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**Benchmarking medieval economic development:
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AD c.1000-c.1800”**

Part I:
**Demographic and economic developments in England
c.1000-c.1800**

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ABSTRACT

Estimates are assembled for England, Wales, Scotland, and Ireland, and for Britain and Ireland as a whole, of the numbers of religious houses, regular clergy, parishes, towns of more than 2,000 inhabitants, and townspeople, and the value of dutiable exports and volume of currency at the watershed date of *circa* 1290. Absolute and relative levels of economic development are then compared (Table 13). These show the measurable volume of economic activity in England to have exceeded that of Wales, Scotland, and Ireland combined. Densities of religious houses, parishes, and towns were also significantly higher in England than any of her three 'Celtic' neighbours, which implies a more intensive exploitation of available resources. A range of possible population estimates are considered and corresponding set of *per capita* estimates thereby derived (Table 16). An estimated population for England in 1290 of c.4.0m. is shown to be more consistent with what is known about the populations and economies of Wales, Scotland, and Ireland, than the higher figures of 5.0-5.5m. proposed by some historians. In particular, high population estimates for England imply, either, a far larger Scottish population than most historians of Scotland are prepared to countenance, or, higher *per capita* levels of trade, money supply, and material well-being in Scotland than England, which seems unlikely. The results highlight significant differences in the pattern of economic development between and within these four countries and emphasises the depressing effect upon the English economy of the regional problem of rural congestion in much of eastern England.

The 1290s constitute ‘a major turning point in later-medieval economic history’.¹ Across much of Europe, long-established processes of economic and demographic expansion and commercial integration attained their secular climax and countervailing tendencies first began to register a significant impact.² In the histories of England, Wales, Scotland, and Ireland this decade proved to be particularly pivotal. When it opened relations between England and Scotland had not yet been soured by the dispute that flared following final rupture in September 1290 of the Scottish direct line of succession. In Ireland the tide of English power was more-or-less at its height, the threat from resurgent Gaelic clans was just about contained, and the Lordship was a modest source of profit to the Crown. And Wales had recently been conquered and pacified and was in the process of being encastellated and colonised. For the first time it is possible to speak of England and Wales as *de facto* a single political and economic unit and from the 1290s Welsh exports of wool and hides were subject to the same duties as those levied since 1275 in England and Ireland. The lay subsidy levied in England in 1290 and, uniquely, extended to both Wales and Ireland the following year, yielded more revenue than any subsequent medieval tax.³

¹ J. H. Munro, ‘The industrial crisis of the English textile towns, c.1290-c.1330’, pp. 103-42 in M. Prestwich, R. Britnell, and R. Frame, eds., *Thirteenth-century England, VII: proceedings of the Durham conference, 1997* (Woodbridge, 1999), p. 136.

² For a reconstruction of the ‘world economy’ at this time see J. L. Abu-Lughod, *Before European hegemony: the world system A.D. 1250-1350* (Oxford, 1989). For the impact upon that economy of rising transaction costs from the 1290s see J. H. Munro, ‘Industrial transformations in the north-west European textile trades, c.1290-c.1340: economic progress or economic crisis?’, pp. 110-48 in B. M. S. Campbell, ed., *Before the Black Death: studies in the ‘crisis’ of the early fourteenth century* (Manchester, 1991), pp. 121-30; Munro, ‘Industrial crisis’; J. Munro, ‘The symbiosis of towns and textiles: urban institutions and the changing fortunes of cloth manufacturing in the Low Countries and England, 1270-1570’, *Journal of Early Modern History*, 3 (1999), pp. 1-74. For an alternative explanation of rising transaction costs see S. R. Epstein, *Freedom and growth: the rise of states and markets in Europe, 1300–1750* (2000), pp. 49–52.

³ The yield of one-fifteenth from England (excluding the exempt counties of Cheshire and Durham) was £116,347, but this does not include fines paid in lieu of tax by many major magnates including the Templars, Hospitallers, and Cistercian Order (correcting for exemptions and fines would raise the English total to approximately £120,000-125,000); from Wales the tax raised at least £10,000; and from Ireland £10,122: S. Jenks, ‘The lay subsidies and the state of the English economy (1275-1334)’, *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 85 (1998), p. 31; K. Williams-Jones, ed. *The Merioneth lay subsidy roll 1292-3* (Cardiff, 1976), pp. xxiv-xxv; H. S. Sweetman, ed., *Calendar of documents, relating to Ireland, preserved in Her Majesty’s Public Record Office, London, 1171-1307*, 4, 1293-1301, 5 vols. (1875-86), nos. 48, 90, 113, 130, 140, 160, 183, 208, 222, 261, 282, 290, 301, 332, 364, 396, 409, 443, 475, 507, 528, 549, 586, 612.

