

Market Failure during the Great Famine in England and Wales (1315-7): Towards the Re-assessment of the Institutional Side of the Crisis

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Market Failure during the Great Famine in England and Wales (1315-7): Towards the Re-assessment of the Institutional Side of the Crisis

Famine as an historical phenomenon has attracted considerable scholarly attention in the recent decades, especially since the publication of Amartya Sen's now-classic *Poverty and Famines* in 1981. Roughly speaking, we can identify two main scholarly camps, or schools of thought: 'institutionalist' and 'environmentalist'. The 'institutionalists' contend that famines tend to be, to a large degree, man-made phenomena, and that Nature is of secondary importance. Thus, Sen argues, using the example of the Bengali famine of 1942-3, that in many cases famines occurred not because of a lack of food resources, but because of the decline in 'entitlements' to (depleted) food resources. He distinguishes between 'FAD' (=food availability decline) and 'FED' (=food entitlement decline). For Sen, famines take place when lower social echelons lose their entitlement to food, when the better-off, at the expense of the rest, increase their own supply of food.¹ Notwithstanding some criticisms, Sen's theory of famine remains largely influential.² On the other hand, in more recent years, with more knowledge about the physical environmental past, some scholars have seen Nature as the primary harbinger of famine in pre-Industrial societies.³

¹ Amartya Kumar Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford, 1981).

² Alexander De Waal, *Famine Crimes: Politics and the Disaster Relief Industry in Africa* (Bloomington, 1997); idem, *Famine that Kills: Darfur, Sudan* (Oxford, 2005), p. 59 ff; Paul Howe and Stephen Devereux, "Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine," *Disasters* 28, no. 4 (2004): 353-72; Olivier Rubin, "The Entitlement Approach - A Case for Framework Development rather than Demolition," *Journal of Development Studies* 45, no. 4 (2009): 622-641 and idem, 'A Collapse of Entitlements and Democratic Responsiveness', *Journal of Asian and African Studies* 44, no. 3 (2009): 279-298.

³ Bruce M.S. Campbell, "Nature as Historical Protagonist: Environment and Society in Preindustrial England," *Economic History Review* 63, no. 2 (2010): 281-314; Richard W. Hoyle, Famine as Agricultural Catastrophe: The Crisis of 1622-4 in East Lancashire." *Economic History Review* 63, no. 4 (2010): 974-1002.

Few, if any subsistence crises are comparable in their scale, extent and repercussions to the Great European Famine of 1315-17, which may be regarded as the single worst subsistence crisis in Europe in the last two millennia.⁴ The combination of almost Biblical flooding and freezing winters, continuing, in succession, from the autumn of 1314 to the spring of 1317 created three back-to-back harvest failures. In England, the composite crop yields were about 40, 60 and ten per cent below their normal levels in 1315, 1316 and 1317 respectively.⁵ The harvest failures drove the grain prices up to unprecedented levels, which, in turn, resulted in widespread starvation and suffering. According to various estimates, around 10-15 per cent of North Europe's population perished in the famine: indeed, striking figures, when compared to other historical famines.⁶

Notwithstanding the obvious importance of the Great Famine, this event has received relatively little scholarly attention and many questions remain to be posed and answered.⁷ One particular topic which seems to have escaped scholars' attention is the

⁴Bruce M.S. Campbell, "Nature as Historical Protagonist," p. 287; idem, "Four Famines and a Pestilence: Harvest, Price, and Wage Variations in England, Thirteenth to Nineteenth Centuries." In *Agrarhistoria på många sätt; 28 studier om människan och jorden. Festskrift till Janke Myrdal på hans 60-årsdag (Agrarian history many ways: 28 studies on humans and the land, Festschrift to Janke Myrdal 2009)*, edited by Britt Liljewall, Iréne A. Flygare, Ulrich Lange, Lars Ljunggren, and Johan Söderberg (Stockholm, 2009), p. 42.

⁵ Campbell, 'Nature as Historical Protagonist', p. 288; idem, "Four Famines", p. 27.

⁶ William Chester Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century* (Princeton, 1996), pp. 145-8; Campbell, "Four Famines", p.43.

⁷ The most important literature dealing *specifically* with the Great Famine consists, as of early 2012, of: Henry S. Lucas, 'The Great European Famine of 1315, 1316, and 1317', *Speculum*, 5 (1930): 343-77; Ian Kershaw, "The Great Famine and Agrarian Crisis in England, 1315-22." *Past and Present* 59 (1973): 3-50; Jordan, *Great Famine*; Michael Davies and Jonathan Kisson, "The Feet of Fines, the Land Market and the English Agricultural Crisis of 1315 to 1322," *Journal of Historical Geography* 30, no. 2 (2004): 215-30; Campbell, 'Nature as Historical Protagonist', pp. 287-97; Jordan, William Chester, "Famine and Popular Resistance: Northern Europe, 1315-1322," in ed. Joseph Canning, Hartmut Lehmann and Jay Winter, *Power, Violence and Mass Death in Pre-Modern and Modern Times* (Aldershot, 2004), pp. 13-24; idem, "The Great Famine: 1315-1322 Revisited," in Scott G. Bruce ed., *Ecologies and Economies in Medieval and Early Modern Europe. Studies in Environmental History for Richard C. Hoffmann* (Leiden, 2010), pp. 45-62.

question of the *nature* of the Great Famine as a *subsistence crisis phenomenon*. The prevailing opinion is that the crisis was environmental or ecological in its nature, created by the torrential rainfall of 1314-6, which, in turn, destroyed crops and fodder. While there can be little doubt that the floods of 1314-6 were the primary harbingers of the crisis, it is, perhaps, worth asking to what extent they were the only factors behind the hardship experienced between 1315 and 1317. Or, to put it differently, was Nature the only factor responsible for that horrifying subsistence crisis? A close analysis of the available material suggests that the exogenous and endogenous (or, anthropogenic) factors did not operate in isolation. Rather, they were interwoven and heavily dependent on one another. In other words, the crisis *began* with *Nature*, but was *intensified* with *institutions*. One of these institutions responsible for the aggravation of the crisis was the market. During the famine years, one finds numerous and omnipresent signs of market failure all over England and Wales, where detailed records survive that allow us to examine such phenomena. Here, the extent of market failure is determined and measured by the following criteria: (1) highly aggressive short-term price behaviour; (2) market segmentation (defined by increased coefficient of variation in prices between different crop-trading *loci*); (3) collapse of the 'just price' and the corresponding rise of 'preferential trade'; (4) uneven and unsteady chronology of crop supply and distribution. These criteria together account for the exceptionally poor market performance during the disastrous years of the Great Famine. The impact of famine on market performance in the midst of early modern and modern food shortages has now long been studied, and the results of these studies seem to differ one from another. For instance, Ó Gráda has recently shown that in the course of some

major nineteenth-century European famines, business was operating, more or less, as usual.⁸ On the other hand, in the case of late twentieth-century famines in some Third World Countries (Bangladesh and a number of Sub-Saharan African states), market failure was widespread.⁹ As we shall see later, the market failure of the Great Famine, was very similar to those of in the Developing World.

SOURCES

The main bulk of data for market performance during the Great Famine derives from demesne (aka, manorial) accounts. These were annual financial and agricultural reports, compiled as audits by various demesne officials and their scribes. The accounts record, in considerable detail, the annual issues and disposals within agrarian and pastoral sectors, as well as financial incomings and outgoings, relating to the sale and purchase of goods. In the vast majority of cases, the accounts run between two successive Michaelmases (29 September). Of a particular importance to this paper is the part of the accounts registering crop transactions. In all cases, the accounts record the amounts and prices of vended grains. In some cases, seasonal patterns and names of customers are mentioned, too. For the famine years alone (1315-6 and 1316-7), all the known surviving accounts (260 in number), which cover 192 demesnes from across England and parts of

⁸ Cormac Ó Gráda, "Markets and Famines in Pre-Industrial Europe", *Journal of Interdisciplinary History*, 36, no. 2 (2005): 143-166.

⁹ Lennart Olsson, "On the Causes of Famine – Drought, Desertification and Market Failure in the Sudan", *Ambio* 22 (1983): 395-404; Martin Ravallion, *Markets and Famines* (Oxford, 1987), pp. 111–113; Jean Drèze and Amartya Kumar Sen, *Hunger and Public Action* (Oxford, 1989), pp. 144-55.

Wales and record 1,948 transactions (specifying 1,440 sales and 508 purchases of crops by lords), have been consulted. For the non-famine years, for a comparative perspective, a fair sample of some 6,400 accounts from 1300-1349 (excluding those of 1315-17) has been analyzed. In addition to the demesne accounts, a much smaller sample of central granary accounts of (mostly) urban conventual houses has been utilized. Unfortunately, very few monastic granary rolls survive from the famine years and thus, their contribution to the overall corpus of sources is insignificant. Furthermore, a small number of non-statistical documents, including royal writs, have been consulted.

The geographic distribution of the documents, the accounts chiefly, is uneven, with southern and eastern counties exhibiting a wider coverage (Figure 1). In particular, the counties of Hampshire and Kent stand out with 40 and 26 manors each. This uneven representation has much to do with the proliferation of manorialism on the one hand and the actual survival of accounts on the other. For instance, Norfolk, Somerset and Yorkshire, the three richest counties in terms of the geographic coverage of the accounts from non-famine years have frustratingly small number of surviving rolls for 1315-7. On the other hand, the evidence is thick in Hampshire as the accounts for that century were, for the most part, enrolled (grouped) accounts of the Winchester Bishopric and Winchester Cathedral Priory. The North has particularly bad coverage, chiefly due to the fact that (with the exception of Yorkshire and Durham) manorialism was never strong there. Luckily, the accounts of Durham Cathedral Priory demesnes save us from complete ignorance. Wales is represented by six demesnes in Monmouthshire and one demesne in Glamorganshire.



Figure 1. Demesnes with surviving accounts from the famine years

Source: manorial accounts database.

