola, precios e ingresos en tierras de Segovia', *Moneda Y Credito: Revista de Economia*, PP.3-55, at 29-35);

Anonym (1765). Ein hundert und fünf und dreyßigjähriger Auszug des mittleren Getraide-Preisses der Churstadt Wittenberg, nach dem Stadtmaaße gerechnet. *Gnädigst privilegirtes Leipziger Intelligenz-Blatt*, 301-304.

Anonym (1776). Tabellarischer Extract der Marktgetraidepreiße, der Stadt Leipzig und Delitsch vom Jahre 1719. bis mit 1774. nach dem dresdner Scheffel. *Gnädigst privilegirtes Leipziger Intelligenz-Blatt* 38, 343-346.

Anonym (1842). Mesures spéciales aux diverses localités de département. *Annuaire des Côtes-du-Nord* 3, 233-252.

Anonym (1867). Preise von Feldfrüchten. *Jahrbuch für die Amtliche Statistik des Preussischen Staats* 2, 108-146.

Anonym (1894). Grosshandelspreise für Weizen. *Statistisches Jahrbuch Deutscher Städte* 4, 126.

Anonym (1900). Lebensmittelpreise. *Statistisches Jahrbuch deutscher Städte* 8, 355.

Anonym (1908). Lebensmittelpreise. *Statistisches Jahrbuch deutscher Städte* 15, 213.

Anonym (1935). Die Getreidepreise in Deutschland seit Ausgang des 18. Jahrhunderts. *Vierteljahrshefte zur Statistik des Deutschen Reichs* 44, 1, 273-321.

Arnold, P. (1980). Die sächsische Talerwährung von 1500 bis 1763. *Schweizerische Numismatische Rundschau* 59, 50-94.

Arnoul, H. (1835). *Annuaire statistique des départements de la Haute-Vienne, de la Creuse, de la Corrèze, ressort de la cour royale de Limoges*. Limoges: Bargeas.

Baehrel, R. (1961). *Une croissance: la Basse-Provence rurale (fin du seizième siècle a 1789). Essai d'économie historique statistique*. Paris: S.E.V.P.E.N.

Bandettini, P. (1957). I prezzi sul mercato di Firenze dal 1800 al 1890. *Archivio Economico dell'Unificazione Italiana, serie I* 5, 1.

Barquin Gil R. (2001) *Precios de trigo e indices de consumo en Espana* Burgos:Universidad de Burgos

Barrow, J. H. (1834). *The Mirror of Parliament for the Second Session of the Eleventh Parliament of Great Britain and Ireland*. London: By The Proprietor.

Barsanti, D. and Rombai, L. (1981). *Porrona nei secoli XVIII-XX: storia sociale di un territorio delle colline interne maremmane*. Firenze: Università Firenze.

Basini, G. L. (1967). *Zecca e monete á Modena nei secoli XVI e XVII*. Parma: La nazionale.

Basini, G. L. (1974). *Sul mercato di Modena tra Cinque e Seicento: prezzi e salari*. Milano: A. Giuffrè.

Basini, G. L. (1979). *Le terre di un monastero: Un'azienda agraria emiliana dal 1650 al 1750*. Bologna: Pàtron.

Bauernfeind, W. (1993). *Materielle Grundstrukturen im Spätmittelalter und der Frühen Neuzeit: Preisentwicklung und Agrarkonjunktur am Nürnberger Getreidemarkt von 1339 bis 1670*. Nürnberg: Stadtarchiv Nürnberg.

Baulant, M. (1968). Le prix des grains à Paris de 1431 à 1788. *Annales. Économies, Sociétés, Civilisations* 23, 3, 520-540.

Becher, S. (1838). *Das österreichische Münzwesen vom Jahre 1524 bis 1838 in historischer, statistischer und legislativer Hinsicht*, vol. 2: Legislativer Theil. Vienna: In Commission bei Edlen v. Mösle's sel. Witwe und Braumüller.

Beissel, S. (1885). *Geldwerth und Arbeitslohn Im Mittelalter: Eine Culturgeschichtliche Studie*. Freiburg i.Br.: Herder'sche Verlagsbuchhandlung.

Beltrami, D. (1959). I prezzi nel portofranco e nella borsa merci di Trieste dal 1825 al 1890. *Archivio Economico dell'Unificazione Italiana, serie I* 8, 2.

Benassar, D. V.(1987) *Una sociedad del Antiguo Regimen. Felanitx de Mallorca en el siglo XVI*, Mallorca

Benzenberg, J. F. (1819). *Ueber Handel und Gewerbe, Steuren und Zölle*. Elberfeld: H. Büschler.

Bernocchi, M. (1976). *Le monete della Repubblica Fiorentina*, vol. 3: Documentazione. Firenze: Leo S. Olschki.

Beveridge, W. H. (1929). A Statistical Crime of the Seventeenth Century. *Journal of Economic and Business History* 1, 4, 502-533.

Blanchet, A. and Dieudonné, A. (1916). *Manuel de numismatique Française*, vol. 2: Monnaies royales Françaises depuis Hugues Capet jusqu'a la Révolution. Paris: Picard.

Blockmans, F. and Blockmans, W. P. (1979). Devaluation, Coinage and Seignorage under Louis de Nevers and Louis de Male, Counts of Flanders, 1330-84. In *Coinage in the Low Countries (880-1500): The Third Oxford Symposium on Coinage and Monetary History*, (Ed. Mayhew, N. J.). Oxford: B.A.R., 69-94.

Bode, W. J. L. (1847). *Das ältere Münzwesen der Staaten und Städte Niedersachsens*. Braunschweig: Viehweg & Sohn.

Bois, G. (1968). Comptabilité et histoire des prix: le prix du froment à Rouen au XVe siècle. *Annales. Économies, Sociétés, Civilisations*, 1262-1282.

Borelli, G. (1982). L'agricoltura veronese tra '500 e '600: Una proposta di lettura. In *Uomini e civilta agraria in territorio veronese*, vol. 1: secoli XI-XVII (Ed. Borelli, G.). Verona: Banca Popolare di Verona, 263-306.

Boutier, J. (1976). Approche de la conjoncture économique bas-limousine: Le prix du froment et du seigle du XVI^{e} au XVIII^{e} siècle. *Bulletin de la Société des Lettres, Sciences et Arts de la Corrèze* 79, 97-122.

Brüggemann, L. W. (1800). *Beiträge zu der ausfürlichen Beschreibung des Königl. Preußischen Herzogthums Vor- und Hinter-Pommern* vol. 1. Stettin: Johann Samuel Leich.

Brugger, H. (1968). *Statistisches Handbuch der schweizerischen Landwirtschaft*. Bern: Verbandsdruckerei AG.

Cancila, O. (1983). Le mete dei cereali e del vino a Palermo dal 1407 al 1822. In *Studi dedicati a Carmelo Trasselli*, (Ed. Motta, G.). Rubbettino: Soveria Mannelli, 157-165.

Carreras A. and X. Tafunell (2005) Estadísticas históricas de España.Siglos XIX-XX Bilbao: Fundación BBVA

Castelin, K. (1973). *Grossus Pragensis: Der Prager Groschen und seine Teilstücke; 1300 - 1547*. Braunschweig: Klinkhardt & Biermann.

Caro Lopez, C. (1985) 'Las Oscilaciones del Precio del Trigo en una Ciudad del Levante: El Caso de Murcia, 1675-1800' *Revista de Historia Economica*, **5**, pp 247-264.

Cela Arizcun, A. (1989). *Series Navarras De Precios De Cereales 1589-1841*. Banco de Espana. Servicio de Estudios. Estudios de Historia Economica, No. 18.

Challis, C. E. (1992). *A New History of the Royal Mint*. Cambridge: Cambridge University Press.

Chelius, G. K. and Hauschild, J. F. (1830). *Allgemeines Comptoir-Handbuch*, vol. 9: Maß- und Gewichtsbuch. Frankfurt: Jägersche Buch-, Papier- und Landkartenhandlung.

Cianci, E. (1933). *La dinamica dei prezzi delle merci in Italia dal 1870 al 1929*. Roma: Istituto poligrafico dello Stato.

Ciocca, P. and Ulizzi, A. (1990). I tassi di cambio nominali e "reali" dell'Italia dall'Unità nazionale al sistema monetario europeo (1861-1979). In *Ricerche per la storia della Banca d'Italia*, vol. 1 (Ed. Ciampi, C. A.). Bari: Laterza, 341-368.

Cipolla, C. M. (1990). *Il governo della moneta a Firenze e a Milano nei secoli XIV-XVI*. Bologna: Società editrice il Mulino.

Cochran-Patrick, R. W. (1876). *Records of the Coinage of Scotland from the Earliest Period to the Union*, vol. 1. Edinburgh: Edmonston & Douglas.

Coniglio, G. (1951). *Il regno di Napoli al tempo di Carlo V: Amministrazione e vita economico-sociale*. Napoli: Edizioni Scientifiche Italiane.