Already, however, receipts from the Crown's Irish Lordship were past their peak and from 1294, following bankruptcy of the king's agents and bankers, the Riccardi of Lucca, the Lordship's finances began to implode (Figure 1) with serious consequences for the security of English lands in Ireland.⁴ The same year the Welsh revolted and, more ominously, war broke out with France. The following year the Scots repudiated Edward I's high-handed demands for men and taxation and concluded an alliance with the French against the English. This provoked Edward into launching a full-scale invasion of Scotland in 1296.⁵ Hereafter protracted and escalating warfare with all its attendant direct and indirect economic costs both nationally and internationally added greatly to the mounting economic insecurity of the times.⁶ Meanwhile, serious dearth consequent upon the bad harvests of 1294 and 1295 heralded the onset of more unsettled environmental conditions, an important component of which was a series of devastating epidemics of animals and eventually humans. At the height of the ensuing economic and demographic crisis English real wage rates, already under pressure from an over-supply of labour, sank to their medieval nadir.⁷

FIGURE 1

Yet in 1291, when Pope Nicholas IV had granted Edward I a tithe upon the spiritual and temporal revenues of the Church throughout the whole of Britain and Ireland for the purpose of a proposed crusade to the Holy Land, virtually all these tribulations lay in the future. For the time being, in England, Wales, Scotland, and Ireland, a fragile peace still prevailed and financial and commercial dislocation remained limited and localised. There is no more opportune time to take stock of the

⁴ M. D. O'Sullivan, *Italian merchant bankers in Ireland in the thirteenth century (a study in the social and economic history of medieval Ireland)* (Dublin, 1962), pp. 70-6; R. W. Kaeuper, *Bankers to the Crown: the Riccardi of Lucca and Edward I* (Princeton, 1973), pp. 214-19.

⁵ M. Prestwich, *Edward I* (London, 1988).

⁶ Munro, 'Industrial transformations', pp. 120-30.

⁷ B. M. S. Campbell, *English seigniorial agriculture 1250-1450* (Cambridge, 2000), pp. 4-6; G. Clark, 'Work, wages and living conditions: building workers in England from the *Magna Carta* to Tony Blair', pp. 889-932 in S. Cavaciocchi, ed., *L'edilizia prima della rivoluzione industriale secc. XIII-XVIII: atti della "Trentaseiesima settimana di studi" 26-30 aprile 2004* (Prato, 2005); G. Clark, 'The long march of history: farm wages, population and economic growth, England, 1209-1869', *Economic History Review*, 2nd ser. (forthcoming).

accumulated economic legacy of the preceding era of 'commercial revolution'.⁸ Investment in the creation of religious and urban infrastructures was then virtually complete and can be surveyed across the whole of Britain and Ireland thanks to the labours of a succession of scholars (Tables 1 and 7). Creation and survival of a constellation of complementary official records arising from the minting of coins and the imposition of taxes upon the clergy, the laity, and upon trade also provide a secure and geographically remarkably comprehensive basis for quantifying other key features of these four economies. Although the Domesday survey of 1086 provides a far earlier opportunity to benchmark English economic development, *circa* 1290 is arguably the earliest date at which it is possible to attempt such an exercise for the whole of Britain and Ireland.

William I's Domesday survey was, of course, limited exclusively to England and extended no further north than what are now Lancashire and Yorkshire because sovereignty of what have become the four northernmost English counties was still contested with Scotland. Six-hundred years later Gregory King confined his income estimates to England and Wales, united by act in 1536, and excluded Scotland and Ireland with which they would not be constitutionally united until 1707 and 1801. Economic historians of England and Wales have tended to follow suit, and until very recently have shown little curiosity about the economies of Scotland and Ireland, even though England's influence upon both was profound, neither was without reciprocal influence upon England, and all four countries would eventually be integrated into the single political, financial, and economic unit of Great Britain and Ireland.⁹ Systematic comparison between them at an early and formative stage in their respective economic histories is therefore overdue. Compiling comparable economic profiles of each at a common point in time also highlights several historiographical inconsistencies and usefully casts the estimates themselves, methods by which they are derived, and assumptions upon which they are based in a

⁸ R. S. Lopez, *The commercial revolution of the middle ages, 950-1350* (Englewood Cliffs, 1971); R. H. Britnell, *The commercialisation of English society 1000-1500* (Cambridge, 1993); J. Langdon and J. Masschaele, 'Commercial activity and population growth in medieval England', *Past and Present*, 190 (2006), pp. 42-54.

