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# City and Countryside Revisited. Comparative rent movements in London and the South-East, 1580-1914

David Ormrod, James M. Gibson and Owen Lyne

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# City and Countryside Revisited. Comparative rent movements in London and the South-East, 1580-1914[1]

David Ormrod,[2] James M. Gibson and Owen Lyne

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Economic historians have traditionally argued that urban growth in England was driven primarily by prior improvements in agricultural supply in the two centuries before the industrial revolution. Recent revisionist scholarship by writers such as Jan Luiten van Zanden and Robert Allen has suggested that 'the city drove the countryside, not the reverse'. This paper assembles new serial data on urban and agricultural rent movements in Kent, Essex and London, from 1580-1914, which enables us to provide a tentative estimate of the strength of the urban variable and the productivity of land across the rural-urban continuum. Our initial findings support the revisionist view, and throw new light on London's position within the wider metropolitan region. Comparative rent movements suggest a greater continuity between town and countryside than has often been assumed, with sharp increases in rental values occurring on the rural-urban fringes of London and the lower Medway valley.

**JEL:** N53, N93, Q15, R12, R14, Y1

**Keywords:** Europe, pre-1913; agriculture; land-use; tenure; rural-urban relations; spatial competition; urban history

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[2] **Corresponding Author**: Prof. David Ormrod, School of History, Rutherford College, University of Kent, Canterbury, Kent, CT2 7NX; email: d.j.ormrod@kent.ac.uk. The archival research, extraction of rental data and assembly of databases was undertaken by Dr Gibson, Archivist to the Rochester Bridge Trust; statistical manipulation and production of graphs was undertaken by Dr Lyne of the University of Kent's Institute of Mathematics, Statistics and Actuarial Science.

# 1 Introduction

Europe's most successful economies during the period of the 'great divergence', England and the Northern Netherlands, shared three important characteristics: a highly productive agriculture, urban growth accompanied by a falling share of the labour force employed in farming, and abnormally high levels of commercial growth. The inter-connectedness of these variables is commonly acknowledged, but the causal relationships involved are still far from clear. Historically, the growth of the agricultural sector normally depends on rising urban demand, but the latter does not necessarily depend on improvements in agricultural productivity. Profits from overseas and internal trade, urban manufacturing, food imports, and government spending are some of the factors that operated in the case of London and Amsterdam to modify simple patterns of interdependence between town and countryside. If traditional views tended to assume that urban growth rested on prior improvements in agricultural supply, revisionist scholarship by writers such as Jan Luiten van Zanden and Robert Allen, has suggested that 'the city drove the countryside – not the reverse'.[3] The evidence presented here confirms this view, and suggests that the traditional problematic of determining the 'contribution of the agricultural sector to the industrial revolution' is too limited. From the landlord's point of view, commercial and urban development offered equal or increased scope for enhancement of rents than improved farming alone. Something substantial was mediated through the experience of urbanisation which it is the purpose of this essay to unravel: the productivity of land across the rural-urban continuum.

Until recently, these debates were difficult to settle in the absence of serial data indicating the long term movement of agricultural rents. Since 1997 however, the gap has been filled for English farming with a national farm rents index compiled by Turner, Beckett and Afton (TBA) covering the years 1690-1914, superceding earlier efforts by Chambers and Mingay, Brassley, Allen and others.[4] Although not strictly comparable, G. Clark's estimates of land rents derived from the holdings of charitable trusts can be placed alongside the TBA series to expand the picture.[5] Urban rental series, on the other hand are still extremely scarce, and one of the major difficulties in constructing robust agricultural and urban rental series is that of extracting non-agricultural sites from aggregated estate records over long periods of time. Existing indexes have tended to take a mass of disconnected observations for scattered rural properties from which averages can then be formed. The method pursued here, on the other hand, is to create authentic serial data by following through a fixed sample of rural and urban sites, together with properties situated on the rural-urban fringe, noting periodic changes in rent levels, tenancies, and leasing arrangements, as well as amalgamations and subdivision of holdings. Rather than excluding individual properties which do not fit ideal rural or urban

[3] Allen, *British Industrial Revolution*, p. 58; Allen, 'Progress and poverty', pp. 403-445; van Bavel and van Zanden, 'Jump-start of the Holland economy', pp. 503-532.
[4] Turner, Beckett and Afton, *Agricultural Rent in England*; Chambers and Mingay, *Agricultural Revolution;* Brassley, *Agricultural Economy of Northumberland and Durham*; Allen, *Enclosure and the Yeoman;* Clay, 'Price of freehold land'; Kerridge, 'Movement of rent'.
[5] Clark, 'Land rental values', pp. 281-308; Clark, 'The Charity Commission', pp. 1-52; Clark, 'Renting the Revolution', pp. 206-210.

types, we have incorporated and re-sorted every piece of information, just over 40,000 separate observations, to take account of changes in land-use over the long term.[6]

This method is obviously time-consuming and we do not claim to have produced anything like as comprehensive an index as TBA in terms of geographical spread, with estates in practically every county in England at its end-point in 1914. Our source consists of the estates of one institutional landowner in South-Eastern England, the Wardens and Commonalty of Rochester Bridge, known today as the Rochester Bridge Trust, covering property in Leadenhall Street, London, the Medway towns, and farms in south Essex and north and east Kent. This is therefore a regional case study, focusing on the metropolitan region. Our results constitute the first stage of what we hope will be a fuller enquiry into rent movements and property values across the region. The initial aim has been to develop a methodology for comparing agricultural and urban rental series, and further work is needed on other London sites, in the city and the suburbs, before firm conclusions can be reached about the representativeness of our small London sample. Nevertheless, our dependence on a single estate and the integrity of an unbroken series of property transactions gives us a robust core of material against which the observations of others can be tested. We have been able in all cases to relate levels of rent to particular types of land use.

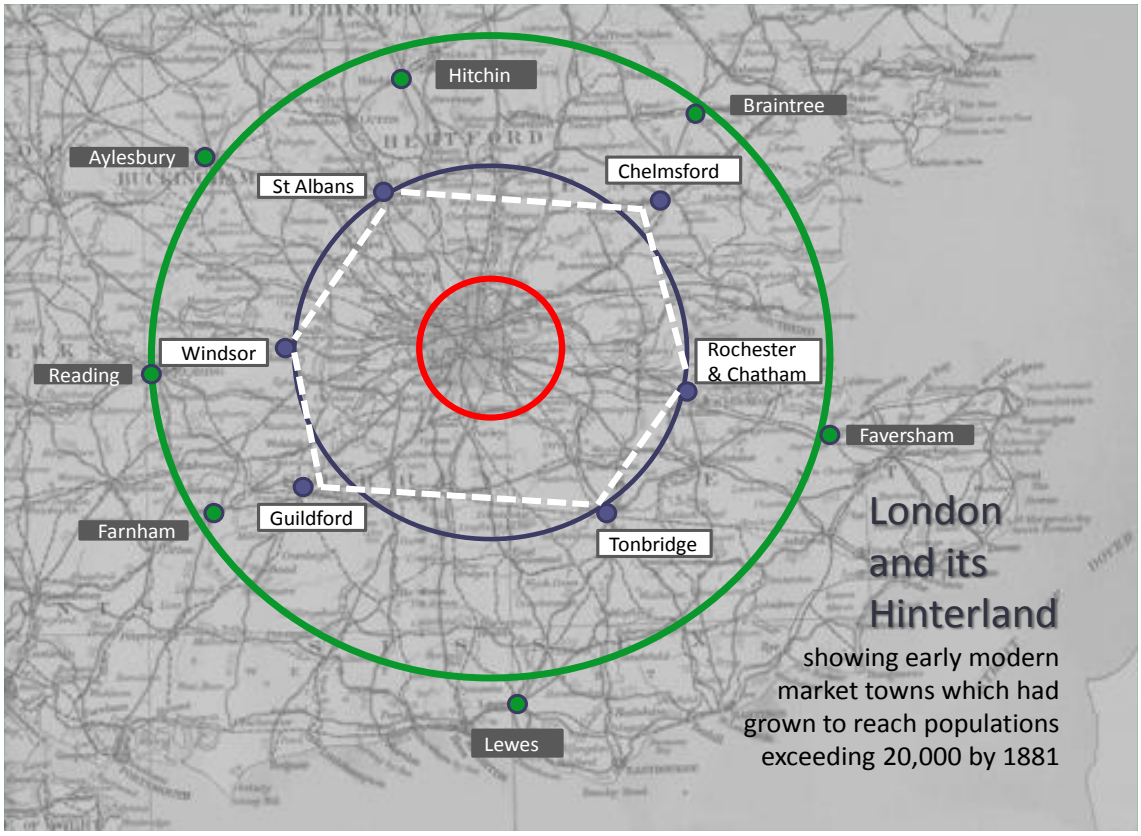



Figure 1: London and its hinterland, showing early modern market towns which had grown to reach populations exceeding 20,000 by 1881

[6] 11,524 observations for the rural properties, 11,181 for the London site, and 17,384 for Rochester and Strood, totalling 40,089. A fuller description of sources and methods is provided in Appendix 4, pp. 34-36.

One of the first writers to describe London and its metropolitan region was Elizabeth Gilboy, writing about wages in the early 1930s.[7] More recently, the demographic aspect was highlighted by Vanessa Harding, in a discussion which fitted different population estimates to an expanding series of parish boundaries. Put simply, the question is: where does London end, and how do we define its boundaries? [8] In the early modern period, we can think of a metropolitan region extending from the 'Greater West End', comprising the royal estates centring on Hampton Court Chase, through town and city to the ancient boundaries of Kent, including those just south of the river and stretching eastwards beyond the Medway (figure 1). Especially important was employment created by the new, heavy industries of north Kent, including the defence industries. By 1914, the region had become the most highly urbanised in Britain, in which the integration of town and countryside proceeded in two directions: an outward or centrifugal expansion from the metropolis, driven, amongst other things by rising land values, and an opposite, inward movement from urban centres within the region, drawn into the ambit of London commodity markets.

The stimulus of rising land values was most keenly felt along the rural-urban fringes of both these zones – on the environs of London itself, and in the outlying suburban areas surrounding towns such as Reading in the west and Maidstone and the Medway towns in the east. The rural-urban fringe should not be characterised simply in terms of suburban development, but is best understood as a series of semi-peripheral locations where land and property values can be observed to rise rapidly in the short run, typically within the term of a twenty-one year lease. In our sample, such sites originated as low-valued agricultural land which was either infertile, unstable, waterlogged or prone to coastal inundation, situated nevertheless in potentially favourable locations. They should not be confused with proto-industrial areas or farming regions (*pays*) where dairying and wood-pasture farming were incapable of generating more than intermittent and precarious employment opportunities, nor should they be seen as constituting a homogeneous landscape type.[9]

## 2 The Rochester Bridge Estates

The Rochester Bridge Trust (RBT) was founded in the 1390s to maintain the new stone bridge which crossed the Medway on the strategic route from London to Dover and the continent. Most of the Trust's property came into its possession in the late fourteenth and early fifteenth centuries, including 'Wangford's rents', a block of tenements in London covering about one-third of an acre in Leadenhall Street. By the late seventeenth century, they formed a prime city site, with the East India Company's warehouses to the rear, the Royal Exchange a minute's walk away, and East India House across the street. Various properties in Strood and Rochester High Street, including inns, taverns, workshops, builders'

[7] Gilboy, *Wages in Eighteenth Century England,* pp. 39-70.
[8] Harding, 'Population of London', pp. 112-28; Hohenberg and Lees, 'Urban Systems and Economic Growth', pp. 44-46; Reed, 'London and its Hinterland, 1600-1800', pp. 57-69; Young and Garside, *Metropolitan London,* pp. 1-8.
[9] Thirsk, 'Industries in the Countryside', p. 86; Everitt, 'Farm Labourers', pp. 412-29; Clarkson, pp. 15-27; Zell, *Industry in the Countryside*, chapter 4, passim.

yards, dwelling houses and the city Guildhall completed the urban holdings. The rural manors and estates consisted of Langdon near Faversham, the manors of Little Delce and Nashenden south of Rochester, including 300 acres of woodland still known as the Bridge Woods, some detached plots on Burham Common, a chalk quarry and farmland on the Frindsbury Peninsula, land on the north Kent marshes, including Rose Court and Halstow on the Isle of Grain, a wharf and farmland at Dartford, and across the Thames in Essex, the manor of Southall in East Tilbury. Two additional farms in the Essex parish of West Thurrock and the parish of Shorne, west of Rochester, belonged to the New College of Cobham but were administered by the Bridge Wardens since the sixteenth century. The total size of the estate amounted to about 2,050 areas by the early eighteenth century. The administration of urban and rural properties under a single management body means that the level of urban and rural rents can be taken as comparable, and the representativeness of the latter can estimated against the TBA index.

An incomplete collection of medieval leases and accounts dates from the first surviving wardens' account roll in 1391. However, following the Rochester Bridge Act of 1576, which reformed the Wardens' administration, the records of the Trust are remarkably complete. Annual accounts survive from 1577 to the present day, broken only by three missing accounts during the Civil War and Commonwealth. Although some of the original leases have not survived, all leases were copied into lease registers from 1577 onwards, making a virtually unbroken record of property transactions. In addition, there are numerous estate maps, surveyor's reports, building plans, architectural drawings, correspondence with tenants, and other property records. Most of the properties have at least one scaled plan that can be measured by planimeter, against which acreages specified in leases can be checked.