Coppejans-Desmedt, H. (1959). Prijzen van granen te Tienen in stuivers per halster (1663-1779): Prix en patards par halster des céréales a Tirlemont, (1663-1779). In *Dokumenten voor den geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, (Ed. Verlinden, C.). Brugge: De Tempel, 523-531.

Coppejans-Desmedt, H. (1965). Merkuriale van graanen en brood te Eeklo: Mercuriale des céréales et du pain a Eeklo. In *Dokumenten voor den geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. II (XIV^{e}-XIX^{e} eeuw) (Ed. Verlinden, C.). Bruges: De Tempel, 467-492.

Corazzol, G. (1979). *Fitti e livelli a grano: Un aspetto del credito rurale nel Veneto del '500*. Milano: Angeli.

Craeybeckx, J. (1959a). De prijzen van graan en van brood te Brussel (1501-1795). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, vol. 1 (Eds. Verlinden, C. and Craeybeckx, J.). Brugge: De Tempel, 481-503.

Craeybeckx, J. (1959b). De Prijzen van granen en van brood te Antwerpen van 1608 tot 1817. In *Dokumenten voor den geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, (Ed. Verlinden, C.). Brugge: De Tempel, 504-522.

Croisiau, G. (1959). Prijzen in Vlaanderen in de 15^{e} eeuw - Prix en Flandre au 15^{e} siècle. In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, vol. 1 (Eds. Verlinden, C. and Craeybeckx, J.). Brugge: De Tempel, 33-53.

Daguin (1894). Le prix du blé et de l'avoine et autres denrées à Langres, de 1549 à 1870. *Bulletin du Comité des travaux historiques et scientifiques: Section des sciences économiques et sociales*, 341-351.

Dányi Dezső, Z. V. (1989). *Soproni árak és bérek a középkortól 1750-ig*. Budapest: Akademiai Kiado.

de Belfort, A. (1864-69). Prix commun des grains vendus sur le marché de Chateaudun depuis l'année 1583. *Bulletins de la Société Dunoise: Archéologie, histoire, sciences et art* 1, 161-170.

de Hagemeister, J. (1836). *Report on the Commerce of the Ports of New Russia, Moldavia and Wallachia Made to the Russian Government in 1835*. London: Effingham Wilson Royal Exchange.

de la Roncière, C.-M. (1982). *Prix et salaires à Florence au XIV^{e} siècle*. Rome: École Française de Rome.

de La Rue, G. (1842). Recherches sur les variations du système monétaire en France, et sur le prix du ble a Caen de l'an 1202 a l'an 1663. In *Nouveaux essais historiques sur la ville de Caen et son arrondissement*, vol. 1 (Ed. de La Rue, G.). Caen: Mancel.

de Lépinois, E. d. B. (1854). *Histoire de Chartres*, vol. 1. Chartres: Garnier.

de Maddalena, A. (1957). I prezzi dei generi commestibili e dei prodotti agricoli sul mercato di Milano dal 1815 al 1890. *Archivio Economico dell'Unificazione Italiana, serie I* 5, 3.

Dehergne, J. (1963). *Le Bas-Poitou à la veille de la Révolution*. Paris: Commission d'histoire économique et sociale de la Révolution.

Delatte, I. (1937-38). Prix et salaires en Hainaut au XVIe siècle. *Annales du cercle archéologique de Mons* 55, 97-114.

Dell'Erba, L. (1934). La riforma monetaria angioina e il suo sviluppo storico nel Reame di Napoli. *Archivio Storico per le Province Napoletane* 20, 39-136.

Delogu, I. (1959). I prezzi sui mercati di Cagliari e di Sassari dal 1828 al 1890. *Archivio Economico dell'Unificazione Italiana, serie I* 9, 4.

Demole, E. (1887). *Histoire monétaire de Genève de 1535 à 1792*. Genève, Paris: H. Georg.

Denzel, M. A. (2010). *Handbook of World Exchange Rates, 1590–1914*. Farnham: Ashgate.

di Raimondo, G. (1975-76). Ricerche sulla storia dei prezzi a Milano fra '400 e '500: i libri mastri delle "Quattro Marie". MA dissertation. Milan: University of Milan.
Dilschmann, J. L. (1785). *Diplomatische Geschichte und Beschreibung der Stadt und Festung Spandow*. Berlin.
Dittmann, O. (1889). *Die Getreidepreise in der Stadt Leipzig im XVI., XVII. und XVIII. Jahrhundert: Ein Beitrag zur Geschichte der Preisbewegung*. Leipzig: Duncker & Humblot.
Dobado González, Rafael (1982) 'Salarios y condiciones de trabajo en las minas de Almadén, 1758-1839' In La economia española al final del Antiguo Régimen, II. Manufacturas, edited by P. Tedde. Madrid: Alianza-Banco de España.
Doria, G. (1968). *Uomini e terre di un borgo collinare: Dal XVI al XVIII secolo*. Milano: A. Giuffrè.
Dost, K. (1990). *Münzen im Preußenland: Herzogtum Preußen und Provinz Ostpreußen im Königreich, 1525 - 1821*. Essen: Eigenverlag.
Doursther, H. (1840). *Dictionnaire universel des poids et mesures anciens et modernes: contenant des tables de monnaies de tous les pays*. Brussels: M. Hayez.
Drame, S., Gonfalone, C., Miller, J. A. and Roehner, B. (1991). *Un siècle de commerce du blé en France 1825-1913: les fluctuations du champ des prix*. Paris: Economica.
Dreyfus, F.-G. (1956). Prix et population a Trèves at a Mayence au XVIII^{e} siècle. *Revue d'Histoire Economique et Sociale* 34, 241-261.
Duffaud, M. (1862). Note sur le prix des grains à Poitiers depuis trois siècles. *Mémoires présentés par divers savants à l'Académie des Sciences* 17, 221-337.
Dupâquier, J. and Meuvret, J. (1968). *Mercuriales du pays de France et du Vexin français (1640-1792)*. Paris: S.E.V.P.E.N.
Dupré de Saint-Maur, N. F. (1746). *Essai sur le monnoies, ou, Réflexions sur le rapport entre l'argent et les denrées*. Paris: J. B. Coignard et De Bure, l'aîné.
Ebeling, D. and Irsigler, F. (1976). *Getreideumsatz, Getreide- und Brotpreise in Köln 1368 – 1797*, vol. 1: Getreideumsatz und Getreidepreise: Wochen-, Monats- und Jahrestabelle. Köln, Wien: Böhlau.
Edvinsson, R., Jacobson, T. and Waldenström, D. (Eds. 2010). *Historical Monetary and Financial Statistics for Sweden: Exchange rates, prices, and wages, 1277–2008*Stockholm: Ekerlids Förlag.
Elsas, M. J. (1936). *Umriss einer Geschichte der Preise und Löhne in Deutschland vom ausgehenden Mittelalter bis zum Beginn des neunzehnten Jahrhunderts*, vol. 1. Leiden: A.W. Sijthoff's Uitgeversmaatschappij.
Elsas, M. J. (1940). *Umriss einer Geschichte der Preise und Löhne in Deutschland vom ausgehenden Mittelalter bis zum Beginn des neunzehnten Jahrhunderts*, vol. 2. Leiden: A.W. Sijthoffs Uitgeversmaatschappij.
Engel, E. (1853). *Das Königreich Sachsen in statistischer und staatswirthschaftlicher beziehung*. Dresden: R. Kuntze.
Engel, E. (1855). Die Geldprägungen nach dem Leipziger Münzfuße, dem Conventionsfuße und dem 14-Thalerfuße in dem Churfürstenthume und dem Königreiche Sachsen. *Zeitschrift des Statistischen Büreaus des Königl. Sächs. Ministeriums des Innern* 4, 49-64.
Engel, E. (1861). Die Getreidepreise, die Ernteerträge und der Getreidehandel im preußischen Staate. *Zeitschrift des Königlich Preussischen Statistischen Bureaus* 1, 249-287.
Enno van Gelder, H. (1971-72). De Utrechtse munten ten tijde van bisschop David van Bourgondie. *Jaarboek voor Munt- en Penningkunde* 58/59, 10-50.
Enno van Gelder, H. and Hoc, M. (1960). *Les Monnaies des Pays-Bas Bourguignons et Espagnols 1434-1713*. Amterdam: Schulman.
Fabri, J. E. (1794). *Beyträge zur Geographie, Geschichte und Staatenkunde*. Nürnberg: Schneider und Weigel.
Fairlie, S. (1965). The Nineteenth-Century Corn Law Reconsidered. *Economic History Review* 18, 3, 562-575.
Fanfani, A. (1940). *Indagini sulla 'Rivoluzione dei Prezzi'*. Milan: Società editrice 'Vita e pensiero'.
Faraglia, F. (1878). *Storia dei prezzi in Napoli dal 1131 al 1860*. Napoli: G. Nobile.
Feavearyear, A. E. (1963). *The Pound Sterling: A History of English Money*. London, Edinburgh, Glasgow: Oxford University Press.