Seasonal price movements, 1315-7

Before dealing with the failed performance of crop markets during the troublesome years of 1315-7, it is imperative to regard wider trends in the movement of prices. In the long run, the years of the Great Famine mark the single highest point in the price history of crops in England before the Price Revolution of the sixteenth century (Figure 1). There were indeed several additional spikes marking other exceptionally dear years (1295, 1322, 1351-2, 1370, 1391, 1439 and 1483), stemming from failed harvests, but none compared to the prices of the Great Famine. Moreover, 1316 and 1317 marked the point when real wages (namely, nominal wages deflated by Consumer Price Index) reached their lowest level in the course of the late Middle Ages. At no other point did nominal and real wages and crop prices diverge so widely. This great divergence significantly contributed to the extent of starvation and suffering during the famine.

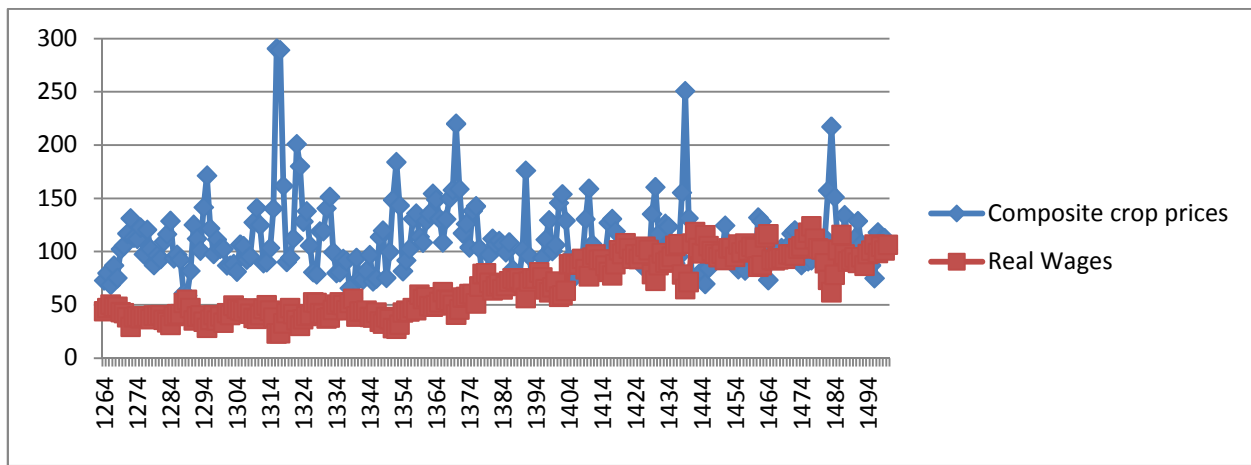


Figure 1. Indexed crop prices and real wages of urban workers in England, 1264-1500 (1451-75=100)

Sources: Munro, "Revisions"; Farmer, "Prices and Wages".

Having considered the place of the Great Famine in a much wider context of price history, we may now analyze the price behaviour during the famine years on a much more

micro level. It should be noted that despite relative wealth of accounting material from the famine years, reconstructing regional variances in grain prices is more than a frustrating task. Although manorial accounts always record the amounts and prices of crops, they omit, in most cases, the seasonality of transactions. For the famine years, of total 260 accounts recording 1,948 transactions, only 72 accounts documenting 263 transactions specify the seasonality of crop sales and purchases. In other words, only about 15 per cent of all recorded transactions are dated. It is, therefore, uncertain how representative this sample is of general trends. Nevertheless, the examination of these dated transactions makes for some interesting observations, which shed much light on the difference in seasonal price fluctuations between 'normal' and famine years.

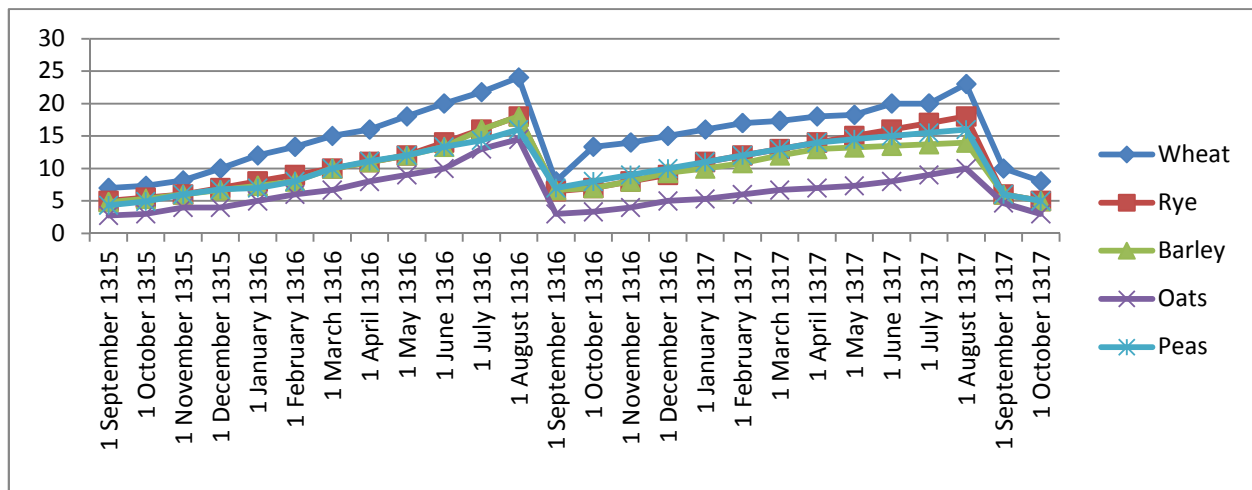


Figure 2. Crop price movement on demesnes, September 1315-October 1317 (in Shillings Sterling per One Quarter)

Source: manorial account database

Notes: 'First day' of each month here signifies a period *around* first day of month (± 15 days), and not necessarily the actual first day of month. Thus, '1 February 1316' covers the period of 16.1.-15.2.1316.

As Figure 2 indicates, price movements during the famine period were quite remarkable. In all cases, there was a steep and cumulative rise from the initial post-harvest period between the aftermath of harvest (usually, mid August) to the eve of the next harvest (usually, early to-mid July). After almost a year of continually heavy rains, the harvest of 1315, reaped in August, was a disaster. Nationally, the composite crop yields stood at about 40 per cent below normal levels, with winter grains (wheat, rye and maslin, a mixture of wheat and rye) performing exceptionally bad. While wheat yields were about 60 per cent lower than they normally were, spring grains managed a lot better with barley yields only 72 per cent of the normal levels and oats only some eight per cent lower than average.¹⁰ Nevertheless, the frustratingly low yields of winter grains alone were enough to depress the market and ensue a long period of starvation and hardships. By September 1315 crop prices were already well above normal: on average, wheat was selling for as much as 7s a quarter (compared with about 5s a quarter in non-famine years, between 1300-1349). But the worst was yet to come. By Christmas, a quarter of wheat was selling for 10s (in contrast with some 5s 6d in non-famine years). There can be little doubt that Christmas was then a gloomy affair, as by late 1315 it would have been clear to all that a famine had set in. Around Easter (11 April 1317), the prices stood at 16s, while during the midsummer they reached their peak, standing at the overwhelming 24s per quarter (compared with the average of 6s 2d in 'normal years'). Other crops exhibit similar behaviour. Between September 1315 and August 1316, a quarter of rye rose from 5s to 18s; the figures for barley rose from 4s 10d to 18s; those for oats increased from just 2s 9d to 14s 6d; and those for peas rose from 4s 4d to 16s.

¹⁰ Calculated from Bruce M.S. Campbell, Three centuries of English crops yields, 1211-1491 [WWW document]. URL <http://www.cropyields.ac.uk>

By mid-August 1316 wheat prices fell from 24s to 8s a quarter. From this, however, we cannot infer a fair harvest or the end of the crisis. In fact, the harvest of 1316 was far worse than that of 1315. The reasons for this short-lived respite are more complicated. First, on account of constant flooding, the duration of the 1316 harvest was longer than usual and, accordingly, it must have taken the producers longer to realize how bad it was.¹¹ An influx of new crops, notwithstanding their comparatively meagre quantity, would have reduced the prices somewhat and kept them low until a full accounting was made at the end of September and until the true proportions of the disaster were fully appreciated. This 'accounting' panic was, undoubtedly, accompanied by 'corporal' panic, created by returning hunger affecting, first and foremost, the poorest social echelons.

The composite yields were about 63 per cent below average, with wheat yielding as low as 16 per cent of the non-famine levels. Other crops fared somewhat better: barley and oat yields stood at 71 and 63 per cent of their average level, respectively. Once the producers were able to appreciate the extent of the disaster, the prices skyrocketed once more, at even a greater pace than the previous year. Merely a month after the harvest, wheat prices rose to 13s per quarter. By Christmas they increased to 16s; around Easter they rose to 18s, while at the peak of the 'hungry gap' period in the summer they climbed to 23s. The harvest of 1317 was marginally worse than average, but good enough to relieve omnipresent suffering and put an end, at least temporarily, to the deficiency of grains and legumes. During the harvest proper, the prices fell to 10s, and they fell further to around 8s shortly after the harvest was collected and the fear of famine was, by large, over. Between

¹¹ That the 1316 harvest was longer than usual is found in both the accounts and some narrative sources. See, for instance, *The Chronicle of St. Mary's Abbey, York*, edited by H.H.E. Craster and M.E. Thornton. *The Publications of the Surtees Society* 148 (London, 1934), p. 65.

October 1317 and August 1318, grain prices did not fluctuate much, rising, on average from 8s to 10s. The harvest of 1318 was bountiful, and this fact drove the wheat prices back down to the pre-famine levels. In the course of the 1318-9 agricultural year, they stood at 4s 6d per quarter and these figures did not change much in the course of that year.