The act of 1576 together with a clarifying act nine years later in effect modernised the basis on which rents were charged. The Wardens retained the right to tax the 'contributory lands' or parishes within a seven-mile radius of the bridge for its 'perpetual maintenance', should the estate revenues prove insufficient. In fact this never proved necessary, but it provided the wardens with a secure basis on which to grant tenancies without entry fines, at 'reasonable' market rents: 'Leases of the Land and Tenements belonging to the said bridge shall not be made for any Fines or Incomes, but for Rents reasonably to be advanced for the Profit of the said bridge.'[10] Existing tenants were always to take preference when new leases were granted, provided they offered as much as any other '*bona fide*'**.** These provisions were to be quoted many times during succeeding centuries. From the early seventeenth century to the mid-nineteenth century, leases of 21 or 31 years were usual for rural properties, in accordance with these provisions and orders.[11] It was not until the 1870s that short leases of one, seven and fourteen years replaced 21-year farm leases. For the urban properties, a broader range of possibilities was applied, partly determined by the level of repairs and rebuilding which might be needed: 21-, 31-, 40-, 45- and 50-year leases were granted in Rochester, while in London, 21 and 31 year leases were the norm until the 1881 when

[10] *An Act for the perpetual Maintenance of Rochester Bridge* (18 Elizabeth c.17), as quoted by John Thorpe in Rochester Bridge Trust Archives, RBT: E1/2/19: Orders and Examples Concerning Leases of Lands and Tenements, Belonging to The Wardens and Commonalty of Rochester Bridge (1741), p. 1.

[11] For a comparison of the emergence of short-term leases in England, from the fourteenth century, with their earlier appearance in continental North-Western Europe, see van Bavel, 'Land and lease markets', pp. 30-34.

building leases of 80 years were granted. At this point, we must indicate the course of farm rent movements during the two and a half centuries following the Elizabethan statutes, to situate the RBT rent levels for Kent and Essex within the national picture provided by TBA.

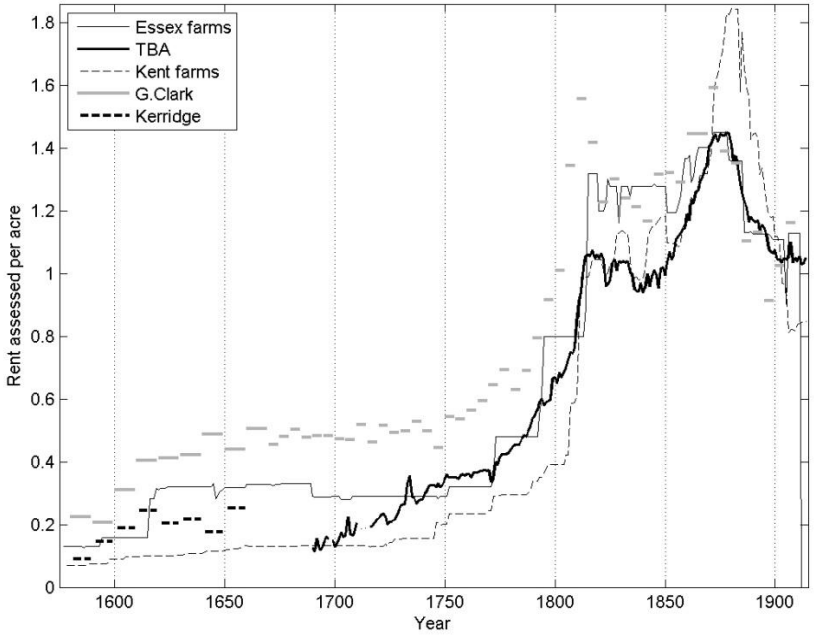



Figure 2, Kent and Essex farm rents compared with TBA and G. Clark's estimates, 1577-1914 (assessed rents per acre, £s)

The closeness of fit between the three series is at once apparent, with the TBA series tracing a rising path from the Kent level around 1700 towards an alignment with Essex from ca.1750 to 1800 (figure 2). Thereafter, the Kent farm rents generally rise above the national index, particularly during the depressed conditions of the last quarter of the nineteenth century, while the Essex series rise well above it until the 1860s. The Essex farms enjoyed easy access to London, especially East Tilbury with its Thameside wharf and the higher rentals there are unsurprising. The Charity Commissioners' reports, on the other hand, show a uniformly higher level of rents for the south-east, but as Clark himself suggests, charity land is unrepresentative of land as a whole, characterised as it was by small average plot sizes and more densely populated sites.[12] The Charity Commissioners' Reports show that charity lands were frequently found on or near town and village sites, and often included house rents[13] Although Clark has tried to correct this bias, well over half his observations come from plots of less than 20 acres with an inbuilt tendency to generate higher rents per acre than large sites. More seriously, the Charity Returns are based on second-hand reports rather than archive-based materials, and for the most part cover current (nineteenth century) rental

[12] Clark, 'Land rental values', p. 283.
[13] For several revealing Kent examples from the late eighteenth and early nineteenth centuries, see British Parliamentary Papers, 1819 (83), pp. 129, 138, 155, 161-2, 238, 247, 251 -2.

values. While scattered material exists for the eighteenth century, earlier returns are scarce and their accuracy is open to question.

Although strong reservations must be expressed about the representativeness of rentals laid before the Charity Commissioners, the rents charged by the Bridge Wardens should not be regarded as full market rents. Agricultural writers argued strongly in favour of rack renting in the eighteenth century, but as Turner, Beckett and Afton have argued, the idea and its practice were not fully articulated until the nineteenth century when archaic tenures were disappearing.[14] Indeed, they suggest that 'under-renting was socially and politically necessary,' following Offer's discussion of land as a positional asset.[15] Until the 1740s at the earliest, the Bridge Wardens, in common with many landlords, set farm rents below the maximum level which the market would bear. Dr John Thorpe, Senior Warden in 1733 and 1742, suggested in the early 1740s that the bridge rents were very unequal, some being let at 'near their full, some at two-thirds, some at half, and others at one third or less, of their improved value'.[16] Some years later, in 1749, an enquiry by the Committee of Assistants also concluded that for many years, the bridge estates had been leased out 'very much under their true and real values'.[17] It was common at this time for the wardens and assistants themselves to take up leases, and some farms had remained in the same family for several generations. Part of the explanation for relatively low rents in the vicinity of Rochester lies in the fact that the Wardens reserved the right to take material for bridge repairs for their own use: chalk from the pits at Quarry Farm, Frindsbury, for lime burning and repair of the 'starlings', and elm from the extensive woodlands on the Nashenden estate, used for piling.

It was the need for major repairs to the bridge from 1736-40 which prompted the implementation of a tighter management structure and a keener awareness of the true value of the bridge properties. From 1741 to 1745, a series of new Orders was issued, clarifying and extending the provisions of the 1576 act. Estimates were now required of the full improved annual value of lands or buildings, before a new lease could be granted**.** The new rental would take account of any repair costs, land tax and other incumbrances, and was determined according to a standard formula related to an annual interest rate of four per cent. In 1752, the Bridge Woods were separated from the Nashenden and Little Delce estates and taken into direct management. This new approach came at a time when farming in several parts of the country was emerging from a period of prolonged depression. Kent was no exception, and the build up of arrears on the Bridge estates was substantial during the 1740s. This situation, together with the inevitable time-lag involved between the expiry and renewal of 21-year leases, meant that significant improvements in estate income were not registered before mid-century. From this point, however, the steady upward climb of rents began (figure 3), and in 1751, the wardens began to invest in stocks. In 1812, the Bridge Engineer reported that savings of £13,800 had been achieved between 1751 and 1792, whereas before this time, income and expenditure were 'generally even handed'.

[14] Turner, Beckett and Afton, *Agricultural Rent*, p. 13
[15] Offer, 'Farm tenure and land values', pp. 1-2, 13-18.
[16] Society of Antiquaries, Thorpe Mss, vol. 198, 'Considerations of the Leases of Land and Tenements belonging to Rochester Bridge', ff. 147r-153v, undated, placed next to an item dated 1741, f. 148v.
[17] RBT: A2/3/1, Minutes of the Committee of Assistants, 27 January 1748/9, p. 164.

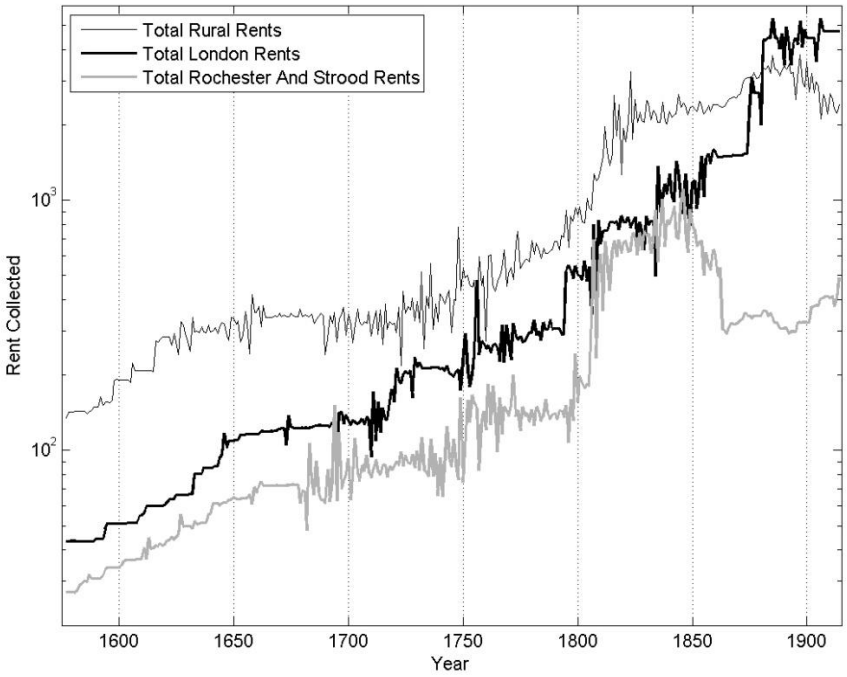



Figure 3, Total rents collected, distinguishing rural, London and Medway urban rents, 1577-1914 (log-10)

Two major bursts of building activity absorbed these accumulated savings: a bridge widening project from 1793-1804, followed by the construction of a large central arch from 1818-23. In spite of these improvements, the medieval bridge continued to present a major obstacle to the navigation of the Medway valley, rising as it did from eight 'starlings' or small islands. It was finally replaced, in 1856, by an entirely new cast iron bridge 100 yards downstream, designed by Sir William Cubitt. As well as accommodating much larger flows of traffic, the new structure brought enormous economies in maintenance costs.

The increasing market orientation of the trust reflected the general dynamism of the Kentish economy during the long eighteenth century, especially that of its urban sector with relatively high numbers employed in marketing, transport, processing and dockyard industries. In contrast with aristocratic landlords concerned with the augmentation of their estates, the bridge wardens were charged with a public duty – that of facilitating the flow of people and goods traffic along and across the Medway valley, one of the most populous parts of the metropolitan region outside London itself. In 1686, it was claimed that Chatham's population had tripled in forty years, due largely to the expansion of the naval dockyard during the Anglo-Dutch Wars.[18] Intermittent growth continued during the long sequence of wars with France, so that by 1801, the combined population of Rochester, Chatham, Gillingham and Strood tripled once more, growing from 8.6 in 1676 to 24.5 thousand.[19] As Defoe noted, northeast Kent was 'embarass'd with business, and inhabited chiefly by men of

[18] Coleman, 'Economy of Kent', p. 15.
[19] Dulley, 'People and homes ', p. 161.

business, such as shipbuilders, fishermen, seafaring-men and husbandmen'.[20] Naval victualling and the supply of timber, ordnance and naval stores for the dockyards contributed to the expansion of the coastal and river trades, and imported coal, malt and barley for the brewing and distilling industries of Maidstone were exchanged for wheat and oats destined for the London market. Coal imports into Rochester, for example, rose from an annual average of about 2,500 chaldrons in the 1700s to over 23,000 chaldrons by the 1770s.[21]

By the 1740s, the potential for estate improvement was obvious to the Bridge Wardens. Before the 1860s, their revenues were derived principally from their agricultural estates comprising mainly arable and marshland grazing lands (figure 3). From that point onwards, income from the London properties took over the momentum. Urban rents from properties in Rochester and Strood contributed a smaller flow of income, but the combined revenues from the urban estates were more than adequate to compensate for the late-nineteenth century agricultural depression.

## 3 Agricultural Estates

Having outlined the basis and purpose of the existence of the Rochester Bridge Trust, we now move on to shift the discussion from revenues to rents per acre for different types of rural and urban property to discover what light long-term shifts in these variables might throw on the dynamics of regional economic development. The two fundamental issues which underlie our specific case study are first, to indicate to what extent improvements in agricultural productivity are reflected (or concealed) in rent movements, and secondly, to provide a comparative measure of improvements in the productivity of urban property. Did the city drive the countryside, or vice-versa?