⁹ The most eloquent advocate for histories that encompass the whole of Britain and Ireland has been the late R. R. Davies; see, for example, his *The first English empire: power and identities in the British Isles 1093-1343* (Oxford, 2000). For pioneering discussions of all four economies see S. H. Rigby, ed., *A companion to Britain in the later Middle Ages* (Oxford, 2003); Britnell, *Britain and Ireland*.

more critical light. The experience of each country and component region takes on a new meaning in this wider perspective, which highlights the unevenness of economic development by this date and the striking contrast that existed between the crowded, commercialised, and urbanised coastlands that bordered the North Sea and the far more thinly peopled Atlantic littorals of Ireland and Scotland where towns and commerce as yet scarcely existed. In these respects, Britain and Ireland serve as a microcosm of the far greater contrasts then still prevailing within Europe.

Sections I to IV of this paper reconstruct an internally consistent set of estimates for England, Wales, Scotland, Ireland, and Britain and Ireland of the numbers of religious houses and regular clergy, the numbers of parishes/benefices and spiritual revenues of the Church, the numbers and populations of towns of different sizes, the value and volume of dutiable exports of wool, woollens, and hides, and the amounts of money in circulation *circa* 1290. Section V then considers the different geographical scales and topographical endowments of the four countries and employs the estimates advanced in Sections I-IV to derive a range of relative and density measures (summarised in Table 13). Generating a comparable set of *per capita* measures represents a far greater challenge since it is contingent upon the derivation of credible population estimates for each country, notwithstanding a serious dearth of direct evidence except for England. The problem and the evidence are reviewed in Section VI. The most credible of the range of possible population estimates are then used to derive the set of *per capita* measures presented in Section VII and summarised in Table 16. The implications of these *per capita* estimates and of the exercise involved in making them are then considered in Section VIII.

I

In an age when the Church was the only pan-European organisation, creation of an ecclesiastical infrastructure was of formative importance for more general economic development.¹⁰ The extent of that infrastructure also reflects the capacity of medieval

¹⁰ M. Mann, *The sources of social power, I, A history of power from the beginning to A.D. 1760* (Cambridge, 1986), pp. 379-90.

people to invest in religion and the afterlife, both of which were regarded as of paramount importance. The religious histories of England, Wales, Scotland, and Ireland were, of course, very different and this is reflected in the types and numbers of religious houses that they supported, the uneven progress of parish formation, and their respective numbers of regular and secular clergy (Tables 1 and 2). Nevertheless, by the close of the thirteenth century the elaboration of ecclesiastical infrastructure had everywhere attained an advanced state of development: the great movement of monastic foundation was largely complete and diffusion of the various Orders of mendicant friars was well past its peak. With the exception of Franciscan Third-Order Regular friaries in Ireland, few additional religious houses would be founded after c.1290 and in the fourteenth and fifteenth centuries several existing houses were either merged or dissolved. Detailed scholarly lists of the affiliations and dates of foundation and dissolution of houses of monks and nuns, canons and canonesses, friars, Templars, and Hospitallers make it possible to establish the respective numbers of religious houses in England, Wales, Scotland, and Ireland at the point when these were nearing their medieval maximum.¹¹

TABLE 1

Table 1 demonstrates that by 1290 Britain and Ireland contained almost 1,500 religious houses of one sort or another, all but a small minority of them of continental derivation and founded during the previous 250 years. England alone accounted for 70 per cent of these: two out of three houses of mendicant friars were in England and three out of four monasteries. Significantly, the latter were the more expensive foundation. Ireland boasted the next greatest number of religious houses – a fifth of the total - as was consistent with its long Christian tradition and ancient emphasis upon the monastic life. By 1290, however, its insular monastic tradition was effectively extinct and all of its religious houses were at least nominally affiliated to continental religious Orders, with houses of canons and friars particularly prominent.¹² Overall, there were more than twice the number of religious houses in Ireland as in Wales and

¹¹ See the notes to Table 1.

¹² A. Gwynn and R. N. Hadcock, *Medieval religious houses: Ireland* (1970).

Scotland combined. Scotland's modest share of religious houses is particularly striking and is symptomatic of a far more selective process of monastic foundation than in either England or Ireland.