If one thing stands out in particular about the price movements of the famine, it is that oat prices rose more than any other crop. As Figures 2 and 3 indicate, in the course of a single agricultural year, while wheat prices trebled, oat prices rose nearly fivefold. This is despite the fact that oat yields were considerably higher than wheat yields: oats were 8 and 37 per cent below average in 1315 and 1316 respectively. One would expect this to reflect a relative shift in consumption, from wheat to oats. The available sources do not allow us to substantiate such an assumption, however. On the one hand, there is no evidence that the manorial officials increased the relative proportion of oats distributed among local harvest-workers.¹² If anything, demesne authorities augmented the allowance of barley and occasionally peas among harvesters, to compensate for a lack of wheat.¹³ On the other hand, monastic accounts, dealing with grain storage and consumption, do not reveal any clue about the increased demand for oats during the famine years.¹⁴ It is possible that this

¹² It should be noted, though, that the harvest-work portion of the accounts concerns only one particular group of the peasantry, employed in one particular season of the year. Therefore, they do not allow for any generalization regarding patterns in oat consumption among peasants during the famine years.

¹³ Thus, in 1301-2, the manorial authorities of Winchester Bishopric's demesnes allocated about 17 per cent of barley's issue to the *famuli*, while during the famine years, the proportion rose to the astonishing 66 per cent. Calculated from *The Pipe Roll of Bishopric of Winchester 1301-2*, edited by Mark Page. *Hampshire Record Series* 14 (Winchester, 1996) and Hampshire Record Office 11M59/B1/70-72.

¹⁴ All the surviving granary accounts (to my knowledge) from major conventual houses for the famine years have been consulted: Norwich Cathedral Priory (Norfolk Record Office [thereafter, NRO] DCN 1/1/24-26); Canterbury Cathedral Priory (Canterbury Cathedral Archives [thereafter, CCA] DCc/Granger 6 and 9, DCc/Bartoner 6 and 7; Durham Cathedral Priory (Durham Cathedral Archives [thereafter, DCA] Granator Rolls 1314-5, 1316-7 and 1317-8; Bolton Priory (*The Bolton Priory Compotus, 1286-1325*, edited by Ian Kershaw and David M. Smith, Yorkshire Archaeological Soc., Record Series CLIV, (Woodbridge, 2000), pp. 395-6, 415-6, 453-4).

aggressive rise in oat prices has to do with horses, rather than humans. Notwithstanding the terrifying food shortage for humans, the demesne officials chose not to cut back the amounts of oat fodder to be distributed among horses. This somewhat surprising decision can be explained by the fact that ploughing must have been exceptionally difficult during the famine with incessant rains softening the soil and creating much mud in the fields. In these circumstances, it is likely that both humans and horses would have required more calories to complete their work. The same stands true for carting, when roads became clogged with wet dirt. Therefore, it was in the best interest of crop producers to maintain healthy and well-fed horses. Although oats' share in the total equine fodder did not seem to have exceeded 15-20 per cent, this crop was the single most important source of protein for horses, without which the animals would suffer physical debilitation.¹⁵ This said, it should be remembered that c. 1315 horses performed only about 34 per cent of all ploughing and carting work on the demesne (while in the tenancy sector horses would have contributed well over half of all the draught force),¹⁶ and unlike horses, oxen, the principal seigniorial source of draught-power, were given only a meagre proportion of oats, with most of their calories coming from hay, straw, chaff and pasture grass.¹⁷

¹⁵ Philip Slavin, "Fodder and Fodder Resources in Late-Medieval England: Output, Consumption and Crises." Working Paper. Available online at http://ehes2011.com/papers/Slavin%2C%20paper%20on%20fodder_B.pdf

¹⁶ Philip Slavin, 'The Great Bovine Pestilence and Its Economic and Environmental Consequences in England and Wales, 1318-50,' *Economic History Review* (forthcoming). An 'early view' version available at <http://onlinelibrary.wiley.com/doi/10.1111/j.1468-0289.2011.00625.x/abstract>. On the differences in draught livestock structures and strategies between the demesne and tenancy sectors, consult John L. Langdon, *Horses, Oxen and Technological Innovations. The Use of Draught Animals in English Farming from 1066-1500* (Cambridge, 1986).

¹⁷ John L. Langdon, "The Economics and Horses and Oxen in Medieval England," *Agricultural History Review*, 30 (1982), 31-40, p. 34; Slavin, 'Fodder and Fodder Resources', p. 9.

Price inflation during the Great Famine was remarkably fast and aggressive, when compared to both non-famine and years of dearth. Of this extreme period, the year of September 1315 to August 1316 stands out, when prices for wheat, rye, barley and legumes rose 12 per cent a month and for oats an astonishing 16 per cent per month. Such amazing inflation would have undoubtedly shocked contemporaries: in non-famine years, the price of crops normally rose at just below 2 per cent per month (Figure 3). The inflation seen for the Great Famine also appears to have far exceeded that of most other historic European famines. As Figure 4 shows, the Great Famine was indeed a catastrophe in its own league. For comparison, during the troublesome year of 1596-7, in the midst of another major pan-European famine, which was as well a direct result of a short-term weather anomaly, grain prices rose 4.2 per cent monthly. Similar figures are found for the more minor famine of 1621-3.¹⁸ The late 1840s saw another period of crop dearth, deriving from widespread potato blight and a series of grain harvest failures. Although the crisis ravaged all of Northern Europe, from France to Scandinavia, the main victim was, undoubtedly, Ireland. Known in Irish Gaelic as *An Gorta Mór* (=the Great Hunger), the Great Irish Famine of 1845-52, which killed some 10-15 per cent of the island's population and forced a further 10 per cent to emigrate, was, like the Great Famine, a perfect example of a *FED* crisis, initiated by environmental factors and greatly aggravated by institutions.¹⁹ Of all Western European famines, only this mid nineteenth-century crisis appears to have been characterised by inflation as aggressive as that seen in the early fourteenth century. Between October 1845

¹⁸ Calculated from Poynder's Database of England monthly grain prices, 1270-1955 (<http://www.iisg.nl/hpw/data.php#united>) (accessed on 5 January 2012)

¹⁹ The economic history of *An Gorta Mór* is masterfully studied by Ó Gráda in his *Black '47 and beyond: The Great Irish Famine in History, Economy, and Memory* (Princeton, 1999). See also, idem, *Ireland's Great Famine: Interdisciplinary Perspectives* (Dublin, 2006), and Cormac Ó Gráda, Eric Vanhaute and Richard Paping, eds. *When the Potato Failed: Causes and Effects of the "Last" European Subsistence Crisis* (Turnhout: 2007) (two excellent collaborative volumes).

and September 1846, potato prices rose at the rate of 14.7 per cent *per mensem*.²⁰ Although the potato blight affected other western and central European countries, nowhere else was the rise in potato prices so aggressive during the late 1840s. It is rather intriguing, however, that there is no evidence of such aggressive behaviour within the oat sector, notwithstanding the disastrous hunger and the increased demand for this grain then, as an alternative staple.²¹ On average, Irish oat prices rose a mere five per cent a month. This stands in sharp contrast with the situation in 1315-6, when the price of oats skyrocketed far more dramatically than the price of wheat.

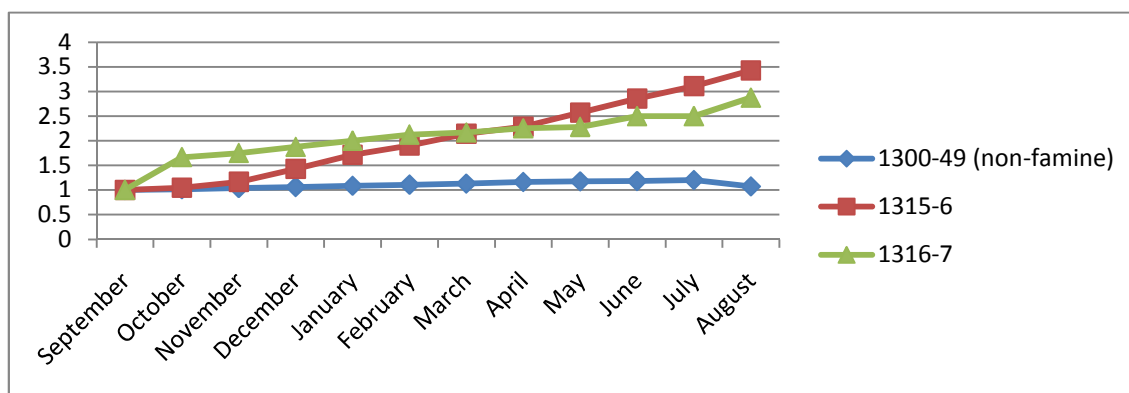


Figure 3. Seasonal wheat price movement (logged on September), 1315-6 and non-famine years (1300-49)

Source: manorial accounts database

²⁰ Calculated from Ó Gráda, *Ireland's Great Famine*, pp. 32-4 and Solar, Peter M., "The Crisis of the Late 1840s. What Can Be Learned From Prices?" in Cormac, Ó Gráda, Eric Vanhaute, and Richard Paping, eds. *When the Potato Failed: Causes and Effects of the "Last" European Subsistence Crisis* (Turnhout, 2007), p. 87.

²¹ Ó Gráda, *Black '47*, p. 142.

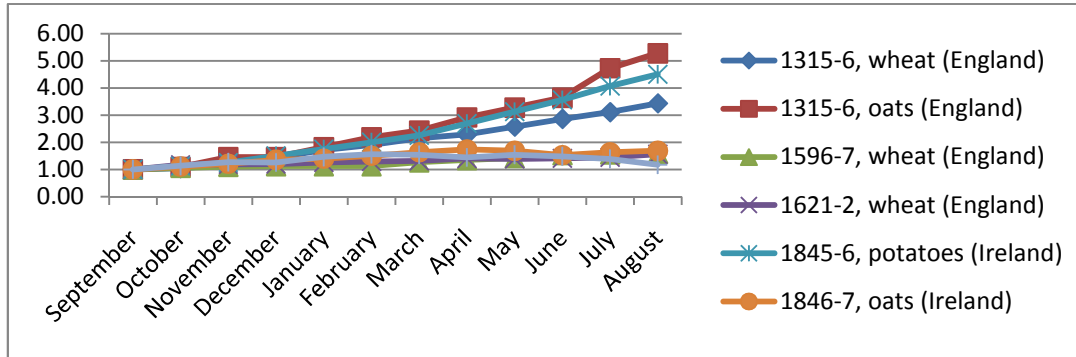


Figure 4. Seasonal crop price fluctuation during major European famines, 1315-1848

Sources: Manorial accounts database; Poynder, *Database of England Monthly Grain Prices, 1270-1955*; Ó Gráda, *Great Irish Famine*, pp. 32-4; idem, *Black '47*, p. 142 and Solar, "Crisis of the Late 1840s."