On the question of agricultural productivity, our findings for Kent are in line with the broad indications provided by the TBA index: that nominal (money) rents per acre rose about ten-fold between 1690 and 1870, compared with an eleven-fold increase in the TBA national rents index. On the Essex estates however, an already high level of rent (more than twice the level for Kent farms) registers a five-fold increase during the same period. The TBA index suggests that productivity rose most dramatically between ca. 1800 and 1820, with something like a 15-year lag of rents behind food prices.[22] Clark describes this in terms of an 'agricultural revolution accompanying the industrial revolution', but also identifies an earlier burst of growth in the TBA series from 1690 to 1730, an interpretation not shared by Turner, Beckett and Afton themselves.[23] Although their index suggests a more buoyant level of rents than Chambers and Mingay perceived for the decades before 1750, the latter have been at pains to emphasise the provisional nature of their findings for the years 1690-1730, resting as

[20] Defoe, *Tour*, p. 114.
[21] Ormrod, 'Trade and Navigation', p. 169.
[22] Turner, Beckett and Afton, *Agricultural Rent*, p. 234. Significantly, similar conclusions on the timing of the agricultural revolution emerge from the extensive study of farm records by the same writers; see Turner, Beckett and Afton, *Farm Production in England*, chapter 7, which concludes '...the location of the agricultural revolution is firmly in the period from about 1800 to 1850' (p. 230).
[23] Clark, 'Renting the Revolution', p. 206.

they do for this period on a limited range of observations.[24] If we place the TBA index against the RBT farm rents and those of the charitable lands (figure 2), it is evident that a convergence has emerged by 1800, following a period of parallel movement during the preceding half-century when agricultural rents began their steady upward climb. The years from ca. 1620 to 1750, however, represent a period of relative stagnation when rents were set across a broad range of different market levels. The charity rents and the RBT farm rents represent upper and lower limits during a period of slow adjustment from beneficial to rack rents, when, by late eighteenth-century standards, 'under-renting' was evidently a normal state of affairs. The emergence of market rents and the loosening of legal constraints were parts of a slow process, which, as Bogart and Richardson have shown, only began to make its full impact in reallocating land towards higher-value uses in the decades surrounding the Industrial Revolution.[25]

In the case of the RBT farm rents, it is clear that the Elizabethan statutes of 1576 and 1585 effected the replacement of beneficial rents by rack rents, but once established, the wardens were evidently reluctant to raise them in line with rising prices and land values. When new arable and marshland grazing lands at West Thurrock and Stifford were added to the estate in 1616, their currently-assessed value brought about a near-doubling of rents for the Wardens' Essex properties (figure 2). Although less accessible to London markets, the Kent agricultural estates were located in the North Kent corn, meadow and marshland grazing belt, with Land Tax quotas significantly higher than those for the majority of Kent parishes.[26] But Kentish agriculture was characterized by great diversity from one district to another. A variety of soil types and market opportunities created a wide spectrum of rents varying from one or two shillings per acre for saltmarsh to 80s per acre for hop grounds during the second half of the seventeenth century (Table 1). The Bridge Trust farms on the Hoo Peninsula, Halstow and Grain were given over largely to marshland grazing for sheep and cattle, and rented at 2s per acre. Those at Faversham, on the other hand, along with farms in the vicinity of Rochester, Shorne and Dartford, were much more valuable, averaging 8s per acre during the later seventeenth century. This second group included some of the most fertile and advantageously situated lands in Kent, able to take full advantage of the specialised demands of the London market. At Faversham for example, commercial crops of corn, fruit and hops were grown throughout the entire period from 1577 to 1914. Due perhaps to the predominance of higher yield arable land and the absence of lower yield marshland, the Faversham rents are often slightly higher than the TBA index.[27]

We have already emphasised that until the mid-eighteenth century, the Bridge Wardens were generous landlords, and in common with many others tended to set rents well below the level that the market would bear. As the trade and navigation of the Medway valley expanded, however, the need for bridge maintenance became more urgent, and a new approach to property management emerged. Unfortunately, this coincided with widespread

[24] Turner, Beckett and Afton, 'Renting the Revolution', p. 214
[25] Bogart and Richardson, 'Making property productive', especially pp. 1-5, 27-28.
[26] More than 15d per acre, compared with under 10d per acre for the majority, 1798 Land Tax returns, P. Betts, 'Eighteenth Century Landownership', in Lawson and Killingray, *Atlas*, pp. 106-7.
[27] For the pattern of farming and rent levels at Langdon, see ERSC RBT Project Website, http://www:historic-rents.com, Analysis, Changes in land use and the reconfiguration of leases for rural property/Langdon.

Table 1: Comparison of farm rents in Kent & Essex with other southern counties (rent per acre, shillings), 1650-1700

| | arable | ordinary pasture | mixed arable/ marshland | fresh marsh pasture | salt marsh | meadow | woodland | orchard | hop ground |
|---|---|---|---|---|---|---|---|---|---|
| RTB Kent & Essex estates | **8.0**<br>6.1-11.8 | | **6.0**<br>4.3-12.9 | | **2.0**<br>1.1-2.4 | | | | |
| Private Kent estates | **9.3**<br>5.5-13.3 | **14.3**<br>6.6-35.0 | | **21.0**<br>8.8-32.1 | **2.0**<br>1.0-3.0 | **20.25**<br>12.5-27.5 | **8.25**<br>5.0-10.0 | **62.0**<br>48.0-77.8 | **68.0**<br>60.0-80.0 |
| Crown estates, 1649-50: | | | | | | | | | |
| Middlesex | **11.9**<br>8.0-25.0 | **12.2**<br>6.2-30.0 | | | | **22.0**<br>16.0-48.0 | | | |
| Northants | **4.5**<br>2.7-12.0 | **14.5**<br>4.9 | | | | **18.0**<br>10.0-51.4 | | | |
| Sussex | **9.2**<br>4.5-20.9 | **6.2**<br>5.0-15.3 | | | | **15.4**<br>14.7-25.0 | | | |

Sources:
RBT: RBT database, including rentals for Langdon (Faversham), Shorne, Dartford, Frindsbury, East Tilbury, West Thurrock, Stifford, Isle of Grain (Grain Mill Marsh, Burr Marsh, Rose Court, Halstow). Private Kent estates: CKS Maidstone, Clayton Mss, sampled by D. C. Coleman, 'The Economy of Kent under the Later Stuarts', University of London PhD thesis, 1951, pp. 58-62, 99-101, including sample rents from Ash, Bethersden, Chislet, Dover, Egerton, Eythorne, Farningham, Hougham, Barham, Thanet, Tunbridge and Wye. Crown Estates: improved rents, from S. J. Madge, *The Domesday of Crown Lands*, 1938, p. 165, and appendix V, pp. 368-96.
The first figure in bold represents average farm rent; figures below represent the range.

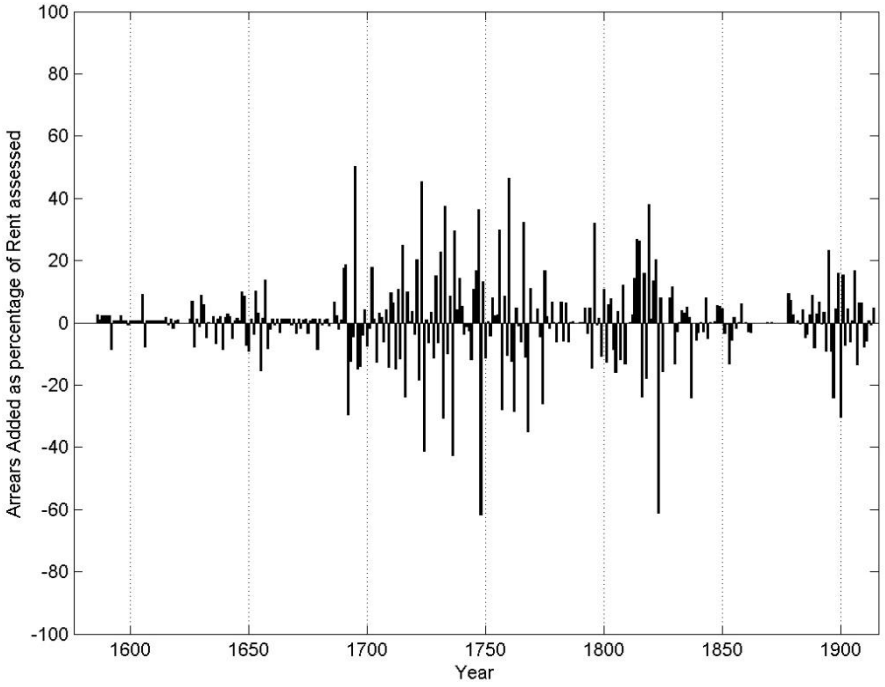



Figure 4 (a), Kent agricultural properties, rent arrears added, 1577-1914, shown as percentage of assessed rent

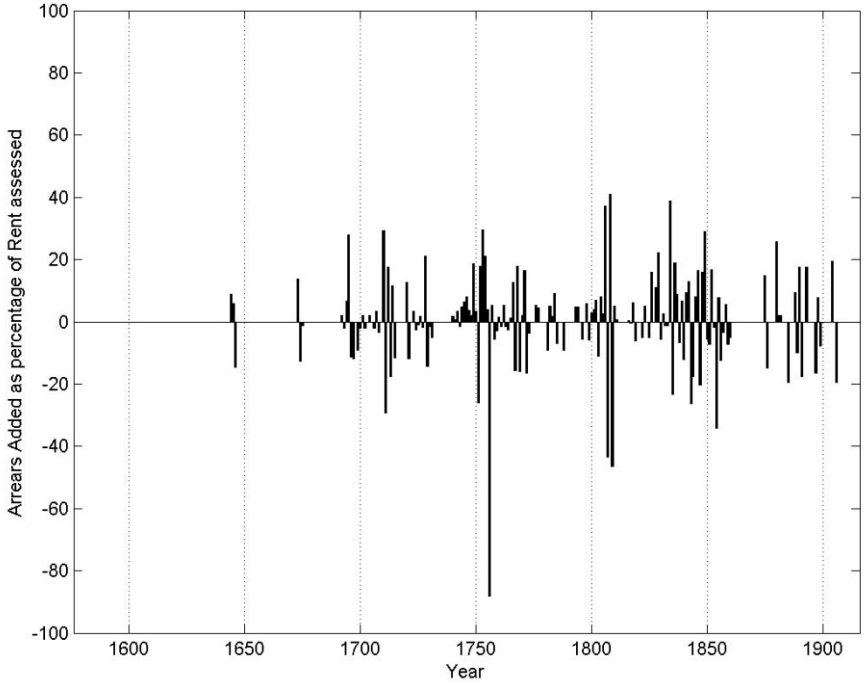



Figure 4 (b), London properties, rent arrears added, 1577-1914, shown as percentage of assessed rent

agricultural depression, as grain prices languished during the 1730s and 40s. Rent arrears shot up and many tenants were unable to meet the new demands of the 1740s (figure 4a). By 1747, a larger sum was being carried forward in arrears than the total rents for all the Kent and Essex farms put together. But the majority of arrears were for periods of 12 months or less, and tenants usually caught up just before their leases were due for renewal, only to fall behind again a few years later. The problems of the 1730s and 40s encouraged the Bridge Wardens to take a flexible but realistic approach to estate management in the years which followed. The medieval charge and discharge accounting system was modernised, and a concerted effort was made to improve and develop the estates, especially the woodlands.

Nevertheless, the problem of rent arrears was a recurrent one, particularly on the rural estates (figures 4a and 4b)**.** The period of depression following the end of the Napoleonic wars is reflected in the intense build-up of agricultural rent arrears from 1814-22. But the persistence and scale of arrears were less pronounced during the nineteenth century than was the case in the previous century. It seems that the Bridge Wardens continued their post-1750 policy of investing in estate improvements, and when agricultural depression descended again in the 1870s, the pattern of arrears was much reduced compared to the two earlier cycles. On the Faversham estate for example, rents were increased by 20% between 1873 and1880, when new farm cottages were built, only to be reduced before a further phase of new building in 1894, with another short-term increase. Estate improvement coupled with frequent rent reviews served to keep farm rents above the TBA national average during the late nineteenth and early twentieth centuries up to 1905-6.

During the second half of the nineteenth century, London's growth depended increasingly on large-scale food imports from abroad rather than productivity improvements within its own agricultural hinterland. Kentish farmers were able to mitigate some of the effects of foreign competition by specialising in fruit, hops, potatoes and market garden produce for the London market, especially in its expanding south-eastern suburbs.[28] But in spite of this, farm rents in Kent as a whole declined by a massive 37% between 1873 and 1911. On the Bridge Estates, income from farm rents fell by practically the same amount (38%) but as we shall see, this was compensated for by additional income from the urban estates and the rural-urban fringe.

It is clear that the collapse of agricultural rents from 1873 was less serious in the South East than was the case in many other parts of the country, reflecting the extent to which Kent had become integrated into the metropolitan economy. Rent levels in our Kent and Essex sample remained considerably higher than the national TBA, averaging 34.1s per acre during the 1870s compared with a national average of 28.1s , a margin of more than 20 per cent, and decline was delayed by several years. The TBA index peaked at 29.0s in 1878, whereas rents on the Bridge Trust lands continued to rise to 40.0s before decline became evident in 1885. The continuing fall of land values before 1914 was a national phenomenon, exacerbated by the collapse of urban property values after 1905, especially in London.[29]

[28] Mingay, 'Agriculture', in Armstrong, *Economy of Kent,* p. 74.

[29] The apparent collapse of our sample Kent agricultural rents in 1905-6 is explained by a reduction of rents following a period of extensive investment in estate improvement coupled with enhanced rents during the agricultural depression. For the urban property cycle and the post-1905 collapse, see Offer, *Property and Politics,* pp.254-59.