Counting religious personnel is altogether less exact than counting religious houses. Probably, due to the superior physical size and wealth of its religious houses, England accounted for an even greater share of total religious personnel than it did of houses. The figures offered in Table 1 are based on the assumption that, Order by Order, Irish, Welsh, and Scottish houses were on average either the same size or between a third (Scotland) and a half (Wales and Ireland) smaller than their English counterparts. Starting with the English figures offered by Knowles and Hadcock, and estimating on that basis, yields a total British and Irish conventual population of 25,000 males \pm 2,300 and 5,000 females \pm 400 by 1290 (i.e. 30,000 \pm 2,700).¹³ Of these, at least 64 per cent, and conceivably as many as 77 per cent, were English, 14-24 per cent Irish, 6-7 per cent Scottish, and 3-5 per cent Welsh. Together, English and Welsh religious houses therefore accounted for at least two-thirds and probably more than three-quarters of all British and Irish regular clergy. In Scotland the number of regular clergy was only a tenth that of England and, at best, a half that of Ireland.

How do these figures of the numbers of religious houses and the size of the regular clergy in these four countries compare with the numbers of parishes and implied numbers of beneficed clergy? As with the foundation of religious houses, the creation of parishes had not proceeded evenly. It seems to have begun earliest and proceeded furthest in England, with the result that in many areas vill and parish were virtually coterminous. Some East Anglian vills were even divided between several parishes. In much of the north of England, however, an older pattern of large minster churches serving extensive territories containing several vills and supported by dependent chapelries still persisted; thus, benefices within the diocese of York were more than three times more valuable than those within the diocese of Norwich.¹⁴ On the evidence of a recent systematic reworking of the returns to the ecclesiastical taxation of 1291 (alias the *Taxatio*), England contained a total of at least 8,230

¹³ D. Knowles and R. N. Hadcock, *Medieval religious houses: England and Wales* (2nd edn. 1971), pp. 488-95. Cf S. H. Rigby, *English society in the later middle ages: class, status and gender* (1995), p. 213.

¹⁴ S. Davnall, J. Denton, S. Griffiths, D. Ross, and B. Taylor, 'The *Taxatio* database', *Bulletin of the John Rylands University Library of Manchester*, 74, 3 (1992), pp. 102-8

benefices and Wales at least a further 600 (equivalent to 7 per cent of the English figure).¹⁵ For Scotland, unfortunately, the detailed returns to the *Taxatio*, have largely been lost, hence the count of benefices given in Table 2 is taken from that reconstructed in the *Atlas of Scottish history*.¹⁶ The latter identifies 960 parishes in Scotland and the western isles, excluding Orkney and Shetland; just 12 per cent of the number south of the border in England.¹⁷ In Ireland parish creation largely post-dated the ecclesiastical reforms initiated by Henry II following the English invasion of 1169-71. More than a century later the extant *Taxatio* returns for 1303-6 indicate that approximately 2,400 benefices had been brought into being (Table 2), two-and-a-half times the number in Scotland.¹⁸

TABLE 2

The parish evidence therefore broadly mirrors the picture conveyed by the numbers of religious houses: of the grand total of approximately c.12,190 parishes, England accounted for about two-thirds, Ireland for a fifth, and Scotland and Wales together for the remaining eighth. If the number of parishes can be taken as roughly diagnostic of the size of an economy and the number of souls that it sustained, this would imply that the English economy and population were twice the combined size of the Welsh, Scottish, and Irish economies and populations. For such a simple equation to hold valid, however, parishes everywhere would need to have been equivalent in size and value, which they were not, as is plain from the assessments of the spiritual revenues of the Church — principally tithes, revenues from glebe lands, oblations, and other gifts — recorded in the *Taxatio* (Table 2).¹⁹ Thus, Welsh parishes, relatively

¹⁵ Minor benefices worth less than £4 are probably under-enumerated, Davnall *et al.*, 'Taxatio database', pp. 95-7; Williams-Jones, ed., *Merioneth lay subsidy roll*, p. lxxvii. J. C. Russell, *British medieval population* (Albuquerque, 1948), pp. 321-2, by combining the evidence of the 1254 Valuation of Norwich with that of the *Taxatio* arrives at the higher figure of 597 benefices. Collating the diocesan totals given by Davnall *et al.* and Russell yields a total of 640 Welsh benefices (St David's 248; Llandaff 149; St Asaph 185; Bangor 55).

¹⁶ The returns for the archdeaconry of Lothian in the diocese of St Andrews are the sole exception: J. Raine, ed., *Correspondence, inventories, account rolls and law proceedings of the priory of Coldingham (1214-1478)*, Surtees Society 12 (1841).