Another fact differentiating the crisis of 1315-7 from other Western European famines is the time in which it took prices to reach their peak (Table 1). In the Great Famine prices reached their maximum in merely eleven months, while in other major Western famines prices seem to have risen considerably slower. Thus, during the English famine of the mid-1550s, it took the prices 30 months (from September 1554 to March 1557) to reach their ceiling, from 10s to 40s per quarter of wheat. During the 1621-3 famine in England, prices rose for seventeen months, from 30s to 60s per the same measure, between September 1621 and January 1623. In the course of the French famine of the early 1690s, it took 21 months for a *setier* (156 litre) of wheat to climb from 14 to 48 *livres Tournois*. During the 1815-7 crisis in Bavaria, one *scheffel* (=223 litres) of wheat rose from 4,900 to 13,600 Munich *denars*, between September 1815 and August 1817, a total of 23 months. Finally, during the catastrophic potato blight in Ireland, it took 22 months for potato prices to reach their peak, from 1s 4d to an astonishing 11.5s per hunderweight (50

kg). Similarly, prices fell, comparatively speaking, very slowly in the early fourteenth-century crisis. They remained exceedingly high throughout the course of the 1316-7 agricultural year and it was not until September 1318 that they finally returned to pre-famine levels. In the case of most other famines, however, prices tended to recede at a much faster pace, as Table 1 suggests. The comparatively slow movement of prices in later famines may be, at least partially, explained via the development and diffusion of better storage facilities in the early modern era, as the releasing of grain stores would have slowed the ascent of prices. As Claridge and Langdon have recently shown, a lack of such storage facilities in late-medieval England made people especially vulnerable to food deficiency and subsistence crises.²²

Table 1. Price rise and fall speed in select pre-Industrial European famines

Famine event	Beginning	Peak	End	Commodity	Peak levels	Months of price rise	Months of price fall
Great Famine, England	Sep 1315	Aug 1316	Sep 1318	wheat	3.43	11	25
1554-7, England	Sep 1554	Mar 1557	Sep 1557	wheat	4.00	30	6
1621-3, England	Sep 1621	Jan 1623	Sep 1623	wheat	1.96	16	8
1692-4, France	Sep 1692	Jun 1694	Nov 1695	wheat	3.43	21	17
1815-7, Bavaria	Sep 1815	Aug 1817	Aug 1818	wheat	2.77	23	12
1845-8, Ireland	Sep 1845	Jul 1847	Aug 1849	potatoes	8.63	22	13

²² Jordan Claridge and John Langdon, 'Storage in Medieval England: the Evidence from Purveyance Accounts, 1295-1349,' *Economic History Review* 64, no. 4 (2011), pp. 1257, 1260-1.

Sources: Manorial accounts database; Poynder, *Database of England Monthly Grain Prices, 1270-1955*; idem, *Database of French (Parisian) Monthly Grain Prices, 1549-1698*; ; Elsas, M.J., *Umriss*, pp. 674-7; Ó Gráda, *Great Irish Famine*, pp. 32-4; idem, *Black '47*, p. 142 and Solar, "Crisis of the Late 1840s, p.87.

Notes: 'Peak levels' are indexed levels of prices logged on the first observed month.

It should be noted that the transaction prices found in manorial accounts do not always agree with those reported by contemporary or later chroniclers or annalists. Of 31 sampled chronicles narrating on the famine, only eight recorded prices that agree with the accounts' data.²³ But even in these few cases, the chroniclers reported only the highest figures (usually between 20 and 26s for quarter of wheat). The vast majority of the chroniclers usually reported very exaggerated prices, with the most common figure being 40s per quarter of wheat. One Leicestershire chronicler even spoke of 44s.²⁴ Although some of these figures were reported by late fourteenth- and fifteenth-century chronicles, the authors of which did not experience the famine, they appear as well, at least in some instances, in contemporary accounts.²⁵ The highest price found in the extant accounts is 26s 8d for a quarter of wheat, recorded Hinderclay (Suff) and Long Sutton (Hants),

²³ Thus, *Vita Edwardi Secundi*, edited by Wendy R. Childs (Oxford, 2005), pp. 120-3; *Annales Londonienses*, in *Chronicles of the Reigns of Edward I and II*, Vol. 1, edited by William Stubbs (London, 1882), p. 236; *Thomae Walsingham Historia Anglicana*, edited by Thomas Riley, Vol. 1 (London, 1863), p. 145; *Chronique de Sepringham*, in *Le Livre de Reis de Brittanie e Le Livre de reis Engleterre*, edited by John Glover (London, 1865), pp. 332-3; *Newnham Abbey Chronicle and Cartulary* (Bodleian Library, MS. Top. Devon d.5, fol. 5v), *Chronicle of Gervase of Canterbury's continuator* (Cambridge, Trinity College Library, MS. R.5 41, fol. 113r); *Chronicle of St. Mary's Abbey*, p. 67; and *Castleford Chronicle, or "The Boke of Brut"*, edited by Carline D. Eckhardt (Oxford, 1996), p. 1058.

²⁴*Chronicon Henrici Knighton*, edited by Joseph Rawson Laumby (London, 1889), vol.1, p. 411.

²⁵ Thus, *Thorney Annals, 963-1442*, edited by Cyril Hart (London, 1997) , p. 33; *Annales Monasterii de Bermundeseia*, in *Annales Monastici*, Vol. 3, edited by Henry Richards Luard. (London, 1866), p. 470; *Annales Monasterii de Osenia*, in *Annales Monastici*, Vol. 4, edited by Henry Richards Luard (London, 1869), p. 354; *Annales Prioratus de Wigornia*, *Annales Monasterii de Osenia*, in *Annales Monastici*, Vol. 4, edited by Henry Richards Luard (London, 1869), p. 561, *Chronica Monasterii de Melsa*, edited by E. Bond (London, 1867), Vol.2, p. 332 and *Johannis de Trokelowe Annales*, edited by Thomas Riley (London, 1866), p. 92.

presumably shortly before the harvest of 1316.²⁶ Why chroniclers so exaggerated prices is uncertain. They may have done so to construct an especially dramatic report of the crisis, or, perhaps, they simply borrowed figures from earlier accounts of earlier famines. Whatever the case might be, these figures are unfortunately frequently taken at face value by the modern historians of this period.²⁷

Market segmentation

The remarkable ascent of crop prices during the Great Famine years must have left very little or no room for human reaction or adjustment to a rapidly deteriorating economic reality. Such total helplessness, which must have been common, would, in turn, have inflicted yet another blow to the relatively nascent commercialized economy of England: market segmentation.

To begin, it should be noted that in the course of the thirteenth and early fourteenth centuries, England underwent a significant process of commercialization. First, this period witnessed an increasing proliferation of rural and urban markets for consumable goods.²⁸

²⁶ Chicago University Library, Manuscripts Department, Bacon Roll 446; Hampshire Record Office, DC/J1/14.

²⁷ Thus, Lucas, "Great European Famine", p.352; Kershaw, "Great Famine", p.8; Roy Martin Haines, *King Edward II. Edward of Caernarfon, His Life, His Reign and Its Aftermath, 1284-1330*. (Montreal, 2003), p. 97; Philip Slavin, "Food Security, Safety, and Crises," in ed. Ken Albala, *A Cultural History of Food. Vol. 3: The Renaissance 1300-1600* (London, 2012), pp. 63-82. For a more balanced account, see John Aberth, *From the Brink of the Apocalypse* (New York, 2001), pp. 20-1 (who took '40 shillings' as the highest point during the famine years).

²⁸ On late-medieval markets, see, *inter alia* Richard H. Britnell, "The Proliferation of Markets in England, 1200-1349", *Economic History Review* 39 (1981), pp. 209-21 Richard H. Britnell and Bruce M.S. Campbell, *A Commercializing Economy: England 1086 to c.1300* (Manchester, 1995) and James Masschaele, *Peasants, Merchants, and Markets: Inland Trade in Medieval England, 1150-1350* (New York, 1997). An excellent and fully-searchable online gazetteer of late-medieval English and Welsh markets has been gathered by Samantha Letters (see, Samantha Letters, *Gazetteer of Markets and Fairs in England and Wales*. [WWW document]. URL <http://www.history.ac.uk/cmh/gaz/gazweb2.html>).

Second, it also saw the volume and velocity of money in circulation rise a great deal.²⁹ Third, there is strong evidence for a fair degree of market integration across different trade *loci* in England, defined by the ‘Law of One Price’ (=LOP) and by trans-regional market involvement.³⁰ Finally, mercantile ties with alien traders, from the Baltic, Mediterranean and Continental Europe seem to have become stronger than ever before.³¹ This commercial structure, strongly sophisticated for its day, was, however, doomed to fall apart within a matter of months, if not weeks, on both trans-regional and local levels. After all, the Great Famine ravaged a greater part of Northern Europe, from Ireland to Livonia, and each affected region must have had a similar experience of market collapse.³²

Table 2. Coefficient of variation across different markets in England (monthly terms) in non-famine and famine years

	1280-1349 (non-famine years) CV	1315-6 CV	1316-7 CV
Wheat	0.125	0.152	0.115
Barley	0.157	0.279	0.149
Oats	0.131	0.300	0.178
<i>n</i> of wheat transactions	381	66	50
<i>n</i> of barley transactions	162	39	24
<i>n</i> of oat transactions	91	29	9
Total <i>n</i> transactions	634	134	83
Total <i>n</i> of accounts	87	52	44

²⁹ Nicholas J. Mayhew, Nicholas, “Modelling Medieval Monetisation”, in Richard H. Britnell, and Bruce M.S. Campbell, *A Commercializing Economy: England 1086 to c.1300* (Manchester, 1995), pp. 55-77; Martin Allen, “The Volume of the English Currency, 1158–1470”, *Economic History Review* 54 (2001), pp. 595–611 ; idem, “Silver Production and the Money Supply in England and Wales, 1086–c.1500.” *Economic History Review* 64, no. 1 (2011), pp. 114–31; Paul Latimer, “Money and the English Economy in the Twelfth and Thirteenth Centuries,” *History Compass* 9, no. 4 (2011), pp. 246–256.