# 4 Urban Property

Comparison of our results with those of TBA and Clark suggests that long-run rental series can only be used with confidence to indicate productivity gains in agriculture from around the middle of the eighteenth century when full market rents became the norm. Agricultural improvement was reflected in the steady climb of rents well above the rate of inflation throughout the century after 1780, reaching a peak in the rises of 1810-20 (figure 5). During the century after 1620, farm rents rose relatively slowly, though real gains in productivity may well be concealed by the persistence of under-renting by private and institutional landowners. Bearing this in mind, we now turn to our second major question: how does the course of urban rents compare with this pattern and to what extent did income from urban property compensate for periods of slow growth of farm revenues on the RBT estates?

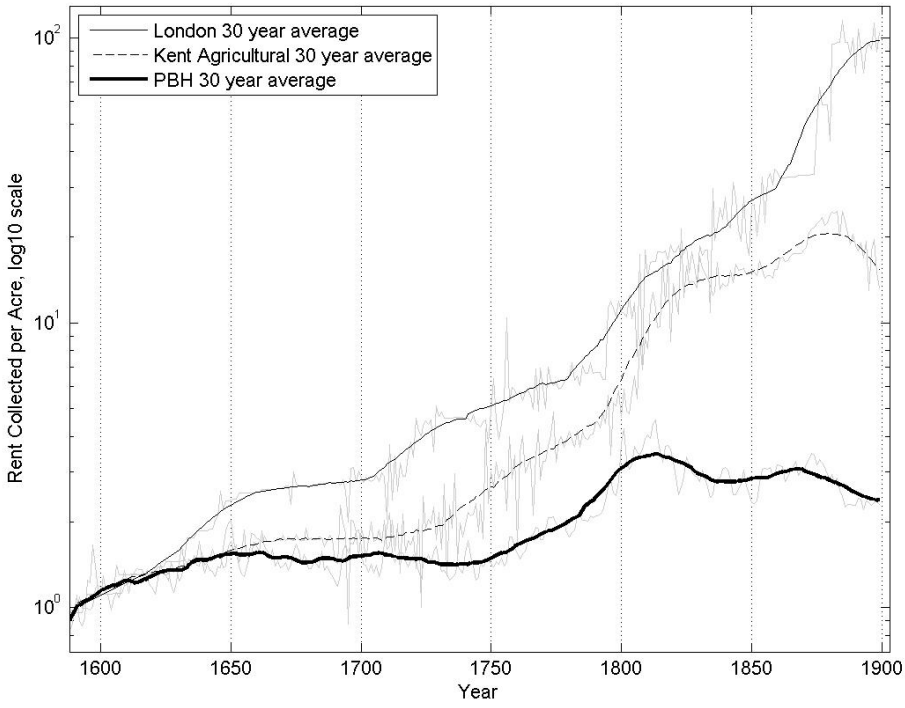



Figure 5, Rents collected per acre, 1577-1914
(rebased 1577-1602, log-10)

The London properties, situated in Leadenhall Street, occupied about one-third of an acre and formed a prime commercial site with boundaries fixed by Bishopsgate and St Mary Axe. They were undamaged by the great fire of 1666, and parts of their timber framed construction survived into the 1790s and beyond.[30] The more dispersed Medway town properties, on the other hand, were subject to disposal and reconfiguration from the mid-nineteenth century. Comparison is nevertheless possible since we are able to calculate unit rents per site area, down to rents per square foot, on the basis of surviving maps and plans.

[30] This is visible in Daniel Alexander's drawings and plans of 1797.

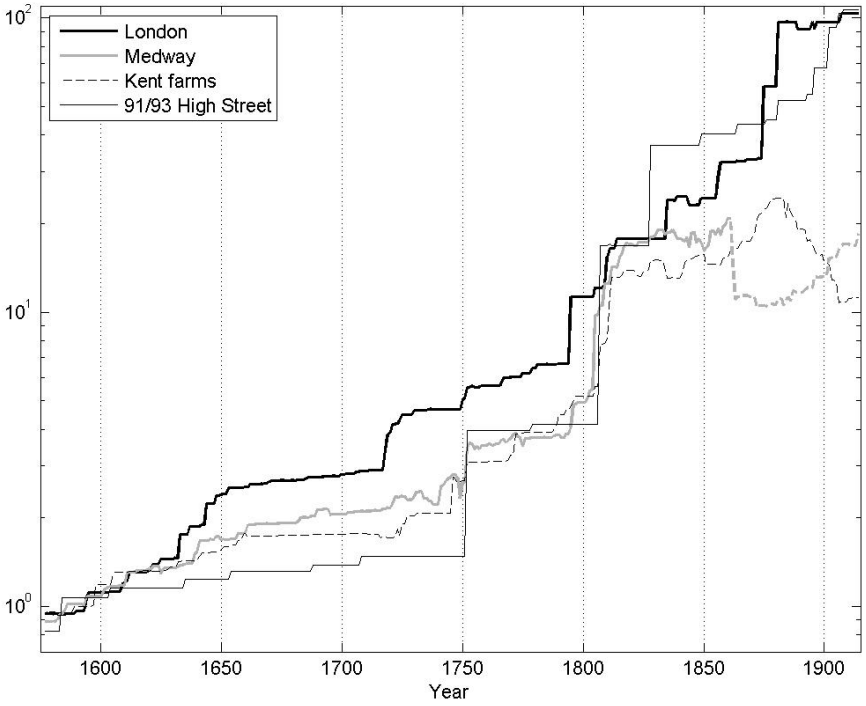



Figure 6, Rent assessed per acre, 1577-1914
(rebased 1577-1602, log-10)

We have already noted that steeply rising income from urban property compensated for falling farm rents during the agricultural depression of the late nineteenth century, and the same is true for the 1730s and 40s (figure 3). When we turn from rental income to rents per acre, it is clear that London rents rose much more rapidly than farm rents during the first half of the seventeenth century (figure 6). The pattern was repeated on a smaller scale during the 1710s and 20s when London rents led the upward movement from 1718 onwards. Although efforts were made to raise nominal farm rents in Kent from the mid-1720s, the simultaneous build-up of arrears was substantial compared with those for the London properties (figures 3a and b), undermining improved revenues. By the early nineteenth century, the rate of growth of Kent agricultural rents had caught up with that for London property, only to fall back again in the mid 1830s at which point London rents surged forward once more. The relative long-term dynamism of the metropolitan economy was clearly the dominant influence on property values across the entire region, from the early seventeenth century through to 1914 and beyond. Among other measures, we can represent the relative advance of London rents in terms of a long-term deterioration in the terms of trade between agricultural and urban property (figure 7).

The growth of the Medway towns, of course, was closely related to London's position at the core of an expanding fiscal-military state. It was during the long eighteenth century that Gillingham, Chatham, Rochester and Strood expanded to become practically a single urban area, dominated by the dockyard industries. A dockyard labour force of 324 in 1664 reached

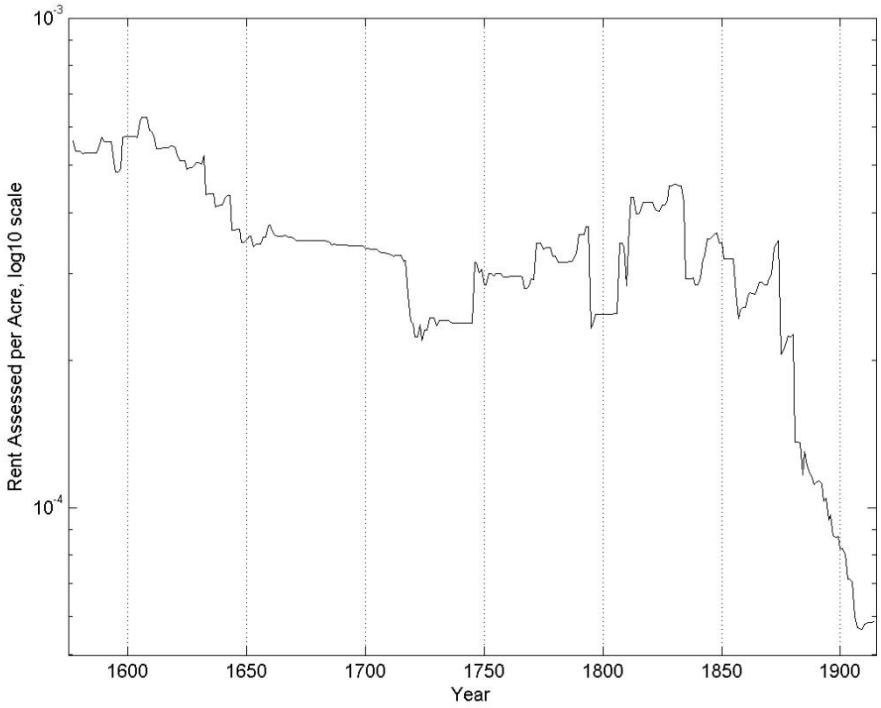



Figure 7, Declining ratio of Kent agricultural rents to London rents, 1577-1914 (rent assessed per acre)

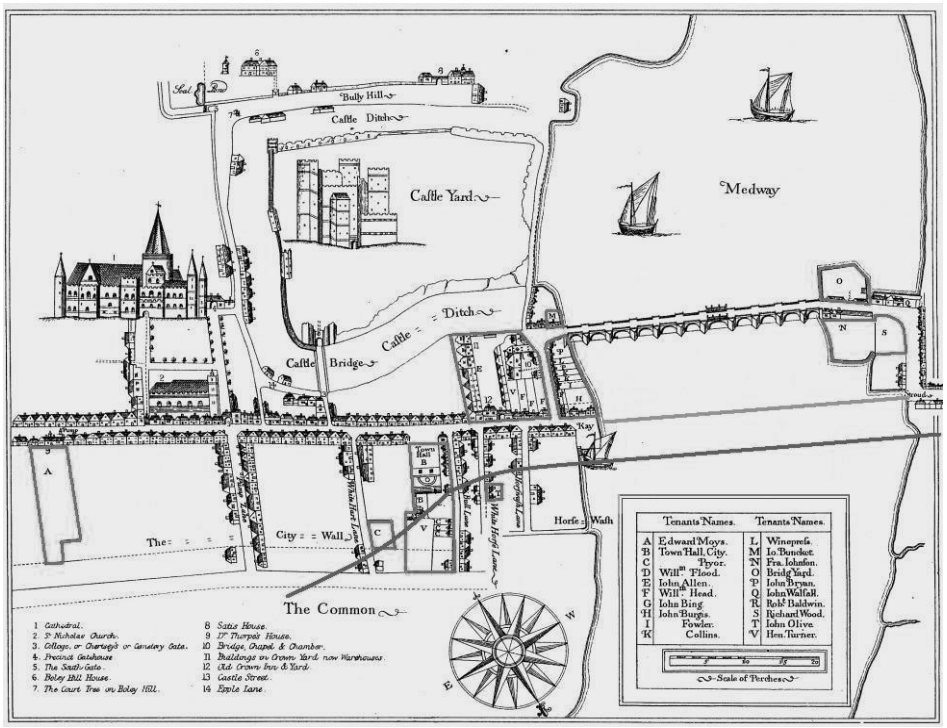



Figure 8, Impact of future railway development (dark grey line) and relocation of the 1856 bridge (light grey line) on the RBT Rochester and Strood properties (from George Russell's survey of 1717). 'A' marks the unaffected High Street site.

1,720 in 1758 and predictably, rising property values in the Medway towns followed from this expansion.[31] London rents grew faster than urban Medway in the 1630s and again in the 1720s, but the latter began to make up lost ground around 1750, rising at an even more rapid rate than rents for the London properties during the first half of the nineteenth century (figure 6). The Medway series then collapses during the 1850s and 60s, due to the demolition of property for railway building and the redevelopment of one of its major sites involving the issue of a 75-year building lease (figure 8). We can identify the course of rents for a handful of Bridge properties in Rochester High Street unaffected by railway building, and here, rents rose at a comparable rate to London. In general however, the highly localised impact of these strategic developments reduces the value of the Medway series as a surrogate for provincial English towns. But up to this point, they can be taken as such, and illustrate the main contours of Jan de Vries' well-known model of European urbanisation.[32] If the century after 1650 was a period of large city growth, the succeeding and final phase from 1750-1850 saw towns and small cities taking over the momentum. And indeed we see a degree of convergence in the growth of London and urban rents in Kent at the start of the nineteenth century.

Essentially, this comparison of rent movements describes the increasing integration of Kent within the metropolitan region, as the London food market impacted on Kentish agriculture. Kentish farming responded in two main expansionary phases from ca. 1580-1620 and 1750-1820, with a shorter burst from 1850-1875. During the first half of the eighteenth century, around a quarter of North East Kent's corn output was destined for London, and this proportion must have increased during the century after 1750.[33] By the late 1870s however, London's continuously growing population was fed with sharply increasing quantities of overseas food imports, while the momentum underlying rising property values in the south-east shifted from improved agriculture to commercial and residential development. The suburbanisation of North Kent and the Medway towns obviously involved the loss of farmland on the rural-urban fringe, which in some cases consisted of relatively poor and hitherto low-rented land, together with areas of proto-industrial activity.