Felloni, G. (1957a). I prezzi sul mercato di Genova dal 1815 al 1890. *Archivio Economico dell'Unificazione Italiana. Serie I* 7, 3.
Felloni, G. (1957b). I prezzi sul mercato di Torino dal 1815 al 1890. *Archivio Economico dell'Unificazione Italiana. Serie I* 5, 2.
Felloni, G. (1968). *Il Mercato Monetario in Piemonte nel Secolo XVIII*. Milano: Banca Commerciale Italiana.
Feliu, G. (1991) *Precios y salarios en la Cataluna moderna, I: Alimentos*, Madrid: Banco de Espana,
Földes, B. (1905). Die Getreidepreise im 19. Jahrhundert. *Jahrbücher für Nationalökonomie und Statistik* 84 (3. F. 29), 4, 467-518.
Frêche, G. (1967a). Les Marchés d'exportation sur le canal royal des Deux-Mers (1599-1792). *Bulletin de la Societe D'Etudes Scientiiques de L'Aude* 67, 235-261.
Frêche, G. (1967b). Prix du blé et crises dans le Haut-Languedoc: XVII^{e}-XVIII^{e} siècles. *Revue du Tarn* 48, 431-459.
Frêche, G. (1969a). Mercuriales en Pays de Foix: le pris des grains, du foin et du vin à Tarascon, Foix et Pamiers (1644-1792). *Bulletins de la Société Ariégeoise* 25, 171-189.
Frêche, G. (1969b). Une enquête sur les prix des produits agricoles dans la région toulousaine: XV^{e}-XIX^{e} siècle. *Annales du Midi* 81, 91, 17-39.
Frêche, G. (1970). L'évolution du commerce lauragais sous l'Ancien Régime. *Revue du Tarn* 59, 273-289.
Frêche, G. (1979). Cinquante et une mercuriales du Massif Central (XVIe - XIXe siècle). *Annales du Midi* 85, 29-52.
Frêche, G. and Frêche, G. (1967). *Les prix des grains, des vins et des legumes à Toulouse (1486-1868): Extraits des mercuriales suivis d'une bibliographie d'histoire des prix*. Paris: Presses Universitaires de France.
Friis, A. and Glamann, K. (1958). *A history of prices and wages in Denmark 1660-1800,* vol. 1. London, New York, Toronto: Longmans, Green and Co.
Frohn, C. (1799). *Ueber Kultur, Handel und Preise des Getreides in Baiern*. München: Johann Baptist Strobl.
Furtak, T. (1935). *Ceny w Gdańsku w latach 1701-1815: les prix à Gdańsk (Danzig) de 1701 à 1815; Preisgeschichte Danzigs 1701-1815*. Lwow, Warszawa: Skład główny.
Galeotti, A. (1930). *Le Monete del Granducato di Toscana*. Livorno: S. Belforte & C.
Garrabou, Ramon (1970). Sobre la formació del mercat català en el segle XVIII. Una primera aproximació a base dels preus dels grans a Tàrrega (1732-1811), *Recerques*, 1, 83-121.
Gascon, R. (1971). *Grand commerce et vie urbaine au XVIe siècle: Lyon et ses marchands (environs de 1520 - environs de 1580)*. Paris et La Haye: Ecole pratique des hautes études.
Gasparini, D. (1987). I problemi annonari della città e del suo contado. *Studi trevisani: bollettino degli istituti di cultura del Comune di Treviso* 5-6.
Gemmill, E. and Mayhew, N. J. (1995). *Changing Values in Medieval Scotland: a Study of Prices, Money, and Weights and Measures*. Cambridge, New York: Cambridge University Press.
Genicot, L. (1938-39). Le Prix du Froment à Namur de 1773 a 1840 (avec un diagramme). *Annales de la Société archéologique de Namur* 43, 239-276.
Géraud-Parracha, G. (1957). *Le commerce des vins et des eaux-de-vie en Languedoc sous l'Ancien Régime*. Montpellier: Déhan.
Gerhard, H.-J. and Kaufhold, K. H. (1990). *Preise im vor- und frühindustriellen Deutschland*. Göttingen Schwartz.
Giacchero, G. (1979). *Il Seicento e le Compere di San Giorgio*. Genova: Sagep.
Gibson, A. J. S. and Smout, T. C. (1995). *Prices, Food and Wages in Scotland 1550-1780*. Cambridge: Cambridge University Press.
Giralt i Raventos, E. (1958). En torno al precio del trigo en Barcelona durante el siglo XVI. *Hispania* 70, 38-81
Goldthwaite, R. A. (1995). I prezzi del grano a Firenze dal XIV al XVI secolo. In *Banks, Palaces and Entrepreneurs in Renaissance Florence*, (Ed. Goldthwaite, R. A.). Aldershot: Variorum Reprints, VI, 5-37.

Gori, O. (1989). Mercato e prezzi del grano a Firenze nel secolo XVIII. *Archivio storico italiano* 147, 525-623.
Górkiewicz, M. (1950). *Ceny w Krakowie w latach 1796-1914: Les prix á Cracovie de 1796 á 1914*. Poznan: Nakladem Poznanskiego Towarzystwa Przyjaciol Nauk.
Göttmann, F. (1991). *Getreidemarkt am Bodensee: Raum - Wirtschaft - Politik - Gesellschaft (1650-1810)*. St. Katharinen: Scripta Mercaturae Verlag.
Granger, C. W. J. and Elliott, C. M. (1967). A Fresh Look at Wheat Prices and Markets in the Eighteenth Century. *Economic History Review* 20, 2, 257-265.
Gras, L.-J. (1906). Le prix du blé Saint-Etienne pendant trois Siècles *Annales de la Société impériale d'agriculture, industrie, sciences, arts et belles-lettres du département de la Loire* 26, 137-154.
Grolle, J. J. (2000). *De Muntslag van de graven van Holland tot de Bourgondische unificatie in 1434*, vol. 1: Inleiding en Catalogus. Amsterdam: De Nederlandsche Bank.
Grossherzogliches Statistisches Bureau (1873). Einjährige Durchschnittspreise in ganzen und zehntel Schilling Courant. 1771-1870. *Beiträge zur Statistik Mecklenburgs* 7, 3-4, 22-25.
Grupo de estudios de historia rural (1980). Los precios del trigo y la cebada en Espana 1891-1907 Servicio de estudios del Banco de Espana.
Haas-Zumbühl, F. (1903). Die Kernenpreise und Brotpreise in Luzern von 1601 bis 1900: zusammengestellt und per 100 kg resp. 1 kg umgerechnet; die Fleischpreise in Luzern von 1501-1900. *Zeitschrift für schweizerische Statistik, Beilage Nr. 16* 39, 369-374.
Hamilton, E. J. (1934) *American treasure and the price revolution in Spain*. Cambridge: Harvard University Press
Hamilton, Earl J. Money, prices and wages in Valencia, Aragon and Navarre, 1351-1500. Cambridge, MA, 1936
Hamilton, E. J. (1947). *War and Prices in Spain 1651-1800*. Cambridge: Harvard University Press,
Hanauer, A. (1878). *Études économiques sur l'Alsace ancienne et moderne*, vol. 2: Denrées et salaires. Paris, Strasbourg: A. Durand & Pédone-Lauriel.
Hansen, J. (1912). *Beiträge zur Geschichte des Getreidehandels und der Getreidepolitik Lübecks*. Lübeck: Max Schmidt.
Hauser, H. (1936). *Recherches et documents sur l'histoire des prix en France de 1500 à 1800*. Paris: Les Presses Modernes.
Heers, J. (1961). *Gênes au XVe siècle: activité économique et problèmes sociaux*. Paris: S.E.V.P.E.N.
Helferich (1858). Württembergische Getreide- und Weinpreise 1456-1628: Ein Beitrag zur Geschichte der Geldentwerthung nach der Entdeckung von Amerika. *Zeitschrift für die gesammte Staatswissenschaft* 14, 471-502.
Hélin, É. (1966). Prix des céréales à Luxembourg XVIIe - XVIIIe siècles. In *Marché des céréales à Ruremonde, Luxembourg, Namur et Diest aux XVIIe et XVIIIe siècles*, (Eds. Ruwet, J., Hélin, É., Ladrier, F. and van Buyten, L.). Louvain: Publications Universitaires de Louvain, 185-280.
Herbert, C. J. (1755). *Essai sur la police générale des grains, sur leurs prix & sur les effets de l'agriculture*. Berlin: no publisher.
Herlihy, D. (1958). *Pisa in the Early Renaissance: A Study of Urban Growth*. New Haven: Yale University Press.
Hill, F. (1956). *Tudor and Stuart Lincoln*. Cambridge: Cambridge University Press.
Hirsch, J. C. (1756). *Des Teutschen Reichs Münz-Archiv*, vol. 2. Nürnberg: Adam Jonathan Felßeckers seel. Erben.
Hirsch, J. C. (1760). *Des Teutschen Reichs Münz-Archiv*, vol. 6. Nürnberg: Adam Jonathan Felßeckers seel. Erben.
Hoszowski, S. (1928). *Ceny we Lwowie w XVI i XVII wieku*. Lwów: Institut pour l'encouragement de la création scientifique polonaise.
Hoszowski, S. (1934). *Ceny we Lwowie w latach 1701-1914*. Lwów: Kasa Im. Rektora J. Mianowskiego.
House of Commons (1826). *Parliamentary Papers 1826-27: Foreign corn. No. 2: Returns of all accounts that have been received during the year 1826*, vol. XVI.
House of Commons (1827a). *Parliamentary Papers 1826-27: Foreign corn. Further Accounts No. 2. Consuls Returns*, vol. XVI. London: no pulisher.