³⁰ James A. Galloway, “One Market or Many? London and the Grain Trade of England”, in James A. Galloway ed., *Trade, Urban Hinterlands and Market Integration c.1300-1600*, (London, 2000), pp. 23-42.

³¹ Nils Hybel, ‘The Grain Trade in Northern Europe before 1350’, *Economic History Review*, 55 (2002), pp. 219–47.

³² The geography of the famine is discussed in Jordan, *Great Famine*.

Sources: Manorial accounts database

Notes: Because of their fairly small transaction numbers, I have excluded other crops from this sample.

As Table 2 shows, the coefficient of variation for prices among the manors in the 1315-6 sample was generally higher than those in the 1280-1349 non-famine sample. This increase is seen particularly with barley and oats, rising from about 0.16 and 0.13 to 0.28 and 0.30 respectively. Within the wheat sector, prices did not increase as noticeably. Most interestingly, variation in prices across markets declined in the course of 1316-7, despite the persistence adverse environmental conditions. What could account for such a trend? One would, perhaps, expect to find an inverse relationship between crop yields and price levels. After all, crop yields varied considerably across demesnes. However, as Table 3 demonstrates, in both 1315-6 and 1316-7 there is no indication that local yields had any clear impact on local price levels. Although the frustratingly low number of observations (reflected in the high *P*-value in both cases) make this claim susceptible to critique, a close analysis of available data suggests that the two variables were indeed fluctuating in isolation from each other. Thus, in January 1316 a quarter of wheat was selling for 12s at Barksore (Kent) and for 15s 4d at Feering (Essex), notwithstanding the fact that the former's yields for the same grain were three times lower than those of the latter.³³ Similarly, in December 1315 the officials of both Birdbrook (Essex) and Cuxham (Oxon) were selling their wheat produce at 16s per quarter. At the same time however, the wheat yield on these demesnes stood at 1.54 and 3.54, respectively.³⁴ This agrees with Gregory

³³ The respective figures (measured in yields-per-seed) were 1.11 and 3.22. CCA, DCc/Barksore 22 and Wesminster Abbey Muniments (thereafter, WAM) WAM 25632.

³⁴ WAM 25423 and Merton College Muniments (thereafter, MCM) 5840.

Clark's suggestion that local grain prices tend to reflect more 'national prices' than local crop yields.³⁵ While the very idea of 'national prices' (as opposed to the '*national average*') before the Industrial Revolution, and especially in crisis years, can be challenged as somewhat an anachronistic notion, there is no doubt that the lack of correlation between local crop yields and price levels, as demonstrated in the famine year accounts, strengthens Clark's argument.

Table 3. Simple regression of previous year's yields on average annual prices

	Wheat prices, 1315-6	Wheat prices, 1316-7
<i>Multiple R</i>	0.173	0.162
<i>R Square</i>	0.030	0.026
<i>Coefficient</i>	0.171	0.296
<i>t-stat</i>	1.100	0.676
<i>P-value</i>	0.278	0.508
<i>Observations</i>	41	19

Sources: Manorial accounts database.

Similarly, one would, perhaps, expect to find a correlation between the quantity of grain traded and the price of grain, with smaller amounts selling for higher prices per quarter. A detailed analysis of such transactions, however, shows that this hypothesis worked only in some cases. Indeed, in July 1317 the officials of Gamlingay (Cambs) sold one quarter of wheat for 20s, while demesne managers of Farleigh (Surrey) vended 4.75

³⁵ Gregory Clark, "A Precocious Infant? The Evolution of the English Grain Market, 1208–1770," in Clara Eugenia Núñez ed., *Integration of Commodity Markets* (Sevilla, 1998), pp. 17-20.

quarters of the same crop at 14s per quarter.³⁶ But on the other hand, in February 1316 the officials of Berkeley (Glouc) sold one quarter of wheat for 11s 6d a quarter, while those of Metham (Yorks) managed to vend 15 quarters of the same grain for 15s a quarter.³⁷ Many similar examples could be added here.

One truly remarkable thing about Great Famine price movements is the fact that in some isolated instances there was no clear correlation between prices and seasonality. In other words, instead of rising progressively in the course of an agricultural year, prices exhibited much monthly volatility. Thus, at Cuxham (Oxon) a quarter of wheat was selling for 20s in June. Yet a month later it fell to 15s, notwithstanding the fact that the harvest was yet to be collected.³⁸ The following example is perhaps even more revealing. Between 13 January and 12 March 1316, the officials of Feering (Essex) sold wheat on four transactions. The price of one quarter was 15s 4d on 13 January; on 2 February, however, it fell to 12s, only to rise to 15s 6d on 14 February and soar to 18s 8s on 12 March, which was well above the 'national average'.³⁹ However, such instances were usually few and in the vast majority of cases, the prices obeyed the law of seasonal progression. As we shall see later, such behaviour is likely to reflect more the interactions between vendors and purchasers than sale-seasons.

Although the connection between famines and market performance has now long been studied, there is no scholarly consensus on this issue, since different events impacted markets in different ways. In some food shortages, such as the French famines of 1693-4

³⁶ MCM 5327 and MCM 4829

³⁷ Berkeley Castle Muniments, GAR 291 (consulted on microfilm made available through the Gloucestershire Record Office).

³⁸ MCM, 5839, 5840.

³⁹ WAM 25632.

and 1708-10, the Great Irish Famine of 1846-52 and the Great Finnish Famine of 1868, recently studied by Ó Gráda, markets tended to function 'normally' and there is not much evidence for their segmentation. Instead, one finds, against all expectations, a remarkable ability of markets to respond quickly to emerging disequilibria of prices.⁴⁰ Altogether different was the market activity of some twentieth and early twenty-first century famines in the Developing World. The omnipresent failure of markets, manifested not only in their inability to cater sufficient amounts of food, but also in a rising coefficient of variation of regional prices, can be spotted in the Bengalese famines of 1942-3 and 1974, during the 1983-5 famines in Kenya, Ethiopia and Sudan, as well as in the 1999-2000 food crisis in Ethiopia.⁴¹ Thus, in Kenya, the coefficient of variation trebled from 0.15 to 0.45, between January and November 1984.⁴² In other words, one should not accept the link between famines and market failure as a universal feature of famines. Each famine exhibits different market behaviour, depending on local conditions and circumstances particular to each event.

Was this market performance unusual or usual for major famine years? Or, was the rise in spatial coefficient of variation in crop prices particular to the Great Famine? As Table 4 demonstrates, different pre-Industrial famines provoked different market behaviour. Thus, markets functioned 'as usual' in late seventeenth-century Scotland and nineteenth-century Ireland and Finland. Conversely, the coefficient of variation rose significantly in the case of the 1694-5 famine in France and the 1816-7 crisis in Bavaria. In other words, 'famine' should not necessarily be equated with market segmentation,

⁴⁰ Ó Gráda, "Markets and Famines".

⁴¹ Olsson, "Causes of Famine"; Ravallion, *Markets and Famines*, pp. 111-113; Drèze and Sen, *Hunger and Public Action*, 144-55; Ó Gráda, "Markets and Famines," p. 156.

⁴² Drèze and Sen, *Hunger and Public Action*, 144 and 155; Ó Gráda, "Markets and Famines", p. 156.

characterized by increasing differentiation in local crop prices. All the same, the case of the Great Famine, as well as the shortages of late seventeenth-century France and early nineteenth-century Germany prove that in some instances, harvest failures can indeed have a devastating impact on market function.

Table 4. Spatial coefficient of variation in crop prices in major European famines

<i>Place</i>	<i>Commodity</i>	<i>Years</i>	<i>CV</i>
England and Wales	Barley	1300-49 (exc. 1315-7)	0.157
		1315-6	0.279
Scotland	Oats	1689-95	0.260
		1696, 98-9	0.238
France	Wheat	1697, 99-1703	0.236
		1690-3	0.287
		1694-5	0.438
Bavaria	Rye	1696-9	0.230
		1816-7	0.311
Ireland	Potatoes	1818-27	0.158
		1840-5	0.320
Finland	Rye	1846, 8	0.205
		1849-51	0.180
		1859-64	0.049
		1867-8	0.049
		1870-3	0.059

Sources: Manorial accounts database; Poynder, *Database of England Monthly Grain Prices, 1270-1955*; idem, *Database of French (Parisian) Monthly Grain Prices, 1549-1698*; Ó Gráda, "Markets and Famines", pp. 158-9; Cullen, *Famine in Scotland*, p. 59.

Decline of market-price supervision and rise of 'preferential trade'

What does, then, explain this market segmentation? It is likely that the lack of clear geographic patterns of crop prices reflect unconstrained behaviour of rural producers, especially the lords, deriving from the lack of governmental intervention. Apart from occasional royal admonitions against grain hoarding and speculation, lords did not face governmental regulations regarding the prices at which raw grain could be sold. They were simply asked 'to buy and sell as cheaply as they could' and 'at reasonable prices'.⁴³ It is unclear what accounts for this relative lack of interference, but it is possible that ongoing warfare on Scottish, Welsh and Irish fronts may have kept Edward II away from some other matters, such as the famine. In any event, this freedom gave lords and merchants the opportunity to behave in a completely arbitrary and opportunistic manner, in order to maximize their profits, through the abuse of widespread chaos and starvation. Such behaviour stood in sharp contrast with the situation in non-famine years, when grain producers and merchants had to comply with the 'just' price, determined and enforced by local sellers and market officers. The objective criterion for regulating prices was annual crop yields.⁴⁴ There are numerous instances in non-famine years when merchants were tried and punished for their refusal to sell their grain at the set market price.⁴⁵ As we have seen, local grain prices in 'normal' years tended to stand not far from the 'national' average, as the relatively low coefficient of variation among different regions shows. In other words,

⁴³ James Davis, *Medieval Market Morality: Life, Law and Ethics in the English Marketplace, 1200-1500* (Cambridge, 2011), p. 225.