It was during the course of the eighteenth century that an identifiable rural-urban fringe emerged in Kent, distinguished by sharp rent increases. Its development has often been overlooked, especially in studies based on isolated or short runs of data. By tracking the subdivision and rewriting of leases from 1580 to 1914, and checking apparent anomalies in our data against the TBA index, it has been possible to identify four estates where these subdivisions were occurring. These are the manors of Nashenden and Little Delce to the south of Rochester, farmland at Frindsbury to the north of Rochester, and lands surrounding Dartford. When we separate the industrial/commercial and residential elements from these estates and revise the purely agricultural rents accordingly, we can see the dramatic rise in value that could be achieved within the subdivided parts of these properties from the later eighteenth century to the end of our period. Significantly, they began life mainly as low-rented agricultural land or woodland, considerably less valuable than the average for Kent

[31] Preston, *Industrial Medway*, p. 20; Chartres, 'City and Towns', pp. 138-44.
[32] de Vries, *European Urbanization, 1500-1800,* chapter 8, passim.
[33] Mingay, 'Agriculture', p, 65; Baker, 'Marketing of Corn', pp. 129-130.

farms until the 1720s, and marginally so until the 1770s (figure 9). On the Frindsbury Peninsula**,** industrial development in the nineteenth century, mainly cement works, raised the rent per acre far above the Kent average, on former arable and marshland areas.

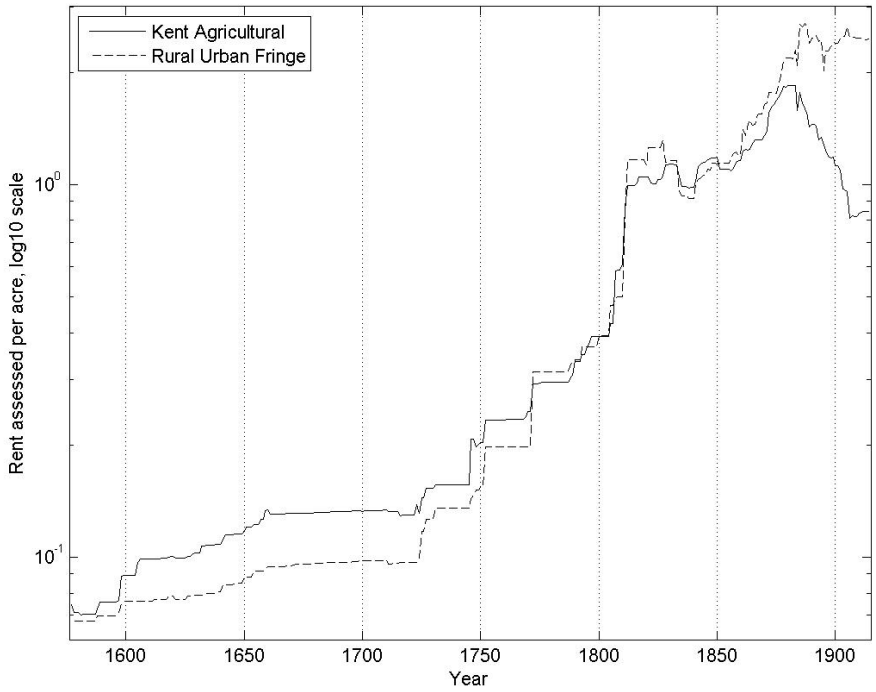



Figure 9, Kent farm rents compared with the rural-urban fringe,
(assessed rents per acre, 1577-1914, log-10

Dartford saw even more spectacular increases, as its paper and metallurgical industries grew. It was in 1588 that Sir John Spilman's celebrated paper mill was established on the River Darent, a few years prior to the successful operation of England's first iron-slitting mill by the immigrant ironmaster, Godfrey Box.[34] In the 1570s the RBT Dartford rent was already 7s.4d. per acre – almost five times the Kent average – and continued to outperform the agricultural rents elsewhere long before the 1770s due to the uplift of the commercial value of the wharf. When Daniel Alexander surveyed the Dartford site in 1805, then occupying little more than an acre, he valued the commercial property at £60 (£46 16s.7d. per acre), and the remaining 29 acres of agricultural land at £30, or just £1 0s.6d. per acre.[35]
Aside from Dartford's precocious success, commercial and industrial development began to make a significant impact on rent levels from the early 1770s. Because of its concentrated nature on relatively small sites, the practice began of dividing leases for distinct agricultural and commercial or industrial purposes, producing some extremely high rents per acre (figure 10). In 1772, the manor of Little Delce was subdivided to allow direct management of its

[34] Ormrod, 'Industry, 1640-1800', in Armstrong, *Economy of Kent*, p. 100
[35] RBT/ E09/01/033, Report on a survey of a wharf and premises...in Dartford, 1805.

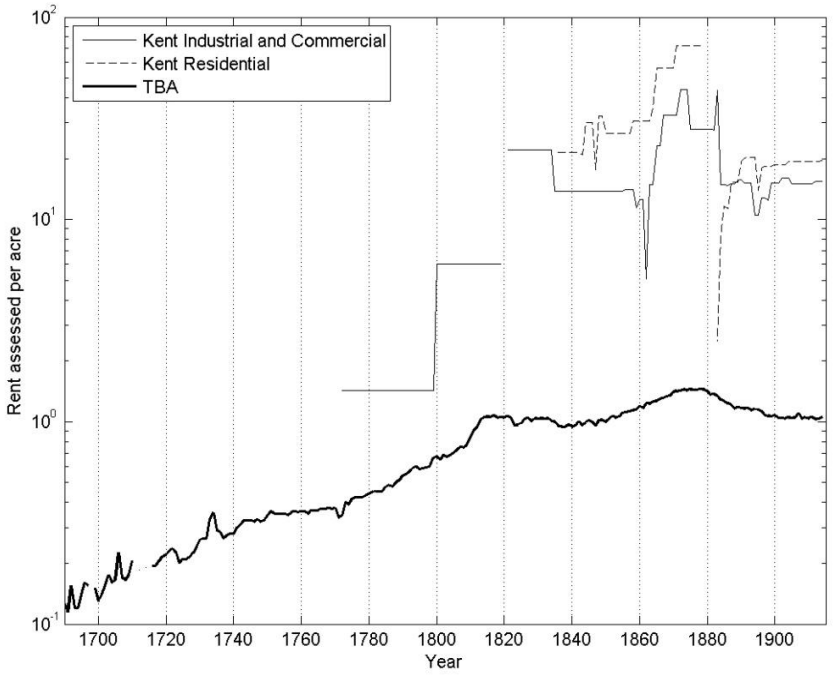



Figure 10, Kent industrial, commercial and residential rents, compared with TBA (assessed rents per acre, 1690-1914, log-10)

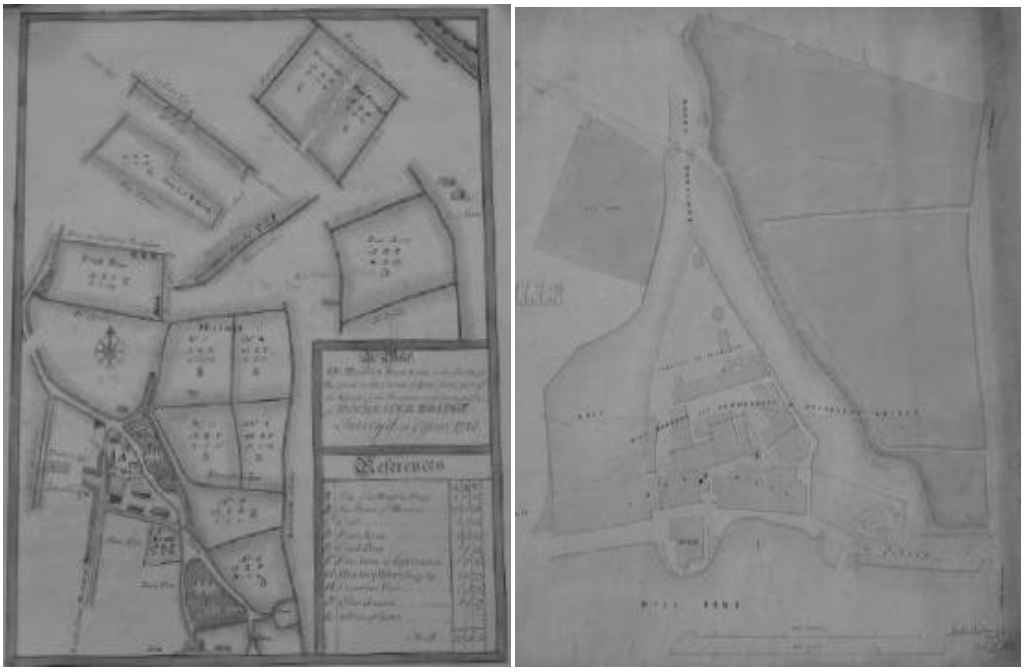


Figure 11, Development of the southern edge of the Dartford estate, showing paper mills and mill pond, 1748 (left) and 1863 (right).

timber resources by the Wardens and the leasing of a piece of saltmarsh to the Navy Victualling Commissioners. At Frindsbury, leases were reconfigured in 1834, 1843 and 1850 to allow for increased residential use and development of boatyards, and again in 1867 to permit commercial quarrying for the cement industry. It was in 1856 that the Dartford estate was divided between the agricultural properties, 16 parcels of grazing and marshland, and a small three-acre wharf on Dartford creek, with a paper mill and adjacent warehouses (figure 11). The agricultural rent was set at £5.07 per acre and the industrial rent at £14.39 per acre, replacing a combined rent of £5.44 per acre. No other part of the RBT estate had increased so steeply in value during the first half of the nineteenth century, London included. Substantial gains must have accrued to the main tenant, Henry Dunkin, who for some years prior to the subdivision of the lease had sublet the industrial site to the Darenth paper maker Thomas Saunders, owner of six paper mills including the Phoenix Mill at Dartford.

During the later nineteenth century, residential development brought further large gains in property values, prefigured by the granting of new leases for cottage housing at Frindsbury from 1834 to 1850. In 1883, 7 acres at Little Delce were leased to the City of Rochester Industrial Dwellings Company for £12 per acre with 80 year building leases. This was followed, in 1900, by the sale of 14 acres of freehold land from the same estate at £500 per acre for further residential building, an extremely good price for poor quality agricultural land. The sale of land for housing development accelerated during the interwar years, at lower prices of £200-260 per acre. These sales, in preference to the earlier practice of mortgaging their estates, were undertaken to facilitate the Wardens' increasingly ambitious programme of charitable donations.[36] Bridge maintenance costs had fallen substantially since the opening of the new bridge in 1856, and in the succeeding decades, the Wardens were able to devote surplus income to charitable purposes.

As we have already noted, income from farm rents on the Bridge estates was reduced substantially in the years between 1873 and 1911, by around 38 per cent. Fortuitously, these were years when essential claims on the trust's resources were much reduced. At the same time, additional income from industrial, commercial and residential sites on the rural-urban fringe, which increased by 350 per cent in total, compensated for declining farm rents. Income from these new sources equalled more than half the rents collected from the agricultural estate. Both, however, were dwarfed by the huge rental income derived from the London properties, where rents had tripled since 1873.[37] In 1881, the Leadenhall Street site was entirely rebuilt to form two sets of office buildings, with the Ship and Turtle tavern accommodated on the lower floors at the eastern end of the site. The £10,000 rebuilding costs were facilitated with 80-year building leases at double the previous rent. Almost adjacent was the P&O building, and it was a holding company associated with P&O which purchased the freehold of the RBT properties in 1919.

[36] From 1868, the Bridge Wardens were permitted by the Charity Commissioners to sell portions of their estate not required to support bridge maintenance, and their charitable role, especially in supporting school building, increased (Yates and Gibson, *Traffic and Politics*, pp. 257-62).

[37] 1911: £4,746 from London rents, £1,491 from Kent agriculture.