¹⁷ Russell, *British medieval population*, pp. 322-3 gives an identical figure.

¹⁸ Russell, *British medieval population*, pp. 322-5.

¹⁹ Davnall *et al.*, 'Taxatio database', pp. 101-8.

poorly furnished with rich tithe-yielding grain-lands and valuable arable glebe lands, were assessed on average at little more than half the value of English parishes. Many, in fact, fell below the £4 minimum threshold for contributing to the tax.²⁰ Irish parishes were poorer still and in 1303-06 were worth only 35 per cent of their English counterparts; their revenues were clearly inferior although this is undoubtedly exaggerated by the token valuations returned for most dioceses located outside the Crown's effective jurisdiction (Table 3). This undervaluation is all the more dramatic when juxtaposed against the impressively high mean valuation of Scottish parishes in 1291, which was almost four times that of Irish parishes and more than a third greater than that of English parishes (Table 2). England may have had by far the greatest number of parishes but Scottish parishes were on average wealthier; Irish parishes, in contrast, were poorest.

Like most tax returns, the 1291 *Taxatio* (1303-6 for Ireland) upon which these figures are based is a far from unproblematic source, notwithstanding that geographically it is the only extant medieval tax return to encompass England, Wales, Scotland, and Ireland and is therefore of unique value and interest. The tax purported to be one tenth of all ecclesiastical income in England, Wales, Scotland, and Ireland.²¹ Because so much of the Church's 'spiritual' income derived from its substantial receipts from tithes and its own glebe lands, these assessments substantially reflect wider patterns of agrarian and, more particularly, arable wealth (grain comprising the single largest component of tithes and arable the single most valuable component of glebes). The wealth generated from pastoral husbandry was not ignored – since tithes were payable on wool, lambs, and dairy produce - but it is undoubtedly understated because tithes on these products were less straightforward to collect. This difficulty applied even more to the outputs of mining and fishing. Moreover, these revenues were filtered through the Church's own uneven institutional geography. Thus, revenues from tithes and glebe lands tended to be greatest where a dense network of ecclesiastical parishes was most firmly in place, as was most commonly the case in

²⁰ Williams-Jones, ed., *Merioneth lay subsidy roll*, p. lxxvii.

²¹ J. H. Denton, 'The valuation of the ecclesiastical benefices of England and Wales in 1291-2', *Historical Research: The Bulletin of the Institute of Historical Research* 66, 161 (1993), p. 232. An earlier tax of a papal tenth had yielded £156,000-£157,000 by 1287, 82% from England and Wales, 11% from Scotland, and 6% from Ireland: W. E. Lunt, 'Papal taxation in England in the reign of Edward I', *English Historical Review* 30 (1915), p. 413n.

lowland areas of village settlement and arable-based mixed husbandry. To compound matters, the quality of the information available for Scotland and Ireland is inferior to that extant for England and Wales.

For Scotland, with the exception of the archdeaconry of Lothian within the diocese of St Andrews, the aggregate assessments (as opposed to the receipts) for each of the twelve dioceses alone have survived, comprising the combined value of both 'spiritualities' (the income from each benefice) and 'temporalities' (the income from ecclesiastical lands other than glebe).²² These are enrolled in the Register of John de Halton, Bishop of Carlisle.²³ In T. F. Tout's view, 'Halton's taxation of Scotland was exceedingly high (the) figures seem almost incredible'.²⁴ Undoubtedly, the sums actually received were lower. Certainly, in England actual receipts were a third lower than the assessments; even so, English Churchmen complained that this tax 'skinned them to the bones'.²⁵ For England and Wales the detailed parish-by-parish returns survive and invariably distinguish the spiritualities from the temporalities. The former contributed about two-thirds (64.5 per cent) and the latter about one-third (35.5 per cent) of aggregate ecclesiastical income.²⁶

Carefully edited totals of the assessed value of the spiritualities for each of the deaneries within the 17 English and 4 Welsh dioceses are now available.²⁷ Unfortunately, there are as yet no equivalent figures – revised or unrevised – for the temporalities. This creates an immediate discrepancy between the English and Welsh and the Scottish and Irish figures, since both the latter record total ecclesiastical income from all sources. Moreover, the Irish returns for 1291 are missing. Instead, what survive are the returns from a corresponding tax levied in 1303-6, by which time the yield of all other Irish taxes and royal revenues had fallen substantially from their level in 1290/1 (Figure 1). Undoubtedly, the 1303-6 ecclesiastical taxation must have raised far less than its precursor, just 12 to 15

²² Raine, ed., *Priory of Coldingham*.