House of Commons (1827b). *Parliamentary Papers 1826-27: Foreign corn. No. 2: Returns of all accounts that have been received during the year 1826*, vol. XVI.
House of Commons (1842). *Parliamentary Papers 1842: An Account of the Annual Average Price of Wheat in Dublin, in Each Year from 1828-1841*, vol. XL. London: House of Commons.
Houses of Parliament (1905). *Second series of memoranda, statistical tables, and charts prepared in the Board of Trade with reference to various matters bearing on British and foreign trade and industrial conditions*. London: House of Commons.
Hunger, J. G. (1789). *Kurze Geschichte der Abgaben, besonders der Konsumtions- und Handelsabgaben in Sachsen*. Dresden: Johann Samuel Gerlach.
Il Sole (ad annum). *Il Sole (daily)*. Milano.
Ilisch, P. (1982). *Westfälische Münzgeschichte der Neuzeit vom 16. bis zum 18. Jahrhundert*. Münster: Westfäl. Landesmuseum für Kunst u. Kulturgeschichte.
Institut national de la statistique et des études économiques (Ed. 1895-1913). *Annuaire statistique de la France*Paris: INSEE.
Institut national de la statistique et des études économiques du Grand-Duché de Luxembourg (1990). *Statistiques Historiques*. Luxembourg: Ministère de l'Économie.
Iradiel Murugarren, P. (1978). *Progreso agrario, desequilibrio social y agricultura de transición: la propiedad del Colegio de España en Bolonia (siglos XIV y XV)*. Bolonia: Publicaciones del Real Colegio de España.
Irsigler, F. (1975). Getreide- und Brotpreise, Brotgewicht und Getreideverbrauch in Köln vom Spätmittelalter bis zum Ende des Ancien Régime. In *Zwei Jahrtausende Kölner Wirtschaft*, vol. 1 (Ed. Kellenbenz, H.). Köln: Greven Verlag, 519-539.
Jacks, D. S. (2005). Intra- and International Commodity Market Integration in the Atlantic Economy, 1800–1913. *Explorations in Economic History* 42, 3, 381-413.
Jacks, D. S. (2006). What Drove 19th Century Commodity Market Integration? *Explorations in Economic History* 43, 3, 383-412.
Jacob, W. (1826). *Report on the Trade in Foreign Corn, and on the Agriculture of the North of Europe*. London: Ridgway.
Jacobs, A. and Richter, H. (1935). *Die Großhandelspreise in Deutschland von 1792 bis 1934*. Berlin: Hanseatische Verlagsanstalt Hamburg.
Jacopetti, I. N. (1965). *Monete e prezzi a Cremona dal XVI al XVIII secolo*. Cremona: Athenaeum cremonense.
Jägers, R. (2001). *Duisburg im 18. Jahrhundert: Sozialstruktur und Bevölkerungsbewegung einer niederrheinischen Kleinstadt im Ancien Regime (1713-1814)*. Köln: Böhlau.
Janáček, J. (1957). *Rudolfinské drahotní řády*. Praha: Českoslov. akad. věd.
Jesse, W. (1928). *Der Wendische Münzverein*. Lübeck: Hansischer Geschichtsverein.
Jesse, W. and Buck, H. (1962). *Die Münzen der Stadt Braunschweig von 1499 bis 1680*. Braunschweig: Weisenhaus-Buchdruckerei und Verlag.
Jessen (1800). Neun und vierzigjähriges Verzeichnis der Kornpreise in Lübeck, nach Lasten. *Schleswig-Holsteinische Blätter für Polizei und Kultur* 1, 225-228.
Jörberg, L. (1972). *A History of Prices in Sweden 1732-1914*. Lund: CWK Gleerup.
Joseph, P. and Fellner, E. (1896). *Die Münzen von Frankfurt-am-Main nebst einer münzgeschichtlichen Einleitung und mehreren Anhängen: Das Mittelalter. Die Neuzeit*. Frankfurt: J. Baer.
Kaiserliches Statistisches Amt (1895). Weizenpreise in den 50 Jahren 1845 bis 1894. *Vierteljahrshefte zur Statistik des Deutschen Reichs* 4, 3, 19.
Kerl, B. (1860). *Die Oberhazer Hüttenprocesse zur Gewinnung von Silber, Kupfer, Blei und arseniger Säure* Clausthal: Verlag der Grosse'schen Buchhandlung.
Kius, O. (1864). Die Preis- und Lohnverhältnisse des sechszehnten Jahrhunderts in Thüringen I. *Jahrbücher für Nationalökonomie und Statistik* 1, 65-78.
Klotzsch, J. F. (1780). *Versuch einer Chur-Sächschen Münzgeschichte: von den ältesten, bis auf jetzige Zeiten*, vol. 2. Chemnitz: Johann Christoph Stößel.
Knick Harley, C. (1980). Transportation, the World Wheat Trade, and the Kuznets Cycle, 1850–1913. *Explorations in Economic History* 17, 3, 218-250.

Koppmann, K. (Ed. 1869-94). *Kämmereirechnungen der Stadt Hamburg*, vols. 1-7. Hamburg: Hermann Grüning; Gräfe & Sillem.
Krackowizer, F. (1900). *Geschichte der Stadt Gmunden in Ober-Oesterreich*, vol. 3. Gmunden: Commissionsverlag.
Kresse, Z. (1845). *Geschichte der Landwirthschaft des Altenburgischen Osterlandes*. Altenburg: H.A. Pierer.
Krüger, J. F. (1830). *Vollständiges Handbuch der Münzen, Masse und Gewichte aller Länder der Erde*. Quedlinburg, Leipzig: Gottfried Basse.
Labrousse, E., Romano, R. and Dreyfus, F.-G. (1970). *Le prix du froment en France au temps de la monnaie stable (1726-1913)*. Paris: S.E.V.P.E.N.
Lausitzisches Magazin (ad annum). *Lausitzisches Magazin oder Sammlung verschiedener Abhandlungen und Nachrichten zum Behuf der Natur-, Kunst-, Welt- und Vaterlandsgeschichte, der Sitten, und der schönen Wissenschafte (twice-monthly magazin)*. Görlitz: Joh. Friedr. Fickelscherer.
Le Roy Ladurie, E. (1966). *Les Paysans de Languedoc*. Paris: S.E.V.P.E.N.
Lefebvre-Teillard, A. (1969). *La Population de Dole au XVIII^e Siecle: Étude d'histoire économique et sociale*. Paris: Presses Universitaires de France.
Lefèvre, P. (1925). *Le commerce des grains et la question du pain à Lille de 1713 à 1789*. Lille: Camille Robbe.
Leonhardi, F. G. (1796). *Oekonomische Hefte oder Sammlung von Nachrichten, Erfahrungen und Beobachtungen für den Land- und Stadtwirt*, vol. 7. Leipzig: Expedition des allg. litter. Anzeigers.
Lombardini, G. (1963). *Pane e denaro a Bassano tra il 1501 e il 1799: Prezzi del grano e politica dell'approvigionamento dei cereali tra il 1501 e il 1799*. Vicenza: Neri Pozza.
Londei, G. (1990). La monetazione pontificia e la zecca di Roma in età moderna. *Studi Romani* 38, 1, 303-318.
Lopez Bonet J.F. (1986) *Comunidad y corona : el precio de servir (las cargas sobre el consumo en el siglo xiv en mallorca)* Palma de Mallorca