## 5 Metropolitan Growth

These developments can be brought together and summarised most simply in the form of index numbers (Table 2), with medium-term shifts in relative property values expressed in growth rate measures (Fig 12). For the latter, we have used fifty-year percentage growth rates comparing rents assessed per acre for London properties, rural estates in Kent which remained wholly in agricultural use throughout the period, and property on the rural-urban fringe. Table 3 provides a broader and more detailed analysis, with turning-points and sub-periods identified from significant movements in the annual data.

| | Amsterdam | London | Kent & Essex Agriculture | RUF | Medway Towns | PBH price index |
|---|---|---|---|---|---|---|
| 1577-87 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1700 | 526 | 300 | 200 | 146 | 226 | 196 |
| 1800 | 607 | 1207 | 592 | 587 | 548 | 458 |
| 1850 | 617 | 2607 | 1557 | 1691 | 1839 | 238 |
| 1914 | | 11085 | 1101 | 3669 | (1613) | 335 |

Table 2: Indexed rent movements (constant prices), compared with inflation
(RUF: Rural-urban fringe; PBH: Phelps-Brown & Hopkins, 1956; Amsterdam rents, Lesger, 1986)
Note: the 1914 Medway Towns figure reflects the adverse impact of railway building on our sample sites

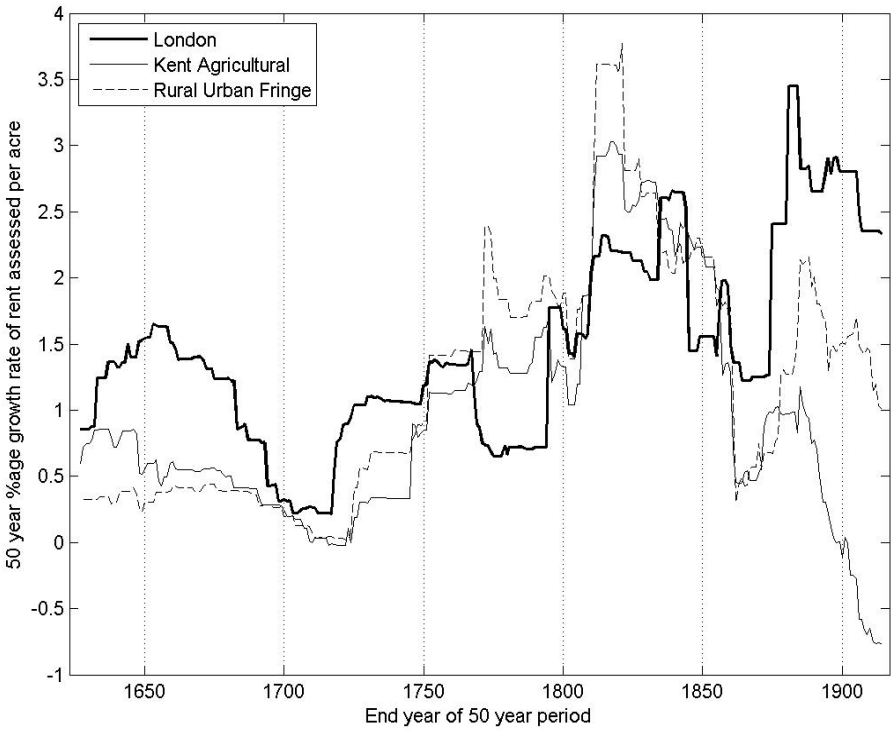



Figure 12, Fifty-year percentage growth rates, 1580-1864

Table 3: Percentage annual growth rates, rents assessed per acre

| | Agricultural property | | | Rural-urban | Urban property | | | |
|---|---|---|---|---|---|---|---|---|
| | Kent (1) | Essex (2) | Dartford (3) | fringe (4) | London (5) | Medway (6) | TBA (7) | PBH (8) |
| 1577-1650 | 0.63 | (1.23) | 0.63 | 0.38 | 1.28 | 0.87 | | 1.15 |
| 1651-1717 | 0.11 | -0.14 | 0.09 | 0.13 | 0.29 | 0.36 | | -0.24 |
| 1718-1750 | 1.40 | 0.01 | 1.70 | 1.48 | 1.25 | 0.64 | 1.64 | 0.08 |
| 1751-1794 | 1.28 | 1.74 | 0.12 | 2.04 | 0.65 | 0.90 | 1.20 | 1.25 |
| 1795-1850 | 2.16 | 0.85 | 2.92 | 2.07 | 1.41 | 2.54 | 0.99 | -0.22 |
| 1851-1914 | -0.41 | -0.10 | 1.13 | 1.23 | 2.32 | (-4.12) | 0.02 | 0.28 |

Notes: The table shows the percentage annual changes that would compound to the observed assessed rent charge over the periods indicated. Column (6) comprises properties in Rochester and Strood, and the large negative value for 1851-1914 is primarily due to the sale of high value property for railway building. The relatively high positive for Essex in 1577-1650 (Column 2) is accounted for by the acquisition of property in 1615, valued on a new basis.

The sustained growth of London property values since the late sixteenth century is striking, especially in comparison with its seventeenth-century competitor, Amsterdam. The rising trend of Amsterdam values during the golden age, more than five-fold, was not quite matched by the city of London during the eighteenth century, but London's growth thereafter was continuous and dramatic, reflecting its rise as an imperial city at the core of the Atlantic economy and, by the late nineteenth century, of the global system. By 1914, City rents had increased more than 100-fold, compared with an 11-fold increase for farmland in Kent and Essex, and something over a three-fold increase in commodity prices. Our sample properties, at the heart of London's financial district represents an extreme case amongst urban sites, but one which exercised a dominant influence over property values across the entire metropolitan region.

The process began, it seems, in the late sixteenth and early seventeenth centuries, peaking in the mid-seventeenth century, when London rents alone increased at a rate well above the level of inflation. Rates of growth were lowest during the fifty-year period from the great fire of 1666 to ca. 1717, picking up thereafter, with a pause during the half-century centred on the 1770s. London appears to have led the property market from the turning point of 1717-18, with growth resuming a few years ahead of the upward movement in farm rents and those on the rural-urban fringe. But the growth of the latter pair soon exceeded the growth of city rents, peaking at the close of the fifty-year period ending around 1820 (figure 12 and Table 3). Percentage annual growth rates were highest on the rural-urban fringe during the century after 1750, while Kentish agricultural rents were at their most buoyant from 1795 to 1850, before entering a long period of steep decline. By the first half of the nineteenth century, the momentum of growth had passed to the larger towns of the region, seen in property values for the Medway towns and industrial sites on the rural-urban fringe, such as Dartford. London once again resumed its lead during the second quarter of the nineteenth century, and entered a world of its own in the scale of rent increases which could be achieved by rebuilding.

Of course rates of growth tell an important part of our story, but because of the very high level of London rents per acre, even modest rent increases for City property could make a critical impact on rental income. Over the entire period from 1577 to 1914, the 110-fold increase in London rents produced a rise from £132 to over £14,000 per acre, compared with an 11-fold increase in agricultural rents which by 1914 averaged just under 17s per acre. Unsurprisingly, 62 per cent of the Bridge Warden's rental income in 1914 came from their London property compared to a figure of 21 per cent in 1577.

The enhancement of rents in the City depended on a series of changes of use from the late sixteenth century, when workshops, taverns and residential tenements predominated, towards increased provision for retailing, warehousing, counting houses and offices in the eighteenth and nineteenth centuries. The structural changes underlying this slowly accelerating intensification of land use can at their most basic level be reduced to two: first, the growing concentration of tenancies on the RBT London site, and secondly, the reconfiguration of public and private urban space in and around the site. Both combined to raise the productivity of urban space by reducing the extent of ownership rather than occupancy.[38] From the l570s to the 1610s, eighteen separate tenancies were consolidated into twelve, at which level they more or less remained until the mid-eighteenth century. By 1829, they were divided between four leaseholders, one of whom, Elizabeth Boake, held three-quarters of the entire site area. As she explained to the Wardens in 1834, 'Part of the estate has been occupied by my father and myself for very nearly 100 years, during which time large sums of money have at different times been expended on it: two houses entirely rebuilt and the whole estate kept in thorough repair'.[39] It was the consolidation of these properties into two leaseholds in 1881 which permitted the complete rebuilding of the site (figure 13).

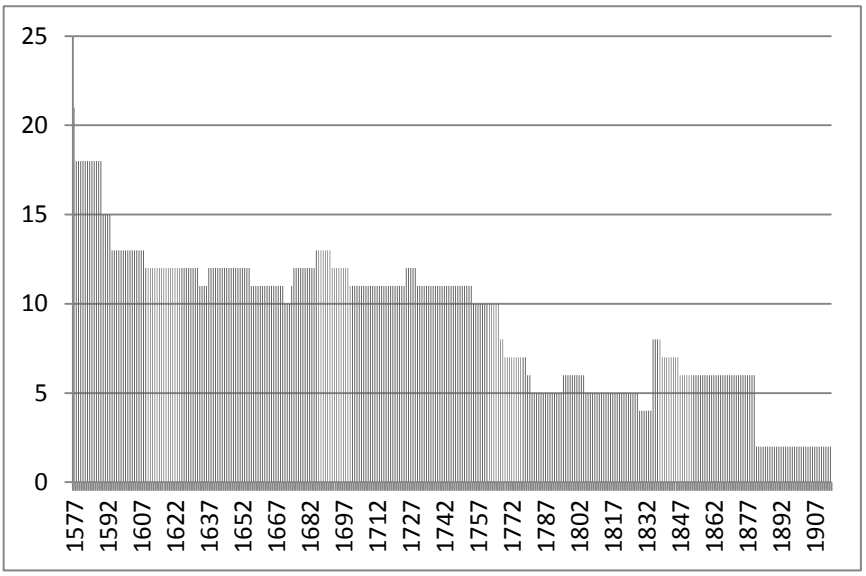



Figure 13, Concentration of London tenancies, 1577-1914
(number of tenancies per year)

[38] Arnade, Howell, and Simons, 'Fertile Spaces', pp. 522-3; Harding, 'Space, Property and Propriety', pp. 552-55, 560-62. For the loss of gardens and alleyways to new building and infill in and around Leadenhall Street during the seventeenth and eighteenth centuries, see P. Metcalf, 'Living over the shop in the City of London'
[39] RBT/E021/01/07, Letter from E. L. Boak to Bridge Wardens, 18 March, 1834.

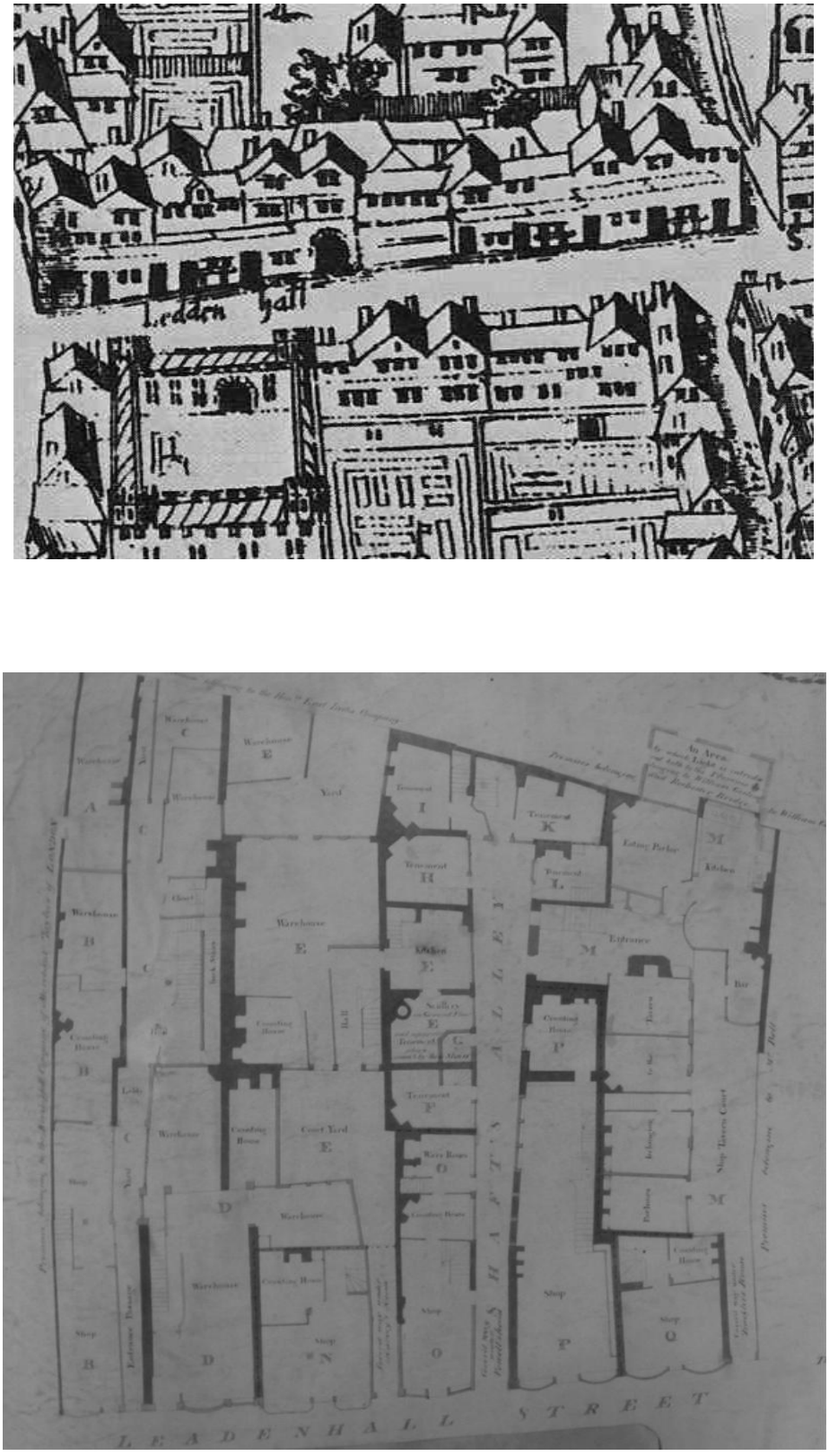



Figure 14, Reconfiguration of public and private urban space on the Leadenhall Street site, 1553-9 (above, detail from the 'Copperplate Map') and 1797 (below, Daniel Alexander's survey)

Up to this point, the late medieval origins of the houses and alleyways were still visible in the street frontage. In the mid-sixteenth century, most of the properties consisted of three floors, including attics, and fourth and fifth floors were added during the later sixteenth and seventeenth centuries. Comparison of the architectural drawings of the site from 1719 and 1797 shows that little further was done in the way of adding additional storeys beyond creating more spacious top or attic rooms. Instead, additional space was gained by building over gardens, courtyards and alleys. The Copperplate map of 1553-9, admittedly iconic, shows a mixture of public and private spaces, and by 1700, there were a dozen or so tenements, a China (porcelain) shop behind a spacious courtyard, and two taverns, one of which enjoyed an open arrangement of drinking rooms accessible from an alleyway. A century later, increased building densities had brought about a greater degree of enclosure, as warehouses and counting houses replaced housing – often subdivided and sublet – and more shops had opened fronting onto the street (figure 14).[40]