²³ T. F. Tout, 'Introduction' to *Register of John de Halton, Bishop of Carlisle A.D. 1292-1324*, transcribed W. N. Thompson, Canterbury and York Society (1913), p. xv.

²⁴ Tout, 'Introduction', p. xv.

²⁵ W. M. Ormrod, 'The Crown and the English economy, 1290-1348', pp. 149-83 in Campbell, ed., *Before the Black Death*, pp. 161-4; Tout, 'Introduction', p. xv.

²⁶ P. G. McNeill and H. L. MacQueen, eds., *Atlas of Scottish history to 1707* (Edinburgh, 1996), p. 301; Rigby, *English society*, p. 216.

²⁷ Davnall *et al.*, 'Taxatio database'.

years earlier. These Irish returns also await systematic scholarly evaluation. Pending such an exercise, the unchecked totals for 33 of the 34 Irish dioceses have been used (Table 3), extracted from a transcript of the original returns made by William Reeves, Bishop of Down in the 1880s.²⁸ From these, an estimate has been made of the likely valuation of the diocese of Ferns, the original returns for which have not survived.

Whether the available *Taxatio* information records assessments or actual receipts and whether it does or does not include the value of the temporalities is material to any consideration of the aggregate ecclesiastical wealth of England, Wales, Scotland, and Ireland (Tables 2 and 3). So, too, is the difference of dating and circumstance between the British and Irish returns. Self evidently, the raw unadjusted figures are particularly flattering to Scotland, whose diocesan valuations are doubly inflated by the fact that they include both temporalities and spiritualities and are based upon what was expected rather than what was actually received.²⁹ The adjusted totals given in Tables 2 and 3 and mapped in Figure 2 attempt to correct both sources of distortion, using the Scottish diocesan weightings given in Table 3 derived from the recorded ratio of receipts to assessments in England, the recorded ratio of temporalities to spiritualities within the archdeaconry of Lothian, and the varying diocesan distribution of religious houses and, by implication, temporal property (which were both at a Scottish maximum in the diocese of St Andrews). No corresponding correction is made to the Irish figures (which are receipts rather than assessments), since whatever exaggeration may arise from the inclusion of the temporalities is certainly more than offset by the overall loss in value that had occurred since 1291 (Figure 1) due to the rapidly worsening economic and political situation within the Lordship.

TABLE 3

As will be seen from Table 2, on the evidence of the *Taxatio* the spiritual wealth of the English Church was three times greater than the total for Wales,

²⁸ *Taxatio ecclesiastica Hiberniae*, Reeves Manuscript KI I 3, Armagh Public Library.

²⁹ No allowance is made for this in McNeill and MacQueen, eds., *Atlas of Scottish history*, pp. 300-1, where the data are mapped in a manner calculated to exaggerate the wealth of the Scottish dioceses.

Scotland, and Ireland combined. Moreover, the four wealthiest English dioceses – Lincoln, York, Norwich, and Salisbury - headed the overall diocesan league-table of wealth (Table 3). Each exceeded in value the whole of Wales; Lincoln, York, and Norwich were individually more valuable than Ireland; and the vast diocese of Lincoln was even worth more than the entire province of Scotland. Nevertheless, the wealthiest Scottish diocese – Glasgow – eclipsed the next tier of English dioceses (Durham, Winchester, Lichfield, Canterbury, and London) and, similarly, was worth far more than the entire ecclesiastical province of Wales and each of the four Irish provinces. Dublin and St David's, respectively the wealthiest Irish and Welsh dioceses, were poor by comparison (Table 3). The bulk of Ireland's many small dioceses were conspicuously poor, far more so than even the poorest English, Welsh, and Scottish dioceses of, respectively, Rochester, Bangor, and Caithness. The Irish Church may have been relatively well endowed with parishes, religious houses, and regular clergy but it was comparatively poor in its spiritual income (Tables 1 and 2). The Scottish Church, in contrast, was far richer, and enjoyed a share of wealth that was 50 per cent greater than its share of parishes and double its shares of religious houses, and regular clergy. In the case of the newly united England and Wales the evidence of the *Taxatio* reinforces that furnished by the numbers of religious houses, parishes, and estimates of the number of regular clergy: between them they contained approximately 73 per cent of all British and Irish parishes and religious houses, 75 ± 8 per cent of regular clergy, and 79 cent of the Church's spiritual wealth. England alone appears to have accounted for roughly two-thirds to three-quarters of the British and Irish resources of the Church.