MAIC: Ministero di agricoltura industria e commercio (1886). *Movimento dei prezzi di alcuni generi alimentari dal 1862 al 1885*. Roma: Botta.
MAIC: Ministero di agricoltura industria e commercio (ad annum). *Bollettino settimanale dei prezzi dei prodotti del grano e del pane (weekly)*. Roma: Direzione generale della statistica.
Malanima, P. (2002). *L'Economia Italiana: Dalla Crescita Medievale alla Crescita Contemporanea*. Bologna: Il Mulino.
Mantellier, P. (1862). Mémoire sur la valeur des principales denrées et marchandises qui se vendaient ou se consommaient en la ville d'Orléans au cours des XIV^e, XV^e, XVI^e, XVII^e et XVIII^e siècles. *Mémoires de la Société archéologique de l'Orléanais* 5, 103-500.
Martinez Vara, T. (1997). Una estimacion del cost de la vida en Santander, 1800-1860 *Revista de Historia Economica* 15, 87-124
Martini, A. (1883). *Manuale di metrologia ossia misure, pesi e monete in uso attualmente e anticamente presso tutti i popoli*. Torino: Loesche.
Mauri, L., Alfonsi, R., Carena, A., Pizzardi, G. and Montesano, A. (1970). Il movimente dei prezzi in Toscana das 1748 als 1805. *Giornale degli Economisti e Annali di Economia* 29, 7/8, 637-659.
Mazzini, C. M. (1882). *La Toscana agricola: sulle condizioni dell'agricoltora e degli agricoltori nelle provincie di Firenze, Siena, Arezzo, Lucca, Pisa e Livorno* Firenze: Felice Piaggi.
Meidinger, F. S. (1785). *Beschreibung Der Churfürstlichen Haupt- und Regierungs-Stadt Landshut*. Landshut: Maximilian Hagen.
Menzione, A. (1986). Agricoltura e proprietà fondiaria. In *Prato: storia di una città*, vol. 2: Un microcosmo in movimento (1494-1815) (Eds. Fasano Guarini, E. and Braudel, F.). Firenze: Le Monnier, 133-216.
Meroni, U. (1957). *Cremona fedelissima*, vol. 2: Popolazione, industria e commercio, imposte camerali, commercio dei grani, moneta e prezzi a Cremona durante la dominazione spagnola. Cremona: Athenaeum Cremonense.
Mestayer, M. (1963). Les prix du blé et de l'avoine de 1329 à 1793. *Revue du Nord* 45, 157-176.

Metz, R. (1990). *Geld, Währung und Preisentwicklung: Der Niederrheinraum im europäischen Vergleich 1350-1800*. Frankfurt: Fritz Knapp.
Meyer, J. (1966). *La noblesse bretonne au XVIII^e siècle*, vol. 2. Paris: S.E.V.P.E.N.
Mika, A. (1959). Nástin vývoje cen zemědělského zboží v Čechách v letech 1424-1547. *Český časopis historický* 7, 3, 545-571.
Miller zu Aichholz, V., Löhr, A. and Holzmair, E. (Eds. 1948). *Österreichische Münzprägungen, 1519-1938*Wien: Verlag Bundessammlung von Medaillen, Münzen und Geldzeichen.
Mira, G. (1941). I prezzi dei cereali a Como dal 1512 al 1658. *Rivista Internazionale di Scienze Sociali* 12, 195-211.
Mireaux, E. (1958). *Une province française au temps du Grand Roi: la Brie*. Paris: Hachette.
Mitchell, B. R. and Deane, P. (1971). *Abstract of British Historical Statistics*. Cambridge: Cambridge University Press.
Morineau, M. (1970). Flottes de commerce et trafics français en Méditerranée au XVII^e siècle (jusqu'en 1669). *XVII^e Siècle* 86-87, 135-171.
Mueller, R. C. (1997). *The Venetian Money Market: Banks, Panics, and the Public Debt, 1200-1500*. Baltimore, London: Johns Hopkins University Press.
Munro, J. H. (1972). *Wool, Cloth, and Gold: The Struggle for Bullion in Anglo-Burgundian Trade, 1340-1478*. Brussels, Toronto: University of Toronto Press.
Nagl, A. (1908). Die österreichische Münzordnung vom Jahre 1481. *Numismatische Zeitschrift* 41, 157-161.
Nagl, A. (1920). Die österreichische Münzordnung Kaiser Maximilians I. von 1510 und 1511 und ihre Vorgeschichte. *Numismatische Zeitschrift* 53, 111-141.
Naudé, W. (1901). *Die Getreidehandelspolitik und Kriegsmagazinverwaltung Brandenburg-Preußens bis 1740*, vol. 2. Berlin: Paul Parey.
Naudé, W. (1910). *Die Getreidehandelspolitik und Kriegsmagazinverwaltung Preußens 1740-1756*, vol. 3. Berlin: Paul Parey.
Nelkenbrecher, J. C., Feller, F. E. and Grimm, F. W. (1858). *J. C. Nelkenbrecher's allgemeines Taschenbuch der Münz-, Maass- und Gewichtskunde, der Wechsel-, Geld- und Fonds- Curse u. s. w. nebst alphabetischem Verzeichniss der Action-Gesellschaften. Bearbeitet von F. E. Feller und F. W. Grimm. Mit neuen Münz-Tabellen versehen von C. Neubauer*. Berlin: Georg Reimer.
Nelkenbrecher, J. C. and Gerhardt, M. R. B. (1793). *Nelkenbrechers Taschenbuch der Münz-Maaß und Gewichtskunde für Kaufleute*. Berlin: Arnold Wever.
Nelkenbrecher, J. C. and Schellenberg, J. P. (1820). *J. C. Nelkenbrechers allgemeines Taschenbuch der Münz-, Maaß- und Gewichtskunde für Banquiers und Kaufleute*. Berlin: Sandersche Buchhandlung.
Neuer Görlitzer Anzeiger (ad annum). *Neuer Görlitzer Anzeiger: allgemeines Intelligenzblatt zum Behufe der Justiz, Polizey, Chronik und des bürgerlichen Gewerbes in der Lausitz (local weekly newspaper)*. Görlitz.
Neveux, F. (1990). Villages et villes de Normandie à la fin du Moyen Âge: le cas des villages entre Caen, Bayeux et Falaise. *Actes des congrès de la Société des historiens médiévistes de l'enseignement supérieur public* 21, 149-160.
Neveux, H. (1973). Les prix du froment dans une région exportatrice de céréales: le Cambrésis de 1370 à 1580. *Revue historique* 250, 321-336.
Neveux, H. (1980). *Vie et déclin d'une structure économique: Les grains du Cambrésis fin du XIVe-début du XVIIe siècle*. Paris-La Haye, New York: Mouton.
North, M. (1982). *Die Amtswirtschaften von Osterode und Soldau: Vergleichende Untersuchungen zur Wirtschaft im frühmodernen Staat am Beispiel des Herzogtums Preußen in der zweiten Hälfte des 16. und in der ersten Hälfte des 17. Jahrhunderts*. Berlin: Duncker & Humblot.
Oberschelp, R. (Ed. 1986). *Beiträge zur niedersächsischen Preisgeschichte des 16. bis 19. Jahrhunderts*. Hildesheim: August Lax.
Officer, L. H. and Williamson, S. H. (2014). The Price of Gold, 1257 - Present. In *MeasuringWorth*, 2011; http://www.measuringworth.com/docs/GoldBackground.pdf.
ÖSH (1883-1914). *Österreichisches Statistisches Handbuch 1882(-1913)*. Vienna: k.k. Statistische Central-Commission.

Palop Ramos, Jose Miguel (1975) 'Precios del trigo en Valencia', *Cuadernos de Historia. Anexos de la Revista Hispania*, **5**

Palumbo, L. (1965). Il prezzo delle derrate agricole sulla piazza di Molfetta dal 1778 al 1805. *Annali di Storia Economica e Sociale* 6, 120-144.

Palumbo, L. (1968). Il prezzo delle derrate agricole sulla piazza di Molfetta dal 1806 al 1861. *Archivio storico pugliese* 21, 242-277.

Palumbo, L. (1971). Per una storia dei prezzi in terra di Bari nel XVI e XVII secolo. *Giornale degli Economisti e Annali di Economia* 30, 3/4, 199-213.

Palumbo, L. (1979). *Prezzi e salari in terra di Bari (1530-1860)*. Bari: Grafica Bigiemme.

Palumbo, L. (1981). I prezzi sul mercato di Acquaviva delle Fonti dal 1700 al 1875. In *Problemi di storia delle campagne meridionali nell'età moderna e contemporanea*, (Ed. Palumbo, L.). Bari: Dedalo libri, 335-352.

Palumbo, L. and Rossiello, G. (1984). Mercati di Terra di Bari a fine Settecento (1675-1700). *Archivio Storico Pugliese* 37, 139-159.

Palumbo, L. and Rossiello, G. (1985). Mercati di Terra di Bari nella prima metà del Settecento. *Archivio Storico Pugliese* 38, 165-198.

Pannier, E. (1867). Prix des grains sur le marché d'Abbéville depuis l'année 1590. *Mémoires de la Société impériale d'Emulation d'Abbéville* 2, XI, 211-229.

Papadopoli, N. (1885). Sul valore della moneta veneziana. In Venezia: Tipografia Antonelli.

Parenti, G. (1942). *Prezzi e mercato del grano a Siena, 1546-1765*. Firenze: Università degli Studi di Firenze.