⁴⁴ As reflected in Bridlington's *dictum* that 'the price of each and every commodity should be determined not by the judgement of humans, but by the fertility of harvests'. *Gesta Edwardi de Carnarvan Auctore Canonico Bridlingtoniensi*. edited by William Stubbs, in *Chronicles of the Reigns of Edward I and II*, Vol. 2. (London, 1883), pp. 47-8; Davis, *Medieval Market Morality*, pp. 224-5.

⁴⁵ Richard H. Britnell, "The Marketing of Grain in England, 1250-1350". Web-publication [WWW document]. URL: <http://www.dur.ac.uk/r.h.britnell/articles/Grainframe.htm>; idem, "Price-Setting in English Borough Markets, 1349-1500", *Canadian Journal of History* 31 (1996), pp. 2-15

the increased coefficient of variation may reflect the decline of official grain trade supervision and the abuse of the situation by grain vendors.

It should be stressed that in many cases, manorial authorities preferred to sell their lords' grain 'at the demesne gate' rather than at a nearby markets. Usually, they would offer a 5 per cent discount known as *avantagium mercatorium* to local merchants.⁴⁶ The *avantagium mercatorium* represented a compensation for the transportation and storage costs merchants incurred. For the most part, demesne gate prices were identical or nearly identical to market prices, as a comparison between manorial and urban sources dealing with grain transaction reveals. In other words, in non-famine years market pricing mechanisms and rules were extended to demesne grain sales. Conversely, the decline of market price supervision during the famine years is equally reflected on the demesne.

This contrast between the famine and non-famine years may, in turn, tell us something about the decline in the value of information in 1315-7. Although our knowledge about market and price information flow in the late-medieval period is very scarce, there is evidence that there was a clear asymmetry of information between 'locals' and 'outsiders'. While both local producers and consumers had a ready access to the information on market prices, on a local level, foreign merchants were zealously deprived of access to this kind of information by local authorities.⁴⁷ In other words, while local authorities could assist local vendors and purchasers in obtaining the right quote, they did their best to keep foreigners as ignorant as possible, to make them pay more and receive less. Again, serious punitive

⁴⁶ Richard H. Britnell, *Avantagium Mercatoris: A Custom in Medieval English Trade*, *Nottingham Medieval Studies* 24 (1980), pp. 37-50

⁴⁷ Britnell, "Price-Setting", pp. 8-9; Davis, *Medieval Market Morality*, pp. 228-9.

mechanisms were set up against price informers.⁴⁸ During the famine years, when the very concept of the 'just price' disappeared altogether, partially because of the lack of institutional regulations and partially because of the arbitrary behaviour of the producers, the value of information on market prices has undoubtedly declined. Neither vendors nor purchasers knew *what the right price was*.

Under these circumstances anyone could potentially be either a winner or loser. On the one hand, manorial lords could abuse the chaotic situation and sell their produce to strangers for high prices. But on the other hand, the same lords could become the victims of the similar arbitrary behaviour and speculation of other producers. For instance, in January 1317 the demesne officials of Haughley (Suff) managed to sell 6.38 quarters of wheat at 17s per quarter. This was just a bit over the 'national average' of 16s. Yet, the same officers significantly overpaid when purchasing 5.38 quarters of wheat at 20s per quarter around the same time.⁴⁹ Similarly, in October 1316 the authorities of Birdbrook (Essex) paid an astonishing sum of £10 16s for 12 quarters of wheat (at 18s per quarter), only to be able to sell 20 quarters of the same grain for £16 (at 16 per quarter) two months later.⁵⁰

In view of the absence of legal and punitive mechanisms capable of enforcing the 'just price' at market, the 'generalized trust' between producers and customers, characterizing trade between 'strangers' in non-crisis years, was shattered. Under such a scenario, both vendors and buyers had to switch to an alternative and much more reliable 'particularized trust', limited to small groups of people united by the same social and

⁴⁸ Britnell, "Price-Setting", pp. 8-9

⁴⁹ TNA, SC 6/996/14

⁵⁰ WAM 25423

geographic attributes, and based on a personal network of trust and reputation.⁵¹ Examples of such behaviour can be spotted in some grain transactions recorded in accounts, where the names of the buyers were indicated. To repeat, there are, unfortunately, very few instances when the accounts recorded the names of the buyers. This, presumably, has to do with the fact that the vast majority of all seigniorial crops were, sold to local tenants.⁵² Nevertheless, those few accounts specifying the names of purchasers shed much light on the emergence and predominance of strongly 'preferential trade' during the famine years. Thus, in October 1316 the demesne officers of Longbridge Deverill sold 22.38 quarters of wheat to their lord Geoffrey Fromond, abbot of Glastonbury, at 13s 3d per quarter: a price slightly below the 'seasonal national average'.⁵³ At Cuxham (Oxon), on 28 July 1316, in the middle of the harvest, a local villain named William Waldrugge managed to purchase one bushel of wheat for as low as 10d (that is, 6s 4d per quarter), 'because a keeper (of grain) thus conceded to him'.⁵⁴ Apart from close ties between fellow-villagers, which may explain such a low price, this transaction also implies that some demesne officials, such as Cuxham's barn keeper, were ready to risk their lord's ire by selling his grain cheaply. After all, all profits from demesne produce sales were accounted for in annual rolls, rendered before manorial lords. The following example is even more revealing. Towards the end of 1316, the officers of Preston (Kent) sold the combined volume of 23.07 quarters of barley to the officials of Ham, Mersham and Little Chart, all in Kent. In each case, the Preston officers charged 8s a quarter. This price was just

⁵¹ Sheilagh Ogilvie, *Institutions and European Trade: Merchant Guilds, 1000–1800*. (Cambridge, 2011), pp. 427–32.

⁵² The Winchester Pipe Rolls are unique in this matter, since they, in great many instances, specified that the crops were sold to customary tenants. Hampshire Record Office 11M59/B1/71–72 *passim*.

⁵³ LH 9646

⁵⁴ 'quia custos ei ita concessit' (MCM 5840). That William Waldrugge was a local villain is mentioned Paul D. A. Harvey, *Medieval Oxfordshire Village: Cuxham, 1240 to 1400* (Oxford, 1965), p.31.

about the 'national average'. Such 'just' behaviour stems from the fact that all four demesnes were tied by common bonds: they all belonged to the same lord, Canterbury Cathedral Priory; they all were run by manorial officials; and there has always been a strong degree of collaboration and coordination between the officials of these demesnes.⁵⁵ Around the same month, however, the Preston officials sold additional 20 quarters of barley to a certain Robert Dod, charging 9s per quarter. It is possible that the former could be identified with Robert Dod, a baker from Sittingbourne (Kent), who was dead by June 1318.⁵⁶ In any event, it is known that the Dods were a well-off Kentish family, established in and around Faversham. If, however, the identification of Robert Dod with a Sittingbourne baker is correct, then the transaction between Robert Dod and the Preston officials may reveal some intriguing mechanisms of grain trade during the famine years. In effect, it suggests that Robert Dod, as a baker, could have purchased wheat in order to produce bread to sell on the market. In both cases, he would most certainly reap a financial profit, since reselling grain, especially in a processed form, would see a significant profit. In other words, Robert Dod, may not have been merely a buyer and consumer of grain, but a middleman between producers and consumers. Does this, in turn, hint that market prices during the famine may have been higher than demesne gate prices and that people like Robert Dod were the real winners of the catastrophe, because of their ability to low and sell high? For lack of direct evidence, however, this hypothesis cannot be taken further.

In any event, this analysis of the grain trade at Preston clearly illustrates the advantages of 'insiders' and the disadvantages of 'outsiders' linked to the collapse of

⁵⁵ The Canterbury manorial tenants are described in Francis Robin H DuBoulay, *The lordship of Canterbury: An Essay on Medieval Society* (London, 1966), p. 165.

⁵⁶ TNA, C 241/112.

markets during the famine years. In addition, social reputation and status were yet another important aspect impacting prices. Thus, at an unspecified date in 1316-7 (possibly at or after the harvest of 1317), the officials of Orpington (Kent) sold 8 quarters of wheat for only 4s a quarter to the ministers of Queen Isabella, who happened to be in the region.⁵⁷ It is unclear if it was a deliberate judgement of the Orpington officers, instructions of Canterbury Cathedral authorities, or the pressure of the royal ministers stemming from the contemporary purveyance policy (that is, forced sales or contributions of victuals to provision royal garrisons).⁵⁸ It is certain, however, that charging royal representatives with excessive prices could have had negative repercussions not only on the Orpington producers, but also on their lord, the Canterbury brethren. A similar example is found in the 1316-7 account roll from Ferryhill (Durham). In August 1317, the officials of Ferryhill, owned by Durham Cathedral, sold four quarters of oats to Humphrey Bohun, 4th Earl of Hereford, and Henry de Beaumont, 4th Earl of Buchan, for just 5s a quarter.⁵⁹ This price was either well below the average (if sold in the beginning of the month) or just about the average (if sold in the second half of the month). Again, both social prestige and personal links played a role here: Henry de Beaumont, a close associate of the king, was a brother of Lewis de Beaumont (bishop-elect of Durham) and he was on his way to accompany the latter to his consecration.⁶⁰ A similar tendency is found in the 1316-7 account from Ketton (Durham), another demesne belonging to Durham Priory. In the course of the year,

⁵⁷ CCA, DCc/Orpington 16.