II

The secular counterpart to the great movements of monastic foundation and parish creation that dominated the twelfth and thirteenth centuries, was the foundation and growth of towns and other related trading institutions. By the close of the thirteenth century this, too, had reached saturation point. It had been shaped and lent initial impetus by the spontaneous concentration of commercial activity around strategically located monasteries and castles, a royal and seigniorial desire for the prestige that patronage of a successful town bestowed, a material interest by lords in the rents

and revenues that towns could generate, and the use of boroughs as instruments of colonisation in areas of recent conquest. By 1290 chartered and corporate towns had sprung up in many parts of the north of England, Wales, Scotland, and Ireland, where 250 years earlier they had been absent.³⁰ Much scholarly effort has been invested in identifying, counting, and ranking them, not least because of the association of towns with processes of domination, commercialisation, and economic specialisation.

What exactly constituted a functioning town in this period when there were so many small and obscure places at the base of the urban hierarchy has been the matter of much inter-disciplinary debate. In Ireland, for instance, where burgess tenure was used as a lure to attract settlers, there were around 330 places with some kind of borough status.³¹ Of these, Bradley reckons, on essentially morphological criteria, that only 56 performed genuinely urban functions and thereby merit the designation 'town'.³² Graham, in contrast, estimates that the Lordship of Ireland had approximately 100 functioning towns, 80 of them small towns and 25 of them mercantile towns.³³ Distinguishing towns from lesser trading places presents a similar problem in England where, by 1300, approximately 600 places possessed borough status but about 2,400 places had markets and/or fairs.³⁴ Dyer believes that some 720 places have some claim to be regarded as towns, although it is debatable

³⁰ R. Britnell, 'Boroughs, markets and trade in northern England, 1000-1216', pp. 46-67 in R. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge, 1996); McNeill and MacQueen, eds., *Atlas of Scottish history*, pp. 196-8; K. D. Lilley, "'Non urbe, non vico, non castris" territorial control and the colonization and urbanization of Wales and Ireland under Anglo-Norman lordship', *Journal of Historical Geography*, 26 (2000), pp. 517-31; B. Graham, 'The evolution of urbanization in medieval Ireland', *Journal of Historical Geography*, 5 (1979), pp. 111-25; G. Martin, 'Plantation boroughs in medieval Ireland, with a handlist of boroughs to c.1500', pp. 23-53 in D. Harkness and M. O'Dowd, eds., *The town in Ireland*, Historical Studies, 13 (Belfast, 1981).

³¹ B. J. Graham, 'The definition and classification of medieval Irish towns', *Irish Geography*, 21 (1988), pp. 20-32.

³² J. Bradley, 'Planned Anglo-Norman towns in Ireland', pp. 411-67 in H. B. Clarke and A. Simms, eds., *The comparative history of urban origins in non-Roman Europe. Ireland, Wales, Denmark, Germany, Poland and Russia from the ninth to the thirteenth century*, 2 volumes, BAR, International ser. 255 (Oxford, 1985), vol. ii.

³³ Graham, 'Definition and classification'.

³⁴ B. M. S. Campbell and K. Bartley, *England on the eve of the Black Death: an atlas of lay lordship, land, and wealth, 1300-49* (Manchester, 2006), pp. 299-312; S. Letters with M. Fernandes, D. Keene, and O. Myhill, *Gazetteer of markets and fairs in England and Wales to 1516*, List and Index Society, Special ser. 32 and 33 (2003), vol. 32, pp. 26-8. J. Masschaele, *Peasants, merchants and markets: inland trade in medieval England, 1150-1350* (New York, 1997), pp. 73-105, draws a distinction between the large number of 'commercial sites' and small number of 'merchant sites'.

whether all possessed the nucleated form, size of population, and diversified occupational structure symptomatic of the performance of genuinely urban functions.³⁵ Remarkably, Griffiths has proposed that there were a further 100 such places in Wales.³⁶ For the purpose of comparison it is therefore sensible to concentrate upon those most visible and incontrovertibly urban settlements with a minimum of about 2,000 inhabitants, of which, by 1290, there may have been no more than about 75 within Britain and Ireland as a whole (Table 4-7 and Figure 2). Of these, less than half could boast 5,000 inhabitants or more and probably no more than half-a-dozen supported populations in excess of 10,000 (Table 7). London, of course, was the largest city of them all and alone ranked among the leading cities of northern Europe.³⁷