Paucton, A.-J.-P. (1780). *Métrologie, ou traité des mesures, poids et monnoies des anciens peuples & des modernes*. Paris: La Veuve Desaint.

Peiro, A. (1987) 'El Mercado de Cereales Y Aceites aragoneses (Siglos XVII-XX)'. *Agricultura y Sociedad* 43, 213-241.

Pelc, J. (1935). *Ceny w Krakowie w latach 1369-1600 [i.e. tysiąc trzysta sześćdziesiąt dziewięć-tysiąc sześćset]: Les prix à Cracovie de 1369 à 1600. Z 16 diagramami.* . Lwów Skł. gł. Kasa im. J. Mianowskiego.

Perrot, J.-C. (1975). *Genèse d'une ville moderne: Caen au XVIII^e siècle*, vol. 2. Paris: Mouton.

Pesce, G. and Felloni, G. (1976). *Le monete Genovesi: Storia, arte ed economia nelle monete de Genova dal 1139 al 1814*. Genova: Stringa Editore.

Petino, A. (1949). Primi assaggi sulla "Rivoluzione dei prezzi" in Sicilia: I prezzi del grano, dell'orzo, dell'olio, del vino, del cacio a Catania dal 1512 al 1630. In *Studi in onore di Gino Luzzatto*, vol. 2 Milano: A. Giuffrè, 198-226.

Petino, A. (1952). *Aspetti e momenti di politica granaria a Catania ed in Sicilia nel quattrocento*. Catania: Universita di Catania.

Petino, A. (1959). I prezzi di alcuni prodotti agricoli sui mercati di Palermo e di Catania dal 1801 al 1890. *Archivio Economico dell'Unificazione Italiana, serie I* 8, 5.

Pieyns, J. and Tijms, W. (1993). De graanprijzen van Luik (1400-1940): De effracties van de schepenen (1400) 1409-1792, de clericale effracties (1528-1793) en de effracties van het département de l'Ourthe en de provincie Luik sedert 1794. *Studies over de sociaal-economische geschiedenis van Limburg* 38, 67-154.

Pinchera, S. (1957). I prezzi di alcuni cereali e dell'olio di oliva sui mercati dello Stato Pontificio (dal 1823 al 1860) ed a Roma (dal 1823 al 1890). *Archivio Economico dell'Unificazione Italiana. Serie I* 5, 4.

Pluquet, F. (1829). *Essai historique sur la ville de Bayeux et son arrondissement*. Caen: T. Chalopin.

Poitrineau, A. (1996). *Les Anciennes mesures locales du Sud-Ouest d'après les tables de conversion*. Clermont: Presses Université Blaise-Pascal.

Ponsot, P. (1986). *Atlas de Historia Economica de la Baja Andalucia (Siglos XVI - XIX)*. Editoriales Andaluzas Unidas

Popelka, F. (1930). Die Lebensmittelpreise und Löhne in Graz vom 16. bis zum 18. Jahrhundert. *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte* 23, 157-218.

Portal, C. (1895). Valeur du setier de blé à Cordes de 1593 à 1695. *Revue du Tarn* 12, 86-88.

Portella Jaume (1993), El negoci feudal de Mallorca (segles XIII-XV). Drets i rendes de les senyories laiques i eclesiàstiques. PhD thesis presented at the Autonomous University of Barcelona, 2 vols..

Posthumus, N. W. (1943). *Nederlandsche Prijsgeschiedenis*, vol. 1: Goederenprijzen op de beurs van Amsterdam 1585-1914, wisselkoersen te Amsterdam 1609-1914. Leiden: Brill.

Posthumus, N. W. (1964). *Inquiry into the history of prices in Holland*. Leiden: E. J. Brill.

Prato, G. (1908). *La vita economica in Piemonte a mezzo il secolo XVIII*. Torino: Societa Tipografico-Editrice Nazionale.

Praun, G. A. S. v. (1784). *Grundliche Nachricht von dem Münzwesen insgemein, insbesondere aber von dem Deutschen Münzwesen älterer und neuerer Zeiten: und dann auch von dem Französischen, Spanischen, Niederländschen, Englischen und Dänischen Münzwesen*. Leipzig: Weygandsche Buchhandlung.

Preisstatistik (1913). *Preisstatistik*. Budapest: Magyar Kir. Központi Statisztikai Hivatal.

Pribram, A. F. (1938). *Materialen zur Geschichte der Preise und Löhne in Österreich*, vol. 1. Wien: Carl Ueberreuters Verlag.

Priester, P. R. (1998). *Geschiedenis van de zeeuwse landbouw circa 1600-1910*. Wageningen Afdeling Agrarische Geschiedenis Landbouwuniversiteit.

Pugliese, S. (1908). *Due secoli di vita agricola: produzione e valore dei terreni, contratti agrari, salari e prezzi nel Vercellese nei secoli XVIII e XIX*. Milano, Torino, Roma: Fratelli Bocca.

Pusch, G. (1932). *Staatliche Münz- und Geldpolitik in den Niederlanden unter den burgundischen und habsburgischen Herrschern besonders unter Kaiser Karl V.* München: Val. Höfling.

Rambaud, A. (1911). *La chambre d'abondance de la ville de Lyon (1643-1777)*. Lyon: J. Poncet.

Raveau, P. (1931). *Essai sur la situation économique et l'état social en Poitou au XVI^{e} siècle*. Paris: M. Rivière.

Reichs-Gesetz-Blatt (1857). *Reichs-Gesetz-Blatt für das Kaiserthum Oesterreich*, vol. XXXIII, Nr. 101. vom 6. Juni 1857.

Reinhardt, V. (1991). *Überleben in der frühneuzeitlichen Stadt: Annona und Getreideversorgung in Rom 1563-1797*. Tübingen: Niemeyer.

Ritzmann-Blickenstorfer, H. (1996). *Historische Statistik der Schweiz*. Zürich: Chronos Verlag.

Rive, J. G. (1824). *Über das Bauerngüterwesen in den Grafschaften Mark, Recklinghausen, Dortmund und Hohen-Limburg, in dem vormaligen Stifte Essen, Herzogthume Cleve (an östlicher Rheinseite) und in den Herrschaften Broich und Wertherbruch*. Köln: Bachem.

Rogers, J. E. T. (1866). *A History of Agriculture and Prices in England: from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)*, vol. 2: 1259-1400. Oxford: Clarendon Press.

Rogers, J. E. T. (1887a). *A History of Agriculture and Prices in England: from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)*, vol. 3: 1401-1582. Oxford: Clarendon Press.

Rogers, J. E. T. (1887b). *A History of Agriculture and Prices in England: from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)*, vol. 6: 1583-1702. Oxford: Clarendon Press.

Rogers, J. E. T. (1902). *A History of Agriculture and Prices in England: from the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)*, vol. 7, I: 1703-1793. Oxford: Clarendon Press.

Romani, M. A. (1975). *Nella spirale di una crisi: Popolazione, mercato e prezzi a Parma tra cinque e seicento*. Milano: A. Giuffrè.

Romano, R. (1965). *Prezzi, salari e servizi a Napoli nel secolo XVIII (1734-1806)*. Milan: Banca Commerciale Italiana.

Roscher, W. (1857). Ein Beitrag zur Geschichte der Kornpreise und Bäckertaxen. *Zeitschrift für die gesamte Staatswissenschaft* 13, 461-475.

Rosenthal, G. E. (1784). *Geschichte des Erfurtischen Getraide-Preises von 1651 bis 1775*. Erfurt: Keyser.

Rossiello, G. and Palumbo, L. (1981). Salari di contadini in Terra di Bari durante l'età della restaurazione (con 7 tav.). *Archivio Storico Pugliese* 34, 301-317.

Salz, A. (1913). *Geschichte der böhmischen Industrie in der Neuzeit*. München: Duncker & Humblot.