⁵⁸ On purveyance policy in that period, consult John Robert Maddicott, *The English Peasantry and the Demands of the Crown 1294-1341* (Oxford, 1975).

⁵⁹ DCA, Ferryhill 1316-7

⁶⁰ On 1 September 1317 the two brothers (accompanied by two papal *nuncios*) were attacked and taken prisoners by Sir Gilbert de Middleton, a Northern rebel. See, Arthur E.S. Middleton, *Gilbert de Middleton and the Part He Took in the Rebellion in the North of England in 1317* (Newcastle-upon-Tyne, 1918), pp. 26-7; William Hylton Dyer, Longstaffe, "The Capture of Bishop Beaumont in 1317," *Archaeologia Aeliana* 6 (1865), 66-8.

manorial authorities sold 2.12 quarters of wheat to William de Ros, 3rd Baron of Ros, charging just 8s a quarter.⁶¹ William de Ros had strong ties with both Edward II and the Durham authorities. Although the account does not specify the seasonality of the transaction, it is known that at no point in that year were wheat prices so low. The financial loss stemming from this transaction was, at least, partially compensated when the Ketton authorities sold another quarter of wheat for 13s 3d to an unspecified buyer.

One would expect that under these circumstances, it was the king who would have profited the most from the situation, especially given his purveyance prerogative. A close analysis of the surviving sources reveals that this expectation was realised only partially. A particularly instructive piece of evidence is found in the only surviving sheriff's account from the famine years.⁶² Around May-June 1316, Robert de Horton, High Sheriff of Devon purchased 280 quarters of wheat and 200 quarters of oats, to be shipped from Teignmouth to Carlisle for local castle provisioning. Purchases were made at nine different locations in Devonshire, stretching from Barnstaple in North-West to Plympton in the South. Despite considerable differences in distance to Teignmouth, there was hardly any variance in price: while wheat prices varied between 18s 8d and 19s 4d a quarter (with the coefficient of variance standing at 0.012), all oats were selling for only 4s a quarter, which was considerably lower than the 'national average' of 9s or 10s a quarter in those months. This undoubtedly reflects the purveyance policy of Edward II, who would usually fix the victual prices he was willing to pay for provisioning his garrisons, in his injunctions to his sheriffs. However, it should be noted that the king's price expectations were by no mean unrealistic

⁶¹ DCA, Ketton 1316-7

⁶² TNA, E 101/555/3-4.

and that in many cases he did not manage to purchase crops below the average national level. For instance, in his writ to his Yorkshire officials from 10 September 1316, Edward II instructed them to pay 12s, 6s 8d and 3s per quarter of wheat, barley and oats respectively.⁶³ These were just about the average ‘national’ prices in that season, with the exception of wheat, that was offered an even cheaper price at some places. Likewise, on 16 December 1316, Edward II purchased a massive 17,000 quarters of wheat from Antonio Pessagno, his chief Genoese grain supplier, paying 15s per quarter, about the average market price at the time.⁶⁴

Altogether different behaviour is found in the 1316-7 account from Rippingale (Lincs), belonging to Sir William Inge (c.1260-1322). In the course of that year, the serjeant of Inge sold a fair quantity of crops (some 30.5 quarters) to John Gobaud of Rippingale.⁶⁵ In each case, the transaction price seems to be above the ‘national seasonal average:’ thus, 1.88 quarters of wheat was sold for 18s a quarter around 31 October 1316, compared with the average 14s elsewhere. Such ‘unfair behaviour’ reflects the social status of both the vendor and buyer. In the course of his remarkable legal and political career, William Inge held several key administrative positions in the governments of Edward I and Edward II, and at the time the transactions took place he was serving as the Chief Justice of King’s Bench.⁶⁶ John Gobaud (1300/1-1336), on the other hand, was a much less significant figure than Inge: he was a minor Lincolnshire landowner and at the time of the transaction a mere

⁶³ *Calendar of Patent Rolls, Edward II, Vol. II, AD 1313-1318*. edited by H.C. Maxwell-Lyte. (London, 1898), p. 543.

⁶⁴ *Calendar of Patent Rolls*, p. 603.

⁶⁵ LiRO, Anc. 3/1.

⁶⁶ Paul Brand, ‘Inge, Sir William,’ in *Oxford Dictionary of National Biography* (Oxford, 2004); online edn, Jan 2008. Web-publication [WWW document]. URL: <http://www.oxforddnb.com/view/article/37587>

sixteen years of age.⁶⁷ Unlike Inge, Gobaud was protected by neither experience nor status. Despite the fact that both men held manors in the same vill, the status- and age-gap between the two allowed Inge to execute his arbitrary will and sell his crops well above their average market value. It is possible that Inge deliberately used his high social status and administrative post to profit from speculative opportunities during the famine. Interestingly enough, around the same time he was also facing multiple allegations of corruption, linked to illegal property acquisition and a forgery of a seal of the sheriff of Surrey.⁶⁸

In other words, the market failure of 1315-7 created a widespread phenomenon of ‘preferential trade’, based on personal networks, social capital and status on the one hand and discrimination towards ‘outsiders’ and weaker elements on the other. The lords and their reeves tried to maximize their profits from the situation through selling as high as they could (through speculation) and buying as cheap as they could (through personal networks). Outsiders and buyers of lower social status, on the other hand, were clearly disadvantaged and, as such, were forced to pay higher prices for (very) scarce crop resources. This attitude reflects the collapse of generalized trust and a switch to a much more particularized sort of trust. In some cases, profit was enormous, but in other cases, especially when dealing with vendors and buyers of social reputation and prestige, it was ruinous.

⁶⁷ Robert E.C. Waters, *Genealogical Memoirs of the Extinct Family of Chester of Chicheley, Their Ancestors and Descendants*, Vol. 1 (London, 1878), Vol. 1, p. 198. This John Gobaud is not to be confused with Sir John Gobaud (also of Lincolnshire), creditor, landowner, sheriff of Lincoln and commissioner of array: see, Peter Coss, *The Origins of the English Gentry* (Cambridge, 2003), p. 178 and Richard Gorski, *The Fourteenth-Century Sheriff: English Local Administration in the Late Middle Ages* (Woodbridge, 2003), p.99.

⁶⁸ Brand, “Inge, Sir William”.

Seasonality of transactions

Another dimension of this famine-era market failure concerns transaction seasonality, the timing of crop purchasing and selling. Reconstructing such seasonal trends is by no means a straight-forward task, given the fact that, as we have seen, only about 15 per cent of all accounts comment on the seasonality of crop transactions. This shortcoming can be partially amended by a tentative dating of undated sales to their quarterly equivalents. With all possible caveats, this methodology does not appear too suspicious: despite some pronounced local variations within the same months, trimestral averages did not fluctuate. In other words, if a 1315-6 account states that one quarter of wheat was sold for 12s, it is most likely that the transaction took place somewhere between January and March 1316, even though it is impossible to date it with greater precision. This method increases the sample from 239 to 1,573 transactions and, thus, provides a much better sense of general seasonal trends in sales (Table 5).

*Table 5. Seasonal distribution of crop transactions, September 1315-August 1317**1. Sales by lords*

	Autumn	Winter	Spring	Summer	Crop amounts (in quarters)	N transactions
Wheat, 1315-6	7.0%	22.3%	41.7%	28.9%	2,901	329
Wheat 1316-7	13.2%	56.4%	22.6%	7.8%	2,162	181
Barley, 1315-6	7.5%	16.1%	47.4%	29.0%	1,700	186
Barley, 1316-7	1.4%	63.1%	34.2%	1.4%	1,160	99
Oats, 1315-6	17.7%	67.5%	3.3%	11.5%	2,315	150
Oats, 1316-7	29.6%	62.5%	7.9%	0.0%	1,900	107
Peas, 1315-6	6.1%	18.3%	22.4%	53.2%	180	59
Peas, 1316-7	25.9%	36.8%	27.1%	10.2%	174	53
Total					12,491	1,164

2. Purchases by lords

	Autumn	Winter	Spring	Summer	Crop amounts (in quarters)	N transactions
Wheat, 1315-6	56.6%	31.9%	4.8%	6.7%	290	66
Wheat 1316-7	35.8%	22.8%	29.4%	11.9%	132	40
Barley, 1315-6	27.2%	32.4%	5.5%	34.8%	367	80
Barley, 1316-7	22.8%	53.6%	20.5%	3.2%	299	55
Oats, 1315-6	20.6%	45.6%	27.9%	5.8%	604	86
Oats, 1316-7	20.4%	56.7%	19.8%	3.1%	401	53
Peas, 1315-6	0.3%	30.1%	64.2%	5.3%	76	20
Peas, 1316-7	24.4%	42.6%	22.8%	10.2%	321	9
Total					2,490	409

Source: Manorial accounts database

Notes: Autumn=September, October and November; range of prices (per quarter), 1315-6: wheat=7s-8s 2d, barley=4s 10d-6s, oats=2s 9d-4s, peas=4s 4d-6s; 1316-7: wheat=8s-14s, barley=6s 8d-8s, oats=3s-4s, peas=7s-9s. Winter=December, January, February; range of

prices (per quarter), 1315-6: wheat=10s-13s 4d, barley=6s 8d-8s, oats=4s-6s, peas=6s 9d-8s; 1316-7: wheat=15s-17s, barley=9s 4d-10s 10d, oats=5s-6s, peas=10s-12s. Spring=March, April, May; range of prices (per quarter), 1315-6: wheat=15s-18s, barley=10s-12s, oats=6s 8d-9s, peas=10s-12s; 1316-7: wheat=17s 4d-18s 3d, barley=12s-13s 3d, oats=6s 8d-7s 4d; peas=13s-14s 6d. Summer=June, July, August; range of prices (per quarter), 1315-6: wheat=20s-26s 8d barley=13s 4d-20s; oats=10s-16s; peas=13s-20s; 1316-7: wheat=20s-25s; barley=13s 6d-15s; oats=8s-12s; peas=15s-17s.