Underlying these changes at the heart of the city was a series of adjustments and shifts within its hinterland, involving a continuously changing relationship between 'town' and countryside. If London's growth led the property market from the late sixteenth and early seventeenth centuries, the evidence from the Rochester Bridge estates indicates that the gap between London and urban rents in the South East began to close up in the later eighteenth century as population growth across the entire region became generalised (figure 1). During the next century, Kent grew at an unprecedented rate from 309,000 to just over one million, with the bulk of the increase concentrated in urban and suburban areas. By 1901, 72 per cent of the county's population was urbanised, excluding seven large urban areas in Kent absorbed by London County Council in 1888, which Crossick describes as 'Kentish London'.[41]

Before 1700, the continuously built-up area of London extended no further east than Rotherhithe in Surrey. As late as the 1860s and 70s, Deptford, Greenwich and Woolwich regarded themselves as quite separate from the metropolis, with their own distinct identities.[42] The pattern of London's physical and demographic expansion suggests that the impact of rising property values at the core could operate at a distance, with greater building densities and high rents balanced by dispersal at lower densities on an expanding suburban periphery. On the London Bridge estates, for example, the greatest rent increases – around tenfold - were registered at the end of the eighteenth century in Peckham and Shoreditch, when formerly agricultural land was converted to urban uses.[43] Urban expansion beyond 'Kentish London', on the other hand, took on a momentum of its own from the late eighteenth century, fed substantially by consumer-oriented manufacturing and the provision of services for the metropolis.[44] Foremost amongst these were the supply of building materials (bricks, lime and cement), paper, the drink trades, and the defence industries, especially well-represented in

[40] Metcalf, P., 'Living over the shop', pp. 96-103; Harding, V., 'Space, Property and Propriety', pp. 515-48.
[41] Crossick, *Artisan Elite*, pp. 11-12, and chapter 2, passim. These were Lewisham, Lee, Deptford, Greenwich, Woolwich, Eltham, Charlton and Kidbrooke.
[42] Crossick, *Artisan Elite*, p. 26; Armstrong, *Economy of Kent*, Introduction, pp. 3-4.
[43] Swann, 'London estates', p. 106; Yelling, 'Land, Property and Planning', in Daunton (ed.), *The Cambridge Urban History of Britain*, III, p. 469.
[44] Garside, 'London and the Home Counties', p. 492

and around Maidstone and the Medway towns.[45] By 1801, Kent's urban system exhibited a regular rank-size distribution, an urban hierarchy shaped by the pull of a disproportionately large capital city (see Appendix 1).[46] Railway development gave a further stimulus to this pattern of regional growth through the 1840s and beyond, but by the later nineteenth century, London and Middlesex were losing population and employment to the expanding commuter zones of the Home Counties.[47]

## 6 Conclusion

London's growth, however, did not exercise a distorting effect on the urban hierarchy of the metropolitan region as a whole, like '...a great tree in whose shadow nothing grew'.[48] Our findings support Wrigley's arguments in favour of material continuity between town and country in the past, questioning the validity of 'making exclusive divisions between the city and the countryside or between different classes of urban settlement.'[49] The success of leading cities, in this view, depends not only on positive feedback between the primate city and its agricultural hinterland, but on the integrated character of the urban hierarchy. Between 1600 and 1800, per capita agricultural output in England doubled, while the urban system experienced increased integration.[50] At the same time, however, there is clear evidence of greater regional differentiation and diversity. Densely-integrated urban networks were emerging in Lancashire, the West Midlands and the West Riding, associated with the growth of new regional cities. By the early nineteenth century, some East Anglian and South Eastern towns were 'fighting back', developing new military, transport and service functions in ways which 'demonstrated the underlying strength and robustness of the traditional urban system.'[51]

Clearly, it was the 'urban variable' which shaped the overall pattern of rising property values in south eastern England over the three centuries under consideration. The dynamism of developments on the rural-urban fringe is especially striking, and competition for urban land was much stronger than that for agricultural uses for most of the period. The underlying reasons for the higher efficiency gains accruing to landlords from urban property arise from certain structural characteristics. In the first place, the pattern of rent arrears was much more stable and manageable in London than on Essex and Kent farms. Second, tenancies became highly concentrated in London from the mid-eighteenth century onwards, and were thus easier to manage. Third, the value of urban estate was readily enhanced by changes in use and increased building density, initiated by main tenants. Changes in the pattern of farming made much less impact on the course of agricultural rents than changes of use on the rural-

[45] Chalklin in Lawson and Killingray, *Atlas*, pp. 100-101; Chalklin, 'The Towns', pp. 205-234; Hann, *Medway Valley*, chapter 3 passim.
[46] de Vries, pp. 118-20; Hohenberg and Lees, 'Urban Systems', pp. 26-7
[47] Lee, 'Regional Growth', pp. 448-51.
[48] Hohenberg and Lees, 'Urban Systems', p. 29
[49] Wrigley, 'City and Country in the Past', pp. 108-9.
[50] Wrigley, 'Urban growth and agricultural change', pp. 189-193; Allen, 'Agricultural productivity in Europe', p. 17.
[51] Clark, 'Introduction', p. 29.

urban fringe. By 1850, the landscape of the Medway valley had been transformed by industrial development, including papermaking, cement manufacture, brickmaking, brewing, shipbuilding and engineering.[52] Industrial development certainly contributed to the enhancement of rents within our sample, especially on the Frindsbury peninsula, but commercial, residential, retail and office development form an equally important part of the story, reflecting the now well-established emphasis on 'gentlemanly capitalism', especially trade and financial services, in explaining the relative affluence of the south-east.[53] As Shaw-Taylor and Wrigley have shown, the growth of service sector employment from 1750-1871 was much greater in all parts of England than previously thought.[54]

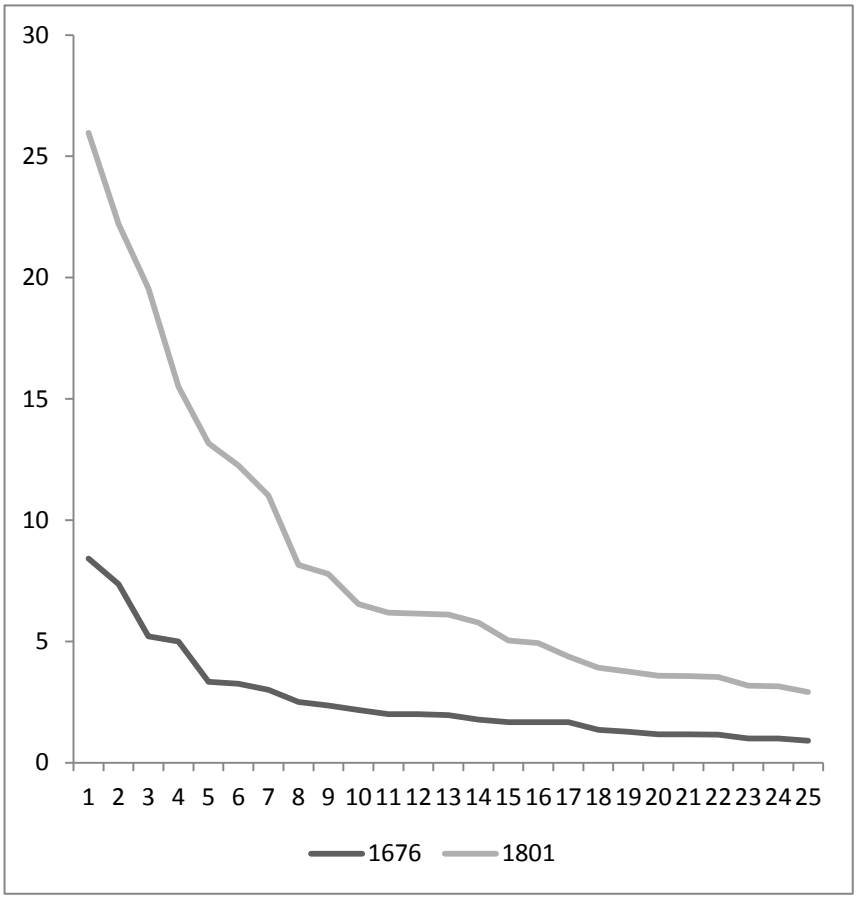
The long-term dynamism of the metropolitan economy was clearly the dominant influence on property values across the region, and this is reflected in agricultural as well as urban rent movements, but to a lesser degree. Although farm rents in Kent declined significantly during the post-1873 depression, the collapse was less serious in the South East than it was for arable farmers in the Eastern counties. Fruit growing and the supply of dairy produce to the London market provided some salvation for Kent farmers, and the proportion of the county's land devoted to permanent pasture rose from 26% in 1875 to 45% in 1914, while the arable acreage decreased by almost one-third.[55] Essex too, although hard-hit by the depression, was less seriously affected by bankruptcy amongst farmers than Norfolk and Suffolk, and was on a par with Lancashire and Cheshire, traditionally regarded as relatively immune from the worst effects of the agricultural depression.[56] As we have seen, rent levels in our Kent and Essex sample remained considerably higher than the national TBA index by a margin of more than 20% during the 1870s, and decline was delayed by several years until the mid-1880s.[57]

These conclusions are consistent with writings of Robert Allen and others who have argued that sustainable agriculture provided the foundations for British growth, but that more powerful dynamics ran in the opposite direction leading from commerce, urban expansion and manufacturing to rising agricultural productivity. As van Bavel and van Zanden have argued for the Northern Netherlands before the revolt, there were few permanent or artificial boundaries between town and countryside in early modern England, and market-based rather than coercive relations characterised rural-urban interactions.[58] It is out of this continuum that London emerged as such a powerful engine of growth, drawing resources from and at the same time raising the productivity of landed estates within its orbit.[59]

[52] Hann, *Medway Valley*, pp. 27-36; Preston, *Industrial Medway*, pp. 68-91, 99-106.
[53] Cain and Hopkins, 'Gentlemanly Capitalism', pp. 501-25; Lee, *British Econo*my, pp. 126-32, 138-41; Armstrong, *Economy of Kent*, pp. 2-3.
[54] Shaw-Taylor and Wrigley, 'The Occupational Structure of England', pp. 26-28.
[55] Mingay, 'Agriculture', in Armstrong, *Economy of Kent*, p. 77-8.
[56] Thompson, 'Anatomy of English Agriculture', p 222.
[57] Supra, p. 8.
[58] van Bavel and van Zanden, 'The jump-start of the Holland economy', p. 528; Epstein, *Town and Country in Europe*, pp. 13-14.
[59] Wrigley,'City and country in the past', pp. 107-120; Chartres,'City and Towns', pp. 154-5.

# APPENDIXES

## 1 Kent's Urban Hierarchy ('000 population)




Sources: 1676: C. Chalklin: 'The Compton Census of 1676. The Dioceses of Canterbury and Rochester.' A Seventeenth Century Miscellany, *Kent Records*, XII, Maidstone 1960, pp.-153-73'; and A. Whiteman, *The Compton Census of 1676. A Critical Edition*, Records of Social and Economic History, new ser., X, London 1986. The figures incorporate Chalklin's multiplier based on an assumed 40 children for every 60 adults. 1801: BPP, national census returns, Enumeration Abstract (I), 1831.

The rankings are as follows:
1676: Canterbury, Deptford, Greenwich, Maidstone, Rochester, Dover, Chatham, Deal, Sandwich, Cranbrook, Faversham, Tenterden, Tonbridge, Woolwich, Ashford, Hawkhurst, Goudhurst, Gravesend, Bromley, Biddenden, Marden, Yalding, Elham, Brenchley, Sevenoaks.
1801: Deptford, Dover, Greenwich, Chatham, Woolwich, Canterbury, Maidstone, Rochester, Deal, Tonbridge, Ramsgate, Gillingham, Minster, Lewisham, Faversham, Folkestone, Bromley, Cranbrook, Gravesend, Dartford, Sandwich, Tenterden, New Romney, Ashford, Milton.