Sanchez-Albornoz, N. (1975). Los precios agricolas durante la segunda mitad del siglo XIX; Madrid: Servicio de Estudios del Banco de Espana.
Schaïk, R. v. (1978). Prijs- en levensmiddelenpolitiek in de Noordelijke Nederlanden van de 14e tot de 17e eeuw: bronnen en problemen. *Tijdschrift voor Geschiedenis* 91, 2, 214-256.
Schalk, C. (1880). Der Münzfuß der Wiener Pfennige in den Jahren 1424 bis 1480. *Numismatische Zeitschrift* 12, 186-282, 324-378.
Schebek, E. (1873). *Collectiv-Ausstellung von Beiträgen zur Geschichte der Preise veranstaltet zur Weltausstellung 1873 Wien von der Handels- und Gewerbekammer in Prag: Geschichte der Preise*. Prag: Mercy.
Scheel, H. v. (1866). Untersuchungen über den Einfluss der Fruchtpreise auf die Bevölkerungsbewegung. *Jahrbücher für Nationalökonomie und Statistik* 6, 161-172.
Schmelzer, M. (1972). Geschichte der Preise und Löhne in Rattenberg vom Ende des 15. bis in die 2. Hälfte des 19. Jahrhunderts. In Innsbruck: Uni. Innsbruck.
Schneider, K. (1981). Hamburg während der Kipper- und Wipperzeit. *Zeitschrift des Vereins für hamburgische Geschichte* 67, 47–74.
Schneider, K. (1990). *Frankfurt und die Kipper- und Wipperinflation der Jahre 1619-1623*. Frankfurt: Stadtarchiv.
Scholler, E. (1916). *Der Reichsstadt Nürnberg Geld- und Münzwesen in älterer und neuerer Zeit (Ein Beitrag zur reichsstädtischen Wirtschaftsgeschichte.)*. Nürnberg.
Scholliers, E. (1959). Prijzen en lonen to Antwerpen (15e en 16e eeuw) - Prix et salaires à Anvers (15e et 16e siècles). In *Dokumenten vor den geschiedenis van prijzen en lonen in Vlaanderen an Brabant (XVe-XVIIIe eeuw)*, (Eds. Verlinden, C. and Craeybeckx, J.). Brugge: De Tempel, 241-480.
Scholliers, E. (1965). Prijzen en lonen te Antwerpen en in het Antwerpse (16e-19e eeuw) - Prix et salaires à Anvers et dans la région anversois (16e-19e siècles). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 2,2 (XIVe-XIXe eeuw) (Eds. Verlinden, C. and Scholliers, E.). Brugge: De Tempel.
Schrötter, F. F. v. (1904). *Das preussische Münzwesen im 18. Jahrhundert: Münzgeschichtlicher Teil*, vol. 1: Die Münzverwaltung der Könige Friedrich I. und Friedrich Wilhelm I. 1701-1740. Berlin: Paul Parey.
Schrötter, F. F. v. (1907). Das Münzwesen Brandenburgs während der Geltung des Münzfußes von Zinna und Leipzig. *Hohenzollernjahrbuch* 11, 63-74.
Schrötter, F. F. v. (1908). *Das Preussische Münzwesen im 18. Jahrhundert: Münzgeschichtlicher Teil*, vol. 2: Die Begründung des preussischen Münzsystems durch Friedrich den Grossen und Grauman: 1740-1755. Berlin: Parey.
Schrötter, F. F. v. (1910). *Das Preussische Münzwesen im 18. Jahrhundert: Münzgeschichtlicher Teil*, vol. 3: Das Geld des siebenjährigen Krieges und die Münzreform nach dem Frieden: 1755 - 1765. Berlin: Parey.
Schrötter, F. F. v. (1913). *Das Preussische Münzwesen im 18. Jahrhundert: Münzgeschichtlicher Teil*, vol. 4: Die letzten vierzig Jahre: 1765 - 1806. Berlin: Paul Parey.
Schrötter, F. F. v. (1922). *Die Münzen Friedrich Wilhelms des Großen Kurfürsten und Friedrichs III. von Brandenburg: Münz- und Geldgeschichte 1640-1700*. Berlin: C.A. Schwetschke & Sohn.
Schrötter, F. F. v. (1930). *Wörterbuch der Münzkunde*. Berlin, Leipzig: de Gruyter.
Schulze, W. (1965). Löhne und Preise in Deutschland, 1750 bis 1850. *Jahrbuch für Wirtschaftsgeschichte* 4, 266-280.
Sebastián Amarila, J. A.(1992) *Agricultura y rentas monásticas en tierras de León: Santa María de Sandoval (1167-1835)*, Madrid : Universidad Complutense de Madrid, Facultad de Ciencias Económicas y Empresariales
Seuffert, G. K. L. (1857). *Statistik des Getreide- und Viktualien-Handels im Königreiche Bayern mit Berücksichtigung des Auslandes*. Munich: J.G. Weiß.
Siegel, S. (1936). *Ceny w Warszawie w Latach 1701-1815*. Lwów: Kasa im. J. Mianowskiego.
Siegel, S. (1949). *Ceny w Warszawie w latach 1816-1916*. Poznan: Nakł. Poznańskiego Towarzystwa Przyjaciół Nauk.

Sivéry, G. (1965). L'évolution du prix du blé à Valenciennes aux XIV^{e} et XV^{e} siècles. *Revue du Nord* 47, 177-194.

SJB (1872-1884). *Statistisches Jahrbuch der österreichischen Monarchie 1870-(1881)*. Vienna: k.k. Statistische Central Commission.

Skalweit, A. (Ed. 1931/86). *Die Getreidehandelspolitik und die Kriegsmagazinverwaltung Preußens 1756-1806*Berlin: Keip.

Soetbeer, A. (1858). *Beiträge zur Statistik der Preise*. Hamburg: Kümpel.

Solar, P. M. and Klovland, J. T. (2011). New series for agricultural prices in London, 1770–1914. *The Economic History Review* 64, 1, 72-87.

Spaggiari, P. L. (1959). I prezzi dei generi di maggior consumo sul mercato di Parma dal 1821 al 1890. *Archivio Economico dell'Unificazione Italiana. Serie I* 8, 3.

Statistischer Verein für das Königreich Sachsen (1832). Uebersicht der jährlichen Durchschnitte der Taxen für die Bäcker auf die Zeit vom Jahre 1820 bis mit 1831. *Mittheilungen des Statistischen Vereins für das Königreich Sachsen* 2: enthaltend die bürgerlichen und local-Verhältnisse der Haupt- und Residenzstadt Dresden, 66-67.

Statistisches Bureau des Großherzogthums Oldenburg (1860). *Statistische Nachrichten über den Freistaat Oldenburg*. Oldenburg: Gerhard Stalling.

Steubing, J. H. (1792). *Topographie der Stadt Herborn*. Marburg: Neue Akademische Buchhandlung.

Storchi, M. R. (1991). *Prezzi, crisi agrarie e mercato del grano nel Mezzogiorno d'Italia (1806-1854)*. Napoli: Liguori.

Stumpo, E. (1979). *Finanza e Stato Moderno nel Piemonte del Seicento*. Rome: Istituto StoricoItaliano per l' Età Moderna e Contemporanea.

Szpak, J. (1982). *Rewolucja cen XVI wieku a funkcjonowanie gospodarki dworskiej w starostwach Prus Królewskich*. Krakow: Akademia Ekonomiczna w Krakowie.

Targetti, R., Lenti, R., Somaini, V., Bonfiglio, R. and Agnati, A. (1964). Il movimento dei prezzi nel ducato di Milano das 1600 al 1700. *Giornale degli Economisti e Annali di Economia* 23, 3/4, 282-346.

Terhalle, H. (1981). *Getreidepreise in Vreden 1652-1891: das Protokollbuch der Vredener Getreidepreise als historische Quelle*. Vreden: Heimatverein Vreden.

Thümmel, H. v. (1818). *Tabellarische Uebersicht der Getraide-Preise im Herzogthume Altenburg vom Jahre 1650 bis 1817: nebst patriotischen Vorschlägen zu Einführung eines allgemeinen Getraide- Masses*. Altenburg: no publisher.

Tijms, W. (1977). Prijzen van granen en peulvruchten te Arnhem, Breda, Deventer, 's-Hertogenbosch, Kampen, Koevorden, Maastricht, Nijmegen, Deel XI-1: Arnhem 1543-1914; Breda 1535-1976; Deventer 1714-1804; 's-Hertogenbosch 1725-1817; Kampen 1645-1847. *Historia Agriculturae* 11, 1.

Tijms, W. (1983). Prijzen van granen en peulvruchten te Arnhem, Breda, Deventer, 's-Hertogenbosch, Kampen, Koevorden, Maastricht, Nijmegen, Deel XI-2: Koevorden 1639-1909; Maastricht 1342-1914; Nijmegen 1558-1916. *Historia Agriculturae* 11, 2.

Tijms, W. (1989). De effractie van Sint Andries te Roermond (1599-1948) *Studies over de sociaal-economische geschiedenis van Limburg* 34, 112-163.

Tijms, W. (2000). *Groninger Graanprijzen: de prijzen van agrarische producten tussen 1546 en 1990*. Groningen: Nederlands Agronomisch Historisch Inst.

Tits-Dieuaide, M.-J. (1975). *La Formation des Prix Cerealiers en Brabant et en Flandre au XV^{e} Siecle*. Bruxelles: Editions de l'Universite de Bruxellex.

Toaldo, G. (1802). *Completa Raccolta di Opuscoli, Osservazioni, e Notizie Diverse*, vol. 2. Venezia: Francesco Andreola.

Toch, M. (1973). Prijzen uit Gentse instellingsrekeningen (16^{e} eeuw) - Prix entraits de la comptabilité d'institutions gantoises (16^{e} siècle). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 4 (XIII^{e}-XIX^{e} eeuw) (Ed. Verlinden, C.). Brugge: De Tempel, 326-400.