Table 5 divides all the transactions into sales and purchases by manorial lords. It appears that in most instances, at least during the first year of the famine, the lords were in a position to maximize their profits by selling late and buying early. In other words, they were reluctant to release their crop resources shortly after the harvest, preferring, instead, to hoard them in their barns and granaries, waiting for prices to rise. Thus, during the autumn of 1315, only some 7 per cent of available wheat was sold at market, while by June 1316, when prices approached their annual peak and acute starvation had set in, lords still kept nearly 30 per cent of their wheat in storage. The seasonality of barley sales shows similar trends. The figures for oats and peas were, on the other hand, different. While the vast majority of oats were sold by March, chiefly because of the excessive consumption of oats by horses during the winter months, the share of peas sold in the summer accounted for over half of its annual harvest. At the same time, however, the lords managed to purchase over a half of their wheat supply by the autumn. The vast majority of barley and oats were bought by the end of February. Peas, on the other hand, were chiefly purchased, in modest amounts, in the course of the third trimester. Altogether different were the trends during the second year of the famine. Here, both sales and purchases marched, more or less, at the same pace. Between two-thirds and three-quarters of all transactions took

place before March 1317, while in the summer there was very little left to be sold or purchased.

What accounts for these differences? To a great degree, they reflect not only the deliberate hoarding policy of the lords, but also their advantageous position within the trade system, over other crop producers. Lords certainly held the advantage on account of their vastly greater resources and their ability to use their crop surpluses effectively in a time of scarcity. It should be borne in mind that hoarded grains were always prized for the finer quality of flour and malt they produced and, thus, sold at premium regardless of weather and price movements.⁶⁹ The gap between the lords and tenants is well illustrated in a number of contemporary or near contemporary documents. Thus, a 1315-6 account from Longbridge Deverill (Wilts) has a marginal gloss stating that all barley had to be sold before Martinmas (11 November), 'since it could not be kept longer [at the barn], on the account of debilitation and inundation'.⁷⁰ In other words, the officials of Longbridge Deverill must have had a clear plan to withhold their lord's grain longer, but were forced to release and sell it sooner and cheaper than planned, for fear of having the grain ruined by torrential rain. The disadvantageous position of dependant peasants (whether tenants or serfs), on the other hand, is reflected in a contemporary Middle English poem *Song of the Husbandman*, composed in or around the famine. Lamenting his hardships during the famine, the Husbandman states, *inter alia*, that the manorial bailiff forced him to sell his

⁶⁹ Steven L. Kaplan, *Provisioning Paris: Merchants and Millers in the Grain and Flour Trade during the Eighteenth Century* (Ithaca, NY:, 1984), pp. 50-1; Philip Slavin, *Bread and Ale for the Brethren. The Provisioning of Norwich Cathedral Priory, 1260-1536* (Hatfield, 2012), p. 134.

⁷⁰ 'Quia longuis custodui non potuit propter debilitatem et hinundationem (*sic*)'. LH 10688.

grain 'while it is still green on grass'.⁷¹ 'Green on grass' presumably means immature grain, still unharvested. One way to interpret this passage is that in some cases lords compelled their tenants to sell their produce well in advance of the harvest, regardless of its success or failure. On the other hand, this passage may suggest that rent might have been paid in kind from unharvested grain. Both interpretations may explain why lords managed to purchase their grain shortly after the harvest.

It is obvious, however, that lords did not always possess full control over the timing of sales and purchases, standing helpless in front of Nature's inclemency. As we have already seen, in some instances they were forced to sell their hoarded crops earlier than planned, because of heavy rain and defective barns. There are numerous references to the sales of rotten crops. In some cases, spoiled crops were sold for reduced prices, while in other cases lords managed to sell them for the full price. Thus, according to a 1315-6 account from Downton (Wilts), 6.75 quarters of barley were sold for just 2s 9 1/2d a quarter because they were rotten.⁷² On the other hand, the beadles of Eastry (Kent) vended 2.5 bushels of wheat for the astonishing 7.5s (at 24s per quarter.⁷³ The untimely sales and ruining of crops, in turn, imply that some demesne barns were leaky and generally in deplorable shape. It should be remembered that around the famine, at least half of all demesne barns were made of timber and, hence, susceptible to strong winds and

⁷¹ 'Sulle mi corn on gras that is grene'. *Song of the Husbandman*. Edited by James M. Dean, *Medieval English Political Writings* (Kalamazoo, Michigan., 1996), line 11. A fully searchable on-line version is available courtesy of the University of Rochester-based *TEAMS* Project [Web-document]. URL <http://www.lib.rochester.edu/camelot/husbafrm.htm>.

⁷² HantsRO, 11M59/B1/71.

⁷³ CCA, DCc/Eastry 43.

flooding.⁷⁴ It is likely that some 30 months of inclement weather, lasting from the autumn of 1314 to the spring of 1317, proved to be a too much for long-term hoarding. Although lords managed to withhold fairly large proportions of their crop resources in the course of the first famine year, the ceaseless flood may have not permitted them to repeat this policy in the course of the second year. This, in turn, may explain why about three-quarters of all lords' crops were sold by March 1317. The impact of the torrential rain of 1314-7 on storage facilities and costs is yet another fascinating topic, which, unfortunately, cannot be dealt with here.⁷⁵

Conclusions

There can be little doubt that inclement weather, and, consequently, failed harvests had most negative impact on crop markets during the Great Famine. The omnipresent signs of market failure, manifested in exceptionally aggressive price behaviour, market segmentation, the decline of price supervision and rise of preferential trade, as well as the lack of a steady supply of grain stemming from a seigniorial policy of hoarding, left highly negative marks on the commercializing economy of late-medieval England. In particular, it intensified the extent of the famine and, consequently, aggravated the suffering of the disadvantaged. It seems that the market failure divided the entire country into two main groups: winners and losers. The former group consisted chiefly of two social elements: wealthy landlords and grain merchants. Both had more than enough resources to manipulate the disaster and use it to their own advantage, through a variety of means. At

⁷⁴ Niall D. K. Brady, *The Sacred Barn: Barn-Building in Southern England, 1100–1550: A Study of Grain Storage Technology and Its Cultural Context*. Unpublished Cornell University PhD Thesis, 1996, Appendix 1; Slavin, *Bread and Ale*, p. 121.

⁷⁵ On likely impact of storage facilities during subsistence crises, consult Claridge and Langdon, 'Storage in Medieval England,' pp. 1257, 1260-1.

the same time, however, one may contend that grain merchants, perhaps like Robert Dod, were in a better position than lords, in a sense that they were middlemen between lords (producers) and masses (consumers). Purchasing grain at the demesne gate and reselling it later at local markets or bakeries, for higher prices, may have earned merchants a great deal of wealth during the famine. To a certain extent, purchasing crops at the demesne gates itself can be regarded as a form of forestalling. It should be borne in mind that regrating and forestalling were defined as punishable offences in late-medieval England and there are numerous examples of forestallers tried and punished.⁷⁶ Moreover, forestallers were always subject to social opprobrium and stigmata.⁷⁷ It seems, therefore, that grain merchants were willing to take considerable risks on account of a lack of royal interference in price regulation during the famine. In other words, although there is no doubt that a crop hoarding policy by lords was partially responsible for driving prices up, middlemen were at least as culpable of the same vice.

The losers included, obviously, the impoverished masses of peasants, who were largely highly disadvantaged and helpless in front of both torrential rains and market failure. The hoarding policy of Lords ensured that the food entitlement of peasants, which was already comparatively quite poor, would decline further yet. This seemingly agrees with Sen's notion of famine as a chiefly anthropogenic phenomenon, as discussed earlier. The high mortality of the famine (10-15 per cent) among the lower social echelons was the direct result of both FAD and FED, and the chaotic situation they engendered. It is certainly possible that mortality would not have been as high had markets not failed. The

⁷⁶ On that issue, consult Richard H. Britnell, 'Forstall, Forestalling and the Statute of Forestallers,' *English Historical review* 102, no. 402 (1987), pp. 89-102.

⁷⁷ Davis, *Medieval Market Morality*, pp. 403-5, 432, 438.

omnipresent chaos and market failure, however, could not be possibly be contained by any legal, mercantile or political institutions and, as a result, a great many humans were doomed to perish in the disaster. At the same time, however, it should be remembered that the breaking down of price arbitrage rules, during the famine years, involved *both* buyers and sellers. That is to say, the institution of 'just price' was, to a large degree, a union of consumers, endorsed by the state, church, town and market officials, as well as local communities, that forced sellers (whether direct producers or middlemen) to sell their goods at a reasonable price, and prevented them from regrating and forestalling. It is possible, therefore, that the high prices of crops during the Great Famine were created not only by the producers and middlemen, but *also* by buyers and that they can be seen as a breaking down of the bonds that they had with each other in 'normal' years. In other words, some (perhaps, better-off) purchasers surrendered to the chaos and were willing, out of desperation and fear, to break the arbitrage rules of non-famine years and buy at a higher price. To a certain extent, this situation may resemble the labour scarcity panic in the immediate aftermath of the Black Death, when many landlords and labour-providers chose to ignore the 'rules' set up by the Ordinance (1349) and Statute of Labourers (1351) and hired labour at higher than prescribed rates. In both cases, panic and the breaking of rules involved two sides: sellers and buyers in the case of the famine, and employers and labourers in the case of the pestilence.

More generally, the study of market performance during the Great Famine confirms the importance of the institutional side of the disaster. But the market is only one institution. Much more institutional aspects remain to be studied, in order to appreciate the complexity of the Great Famine in particular, and *famine as a phenomenon* in general. For

instance, such valuable topics may include the impact of manorialism on the famine; the effect of concurrent warfare on starvation; and the influence of the famine on short-term changes in marital patterns and family structure. On a more positive note, however, one should also not neglect the institution that was catering for the needy: charitable works. In each case one should always be encouraged to study topics in a comparative perspective, taking into account other major pre-Industrial famines. Such a comparative approach is likely to yield the most exciting results.

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