2 Rents assessed per acre, £, annual average per decade, 1580-1909, London, Medway towns, Agricultural (Kent and Essex), and the TBA index.

| | London | Medway | Rural | TBA |
|---|---|---|---|---|
| 1580 - 1589 | 132.304 | 16.290 | 0.077 | |
| 1590 - 1599 | 146.598 | 17.914 | 0.085 | |
| 1600 - 1609 | 157.557 | 19.585 | 0.100 | |
| 1610 - 1619 | 180.110 | 22.099 | 0.115 | |
| 1620 - 1629 | 196.757 | 22.872 | 0.134 | |
| 1630 - 1639 | 237.614 | 23.681 | 0.140 | |
| 1640 - 1649 | 296.446 | 28.348 | 0.145 | |
| 1650 - 1659 | 347.958 | 29.107 | 0.153 | |
| 1660 - 1669 | 362.411 | 32.068 | 0.161 | |
| 1670 - 1679 | 373.326 | 32.512 | 0.162 | |
| 1680 - 1689 | 379.229 | 33.752 | 0.163 | |
| 1690 - 1699 | 386.506 | 35.569 | 0.154 | |
| 1700 - 1709 | 397.140 | 35.398 | 0.154 | 0.166 |
| 1710 - 1719 | 425.511 | 36.058 | 0.153 | |
| 1720 - 1729 | 602.328 | 39.214 | 0.160 | 0.221 |
| 1730 - 1739 | 650.380 | 39.666 | 0.173 | 0.287 |
| 1740 - 1749 | 654.041 | 44.416 | 0.189 | 0.316 |
| 1750 - 1759 | 766.086 | 56.434 | 0.240 | 0.352 |
| 1760 - 1769 | 803.612 | 61.006 | 0.247 | 0.365 |
| 1770 - 1779 | 857.537 | 63.391 | 0.307 | 0.396 |
| 1780 - 1789 | 926.030 | 63.750 | 0.325 | 0.471 |
| 1790 - 1799 | 1255.454 | 72.519 | 0.409 | 0.588 |
| 1800 - 1809 | 1638.344 | 134.183 | 0.510 | 0.705 |
| 1810 - 1819 | 2398.023 | 254.168 | 0.975 | 1.008 |
| 1820 - 1829 | 2486.500 | 294.155 | 1.078 | 1.019 |
| 1830 - 1839 | 2931.324 | 316.366 | 1.085 | 0.997 |
| 1840 - 1849 | 3341.520 | 300.290 | 1.148 | 0.984 |
| 1850 - 1859 | 3797.632 | 309.823 | 1.136 | 1.085 |
| 1860 - 1869 | 4560.664 | 205.356 | 1.284 | 1.263 |
| 1870 - 1879 | 6405.638 | 147.059 | 1.605 | 1.434 |
| 1880 - 1889 | 12948.714 | 151.796 | 1.634 | 1.281 |
| 1890 - 1899 | 13099.201 | 162.104 | 1.281 | 1.128 |
| 1900 - 1909 | 13840.574 | 201.003 | 0.964 | 1.053 |

3 Rents collected per acre, £, annual average per decade, 1580-1909, distinguishing, London, Medway towns, and Agricultural Rents (Kent and Essex), and the TBA index

| | London | Medway | Rural | TBA |
|---|---|---|---|---|
| 1580 - 1589 | 132.304 | 16.290 | 0.076 | |
| 1590 - 1599 | 146.598 | 17.914 | 0.085 | |
| 1600 - 1609 | 157.557 | 19.585 | 0.099 | |
| 1610 - 1619 | 180.110 | 22.099 | 0.114 | |
| 1620 - 1629 | 196.757 | 22.869 | 0.134 | |
| 1630 - 1639 | 237.614 | 23.681 | 0.140 | |
| 1640 - 1649 | 296.446 | 28.290 | 0.143 | |
| 1650 - 1659 | 347.958 | 29.051 | 0.152 | |
| 1660 - 1669 | 362.411 | 32.180 | 0.163 | |
| 1670 - 1679 | 373.326 | 32.007 | 0.163 | |
| 1680 - 1689 | 379.229 | 32.174 | 0.160 | |
| 1690 - 1699 | 385.724 | 36.755 | 0.151 | 0.141 |
| 1700 - 1709 | 397.922 | 36.132 | 0.156 | 0.159 |
| 1710 - 1719 | 425.511 | 35.709 | 0.151 | 0.149 |
| 1720 - 1729 | 598.057 | 38.388 | 0.159 | 0.193 |
| 1730 - 1739 | 654.651 | 38.184 | 0.168 | 0.312 |
| 1740 - 1749 | 622.464 | 43.165 | 0.190 | 0.371 |
| 1750 - 1759 | 796.271 | 55.137 | 0.235 | 0.396 |
| 1760 - 1769 | 803.155 | 60.363 | 0.250 | 0.388 |
| 1770 - 1779 | 850.558 | 64.020 | 0.301 | 0.411 |
| 1780 - 1789 | 934.573 | 63.751 | 0.333 | 0.458 |
| 1790 - 1799 | 1255.454 | 70.165 | 0.401 | 0.509 |
| 1800 - 1809 | 1638.344 | 127.135 | 0.519 | 0.680 |
| 1810 - 1819 | 2385.819 | 256.212 | 0.899 | 0.990 |
| 1820 - 1829 | 2376.667 | 297.246 | 1.092 | 1.013 |
| 1830 - 1839 | 2832.169 | 306.917 | 1.108 | 1.028 |
| 1840 - 1849 | 3289.789 | 299.913 | 1.146 | 1.040 |
| 1850 - 1859 | 3951.569 | 318.125 | 1.150 | 1.109 |
| 1860 - 1869 | 4583.546 | 209.648 | 1.290 | 1.257 |
| 1870 - 1879 | 6405.638 | 147.059 | 1.579 | 1.364 |
| 1880 - 1889 | 12948.714 | 151.796 | 1.631 | 1.190 |
| 1890 - 1899 | 13099.201 | 162.104 | 1.264 | 1.034 |
| 1900 - 1909 | 13840.574 | 201.003 | 0.975 | 1.004 |

# 4 Sources and Methods

## (1) Sources and documentation

In order to ensure comparability of urban and farm rents, it was decided to use a single institutional archive source covering a range of urban and rural property in London, Essex and Kent: the records of the Wardens and Commonalty of Rochester Bridge, now known as the Rochester Bridge Trust (RBT). The trust owned farmland and town property in Kent, Essex and London, receiving its principal endowments by 1438 for the maintenance of the Bridge. By an Elizabethan statute of 1576, the lands were made free of fines, so we are dealing with rack rents (market rents rather than beneficial rents). For a usable index, we need uninterrupted serial data over a long period, and detailed plans and drawings alongside leases, accounts, letter books etc, which the RBT archive provides.

The properties were divided into four groups:

i. London: a block of tenements on Leadenhall Street in London. This prime city site escaped the fire of 1666, and occupied a fixed site area of one-third of an acre throughout the period under investigation.
ii. Various properties in Rochester and Strood, including houses, inns and taverns, wharves and workshops, and the Rochester Guildhall.
iii. Kent: rural estates at Langdon manor near Faversham, the manors of Little Delce and Nashenden south of Rochester including 300a.of woodland still known as the Bridge Woods and some detached lands on Burham Common, a chalk quarry and farmland on Frindsbury Peninsula, land on the north Kent marshes including the manor of Rose Court on the Isle of Grain, marshland in the parish of Halstow, and a wharf and farmland at Dartford. Further farmland in the north Kent marshes was purchased in the parish of Cooling in 1891 with proceeds from various land sales.
iv. Essex: rural estates including the manor of Southall in East Tilbury and lands at West Thurrock, belonging to The New College of Cobham but administered since the sixteenth century by the Bridge Wardens.
v. A fifth category was created once the rentals were extracted, relating to lands comprising Kent's rural-urban fringe (see above, pp. 20-23).

As the text above explains (pp. 5-6), the Bridge Warden's administration was reformed by the Rochester Bridge Act of 1576, from which point an annual series of accounts survive from 1577 to the present day, broken only by three missing accounts during the Civil War and Commonwealth. Original leases were copied into lease registers, forming a virtually unbroken record of property transactions. The representativeness of the RBT material can be checked against the national farm rents index compiled by Turner, Beckett and Afton, and the two series display a remarkably close fit (discussed above, p. 6).

## (2) Methods and analysis

**Extraction of usable rental data.** Extracting the data and presenting it in useable form raised several interesting challenges. We needed to design a system that would record not only rents assessed, but also rents received and a way to keep track of rent arrears, both arrears collected and arrears written off. Ultimately, we discovered that very few arrears were actually written off as bad debts, but this was not evident at the beginning of our research. The charge/discharge accounting method used by the Bridge Wardens until the middle of the eighteenth century meant that neither the figures for rent received nor for arrears collected actually appeared in the account books. Under this accounting system, the incoming wardens

charged themselves for the balance brought forward from the previous year, for the assessed rent due during their year, and for any arrears due from previous years and discharged themselves for all expenditure during the year to arrive at a notional balance. Then they requested allowance for any unpaid rents during the current year or rents still in arrears from previous years to arrive at the final balance to be handed to the next year's wardens. The only rent figures that actually appeared in the accounts were the assessed rent and any arrears brought forward or carried forward. To arrive at the rent received during the year, we had to add the assessed rent to any arrears brought forward and subtract any arrears carried forward. The answer to that calculation gave the actual rent collected during the year, which could then be distributed between assessed rent paid and any arrears paid. To perform this calculation, we designed a spreadsheet with five rows of figures for each property for each year: arrears brought forward, rent assessed, rent collected, arrears added, and arrears carried forward.

**Creation of index.** Initially, the plan was to create an index based on aggregate income from a fixed group of properties within the estate, that is to say properties unaffected by disposal, boundary changes and large-scale demolition. The boundaries of the London site remained fixed over these 3½ centuries at just under one-third of an acre, bounded by Bishopsgate and St. Mary Axe. It was undamaged by the great fire of 1666. Unfortunately the Kent properties were subject to demolition, disposal and reconfiguration to a greater degree than our pilot survey had suggested. The Rochester rental series collapses during the 1830s and 40s, due to the demolition of property to make way for the new bridge, and compulsory purchase of land for railway building. Other disposals followed. For three centuries the estate had remained relatively static, since the Wardens and Commonalty had no power to sell their property, but in the second half of the nineteenth century the Charity Commission granted the Wardens power to sell as well as buy. Consolidation of leases and division of other tenements into several leases created further problems, especially as the nineteenth century progressed. We therefore abandoned the attempt to base the index on income from a structured sample; instead, it was rebased on exact site acreages, down to square yards for urban property, for each individual lease.

**Calculation of acreages**. Again, we discovered that adding this information to each property for each year was not straightforward. Some urban leases did not include an area measurement or plan; others had plans displaying irregular shapes that threatened to defy even the most careful geometrical calculations. Fortunately, most properties had at least one scaled plan that could be measured by planimeter. Since the urban leases and plans rarely mentioned the number of storeys or the irregular shape of upper storeys, we had to be content with a measurement of the superficial area. Some of the rural leases contained only a general description of the property being let, such as 'the manor of Southall in the parish of East Tilbury Essex with all the lands tenements, woods, rents profits of courts and leets and other hereditaments thereto belonging.' Such general property descriptions often persisted well into the nineteenth century, before being replaced by more specific descriptions or schedules of field acreages. Even when the accurate acreage was known from other contemporary documents, such as surveyor's reports and estate maps, it did not always appear in the lease, and when it did, discrepancies could still occur. Finally, even when the physical size of the estates did not change, the measurements often did. From one survey to the next, the estate maps rarely contained precisely the same measurements.

The leases for the Faversham estate illustrate the problem. For two hundred years from 1577 to 1775 the leases for Langdon Manor near Faversham included only a general description: 'all that manor of Langdon with all the lands, tenements, rents, and profits

pertaining,' even though the acreage was known from surveyor's reports and estate maps: variously measured as 157a.0r.8p. in 1596, 162a.2r.6p. in 1699, and 168a.1r.9p. in 1715. When the leases finally began to include the acreage, they lagged well behind the estate maps. Not until the 1906 tenancy agreement did the documentation give an exact, unambiguous, straightforward measurement. Clearly, we had to devise a strategy to deal with these difficulties and discrepancies.

We adopted the solution of adding two additional rows to the spreadsheet for each year: one labelled actual area and the other adjusted area. In the first we entered the actual acreage, if any, given in the lease. In the second we entered a revised figure based on the following principles. Since property descriptions were clearly copied from one lease to the next, often for centuries, even when more specific or more accurate descriptions of the property were available from other sources, the descriptions in the leases were treated with caution and used only when no other information was available. When no acreage or only a general description was given in the lease, the adjusted acreage was taken from the estate map or survey nearest in date before the date of the lease. When the acreage in the lease disagreed with the acreage given in contemporary surveyor's reports or estate maps, the adjusted acreage was based on the most recent survey. Finally, the adjusted acreage was kept constant throughout the term of the lease, changing only when a new lease was granted or when property was bought or sold, even though a new survey may have been carried out before the lease expired. This adjusted acreage was then used to calculate the assessed rent per acre.

This calculation of rent per acre eliminated from our analysis of the results the largest and most frequent variable, variation in the size of the property, and enabled us to focus on other factors that influenced rent movements: intensification or redevelopment of urban properties, location, prevailing economic conditions, type of farmland for rural properties (whether arable, marsh, or woodland), and change of use. Perhaps the most significant result revealed by calculation of assessed rent per acre was the change of use from agricultural to residential, commercial, or industrial in the rural urban fringe properties. It separated properties like the arable and marsh land on Frindsbury peninsula, where industrial development in the nineteenth century elevated the rent per acre far above the Kent average, from such properties like the arable and marsh land on the Isle of Grain**,** where no such industrial development or change of use occurred and where the rent per acre closely followed the Kent agricultural average. Overall, we identified four estates which showed significant rent movement due to change of use in the rural urban fringe, (above, pp. 20-23).

**Statistical analysis.** As we explain above (pp. 2-3), existing indexes have tended to take a mass of disconnected observations for scattered rural properties from which averages can then be formed. The method pursued here involves the creation of authentic serial data by following through a fixed sample of rural and urban sites, together with properties situated on the rural-urban fringe, noting periodic changes in rent levels, tenancies, and leasing arrangements, as well as amalgamations and subdivision of holdings. Individual properties which did not fit ideal rural or urban types were not discarded, but were reclassified when a new lease indicated a change of use.

Time series analysis was used to determine trends and fluctuations in: the pattern of rent arrears, carried forward and added; rents collected as a proportion of rent assessed; year on year assessed ratios over 3, 10, 20 and 30 year windows; descriptive analysis of rents collected and rents assessed per acre; assessed rents per acre compared with inflation (using the Phelps-Brown/Hopkins price index); and ratios between London rents and Kent farm rents (terms of trade). Compound growth was calculated as 50-year percentage growth rates (rents assessed per acre).

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