Tognetti, S. (1995). Prezzi e salari nella Firenze tardomedievale: un profilo. *Archivio storico italiano* 153, 263-333.

Tomaszewski, E. (1934). *Ceny w Krakowie w latach 1601-1795*. Lwow: Kasa Im. Rektora J. Mianowskiego.

Tooke, T. (1838). *A History of Prices, and of the State of the Circulation from 1793 to 1837*, vol. 2. London: Longman, Orme, Brown, Green, and Longmans.
Tooke, T. and Newmarch, W. (1859). *Die Geschichte und Bestimmung der Preise während der Jahre 1793-1857*. Dresden: Kuntze.
Tremblay, D. J. (1823). *Tableaux de comparaisons des mesures de tout genre ancienement en usage dans le département de l'Oise avec les nouvelles mesures*. Senlis: Régnier.
Turri, A. (1994). Il fondaco delle biade ad Adria nel XVII secolo. *Terra d'Este: rivista di storia e cultura* 8, IV, 113.
Unger, J. F. (1752). *Von der Ordnung der Fruchtpreise, und deren Einflusse in die wichtigsten Angelegenheiten des menschlichen Lebens*. Göttingen.
Usher, A. P. (1930). The General Course of Wheat Prices in France: 1350-1788. *The Review of Economics and Statistics* 12, 4, 159-169.
Usher, A. P. (1931). Prices of Wheat and Commodity Price Indexes for England, 1259-1930. *The Review of Economics and Statistics* 13, 3, 103-113.
Valenčič, V. (1977). *Žitna trgovina na Kranjskem in ljubljanske žitne cene od srede 17. stoletja do prve svetovne vojne*. Ljubljana: Slovenska akademija znanosti in umetnosti.
van Buyten, L. (1966). De Diesterse mercuriaal, XVIIe-begin XLXe eeuw. In *Marché des céréales à Ruremonde, Luxemburg, Namur et Diest*, (Eds. Ruwet, J., Ladrier, F., Hélin, E. and van Buyten, L.). Louvain: Université du Louvain, 343-481.
van der Wee, H. (1963). *The Growth of the Antwerp Market and the European Economy (fourteenth-sixteenth centuries)*, vol. 1: Statistics. The Hague: Martinus Nijhoff.
van Houtte, H. (1902). *Documents pour servir à une histoire des prix de 1381 à 1794*. Bruxelles: Hayez.
Vandenbroeke, C. (1972). Brusselse merkuriale van granen, aardenappelen, hooi, stro, boter, vlees, koolzaad, boskool en steenkool (1800-1912). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 3: (XVI^{e}-XIX^{e} eeuw) (Ed. Verlinden, C.). Brugge: De Tempel, 289-349.
Vandenbroeke, C. (1973). Het prijsonderzoek van de regering voor de steden van de Oostenrijkse Nederlanden voor graangewassen, vlas en garen (1765-1794) - Enquête par le gouvernement dans les villes des Pays-Bas Autrichiens sur les prix des céréales, du lin et du fil (1765-1794). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 4: (XIII^{e}-XIX^{e} eeuw) (Eds. Verlinden, C. and Scholliers, E.). Brugge: De Tempel, 1-166.
Vandenbroeke, C. and Vanderpijpen, W. (1972). Gentse merkuriale van granen, brood, aardenappelen, hooi, stro, boter, vlees, jeniver, olie en oliehouden zaden (1800-1914). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XVI^{e}-XIX^{e} eeuw)*, (Eds. Verlinden, C. and Scholliers, E.). Brugge: De Tempel.
Vanderpijpen, W. (1973). Brugse merkuriale van granen, brood, aardappelen, boter en vlees (1796-1914). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 4 (XIII^{e}-XIX^{e} eeuw) (Eds. Verlinden, C. and Scholliers, E.). Brugge: De Tempel, 167-223.
Varin, P. (1840). *Archives législatives de la ville de Reims: collection de pièces inédites pouvant servir à l'histoire des institutions dans l'intérieur de la cité. Coutumes*, vol. 1. Paris: Crapelet.
Vaschalde, H. (1874). *Les Mercuriales du Vivarais, du XVI^{e} au XIX^{e} siècle*. Privas: Roure fils.
Vazza, G., Petris, N. D., Versetti, P., Fornaci, T. and Agnati, A. (1965). Il movimento dei prezzi in Genova dal 1845 al 1905. *Giornale degli Economisti e Annali di Economia* 24, 9/10, 886-920.
Verhulst, A. (1965). Prijzen van granen, boter en kaas te Brugge volgens de "slag" van het Sint-Donatiaanskapittel (1348-1801). In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 2 (Ed. Verlinden, C.). Bruges, 3-70.
Verkade, P. (1848). *Muntboek, bevattende de namen en afbeeldingen van munten: geslagen in de zeven voormalig Vereenigde Nederlandsche Provincien, sedert den vrede van Gent tot op onzen tijd*. Schiedam: P.J. van Dijk.
Verlinden, C. (1965). *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant*, vol. 2 (XIV^{e}-XIX^{e} eeuw). Bruges: De Tempel.
Verordnungsblatt (1853). *Verordnungsblatt des Herzogthums Nassau* 23, 27. August.

Vicedo, R. E. (1983a). En Preu dels Cereals Durant el Segle XVIII en un Mercat de L'Interior: L'Almodi de Lleida. *Colloqui d'Historia Agraria, Barcelona,* 13-15 oct 1978, Valencia 1983, pp. 332-45

Vicedo R. E. (1983b) 'El preu dels cereals at mercat de Lleida Durant le primera meitat del segle XIX' *Recerques*, 14, pp.165-176

Vivanti, C. (1959). I prezzi di alcuni prodotti agricoli a Mantova nella seconda metà del XVIII secolo. In *Politica ed economia a Mantova e nella Lombardia durante la dominazione austriaca (1707-1866)*, (Ed. Giusti, R.). Montova: n.p., 319-338.

Volckart, O. (1996). *Die Münzpolitik im Deutschordensland und Herzogtum Preußen von 1370 bis 1550*. Wiesbaden: Harrassowitz.

Vonglis, B. (1980). *Le commerce des céréales à Reims au XVIIIe siècle*. Reims: Université de Reims.

Vovelle, M. (1989). *La Fin du Feodalisme dans Le Pays de Caux: Conjoncture economique et demographique et structure sociale dans une region de grande culture de la crise du XVII^{e} siecle a la stabilisation de la Revolution (1640-1795)*. Paris: Editions du C.T.H.S.

Waschinski, E. (1959). *Währung, Preisentwicklung und Kaufkraft des Geldes in Schleswig-Holstein von 1226-1864*, vol. 2: Anhänge mit Materialien zu einem Schleswig-Holsteinischen Münzarchiv und zur Geschichte der Preise und Löhne in Schleswig-Holstein. Neumünster: Karl Wachholtz Verlag.

Weisenstein, K. (1991). *Die Kipper- und Wipperzeit im Kurfürstentum Trier* Koblenz: Numismatischer Verlag Forneck.

Wiedmer, L. (1993). *Pain quotidien et pain de disette: meuniers, boulangers et état nourricier à Genève, XVIIe-XVIIIe siècles*. Genève: Editions Passé Présent.

Wolański, M. (1996). *Ceny we Wrocławiu w latach 1506-1618*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.

Wullen, W. A. v. (1771). Nordhäusische monatliche Fruchtpreise, vom Monat May 1668. bis dahin 1771. *Hannoverisches Magazin*, 657-724.

Wyffels, A. (1959a). Maten en gewichten: Poids et mesures employes. In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, (Ed. Verlinden, C.). Brugge: De Tempel, 1-28.

Wyffels, A. (1959b). Prijs van tarwe per hoet te Brugge in groten Vlaams. In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, vol. 1 (Eds. Verlinden, C. and Craeybeckx, J.). Brugge: De Tempel, 54-55.

Wyffels, A. (1959c). Prijs van tarwe per vat te Aalst: Prix du havot de froment a Alost. In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, (Ed. Verlinden, C.). Brugge: De Tempel, 115-117.

Wyffels, A. (1959d). Prijs van tarwe te Diksmuide - Prix du froment à Dixmude In *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant (XV^{e}-XVIII^{e} eeuw)*, (Ed. Verlinden, C.). Brugge: de Tempel, 58-61.

Zanetti, D. (1964). *Problemi alimentari di una economia preindustriale: cereali a Pavia dal 1398 al 1700*. Torino: Boringhieri.

Zeppenfeldt (1830). Die Martini-Preise des Getreides in der Stadt Hildesheim von den Jahren 1567 bis 1829 einschließlich. *Beiträge zur hildesheimischen Geschichte* 3, 239-248.

Zich, W. (2009). Der Wiener Münzvertrag vom 24. Januar 1857 und Carl Ludwig von Bruck. In, Vol. Dr. phil. Wien: Universität Wien.