FIGURE 2

Opinion is also divided about the sizes of the largest medieval towns and their combined populations. Mayhew, for instance, has recently ventured that 'the top ten Scottish burghs c.1300 may have ranged from about 10,000 down to about 5,000'; whereas Dennison and Simpson take the view that 'only a few major towns, such as Edinburgh, Perth, Dundee, and Aberdeen would have had more than 2,000 people'.³⁸ A generation earlier Barrow opined 'The population even of Berwick upon Tweed, the largest town in Scotland, or of Perth and Aberdeen, which may have ranked next in order of size, would have been numbered in hundreds rather than thousands'.³⁹ In Ireland, although estimates of Dublin's population range from 10,000 to 25,000, Clarke has recently plumped for a modest but authoritative 11,000.⁴⁰ England,

³⁵ C. Dyer, 'Small towns 1270-1540', pp. 505-40 in D. M. Palliser, ed., *The Cambridge urban history of Britain, I, 600-1540* (Cambridge, 2000), pp. 506-8.

³⁶ R. A. Griffiths, 'Wales and the Marches', pp. 681-714 in Palliser, ed., *Cambridge urban history*, p. 681.

³⁷ D. J. Keene, 'A new study of London before the Great Fire', *Urban History Yearbook 1984*, pp. 11-21; P. Nightingale, 'The growth of London in the medieval English economy', pp. 89-106 in Britnell and Hatcher, eds., *Progress and problems*, pp. 95-7.

³⁸ N. J. Mayhew, 'Scotland: economy and society', pp. 107-24 in Rigby, ed., *Companion*, p. 109; E. P. Dennison and G. G. Simpson, 'Scotland', pp. 715-40 in Palliser, ed., *Cambridge urban history*, p. 731.

³⁹ G. W. S. Barrow, *Kingship and unity: Scotland 1000-1306* (Edinburgh, 1981), p. 94.

⁴⁰ H. B. Clarke, *Dublin, Part 1, to 1610*, Irish Historic Towns Atlas 11 (Dublin, 2002), p. 12.

according to Keene and others, possessed at least a dozen towns of comparable size or larger; more, in fact, than on Vries's reckoning, there would be in 1700.⁴¹ Indeed, as late as 1751, when manufacturing, trade, and commerce were all much increased in scale, there were only 21 English towns with at least 10,000 inhabitants and a further nine in Wales, Scotland, and Ireland. These figures for the eighteenth century suggest that some of the generous recent claims for the size of towns c.1290 should be treated with caution, given the less developed state of the manufacturing and service sectors at the earlier date, unless London's remarkable post-medieval growth had taken place at the expense of other English towns. Alternatively, medieval urban populations might have been swollen by an influx of landless poor from the countryside, although the experience of Norwich suggests that any such elephantiasis is more likely to have occurred after 1290 than before.⁴²

Keene's claims respecting urban size are based upon the relatively securely documented population estimate of c.10,000-12,000 for Winchester and its soke c.1300, which on the evidence of its tax assessment then ranked about fifteenth in England's urban hierarchy.⁴³ This has been Mayhew's cue for advancing corresponding claims about the substantial size of the leading Scottish towns.⁴⁴ If both are correct, several leading English and Scottish towns were larger in 1300 than at any other time before the mid-eighteenth century. Yet Winchester may be an atypical case from which to extrapolate, given its status as a former capital and the unusual concentration of ecclesiastical spending power within it. Its population seems to have been larger than its actual rank would merit. *A priori*, with a few notable exceptions, it also seems improbable that so many towns could be so much larger c.1300 than they would be again for at least another 450 years, the more so when account is taken of the specific documentary, morphological, and

⁴¹ B. M. S. Campbell, J. A. Galloway, D. J. Keene, and M. Murphy, *A medieval capital and its grain supply: agrarian production and its distribution in the London region c.1300*, Historical Geography Research Ser. 30 (1993), pp. 9-11; J. de Vries, *European urbanization 1500-1800* (1984), pp. 270-1.

⁴² A. R. Bridbury, *Economic growth: England in the later middle ages* (London, 1962), p. 74; E. Rutledge, 'Immigration and population growth in early fourteenth-century Norwich: evidence from the tithing roll', *Urban History Yearbook 1988*, pp. 15-30; E. Rutledge, 'Norwich before the Black Death/Economic Life', pp. 157-88 in C. Rawcliffe and R. Wilson, eds., *Medieval Norwich* (2004).

⁴³ D. J. Keene, *Survey of Winchester*, Winchester Studies 2 (Oxford, 1985), pp. 366-70; Campbell and Bartley, *Eve of the Black Death*, pp. 344-5.

⁴⁴ Mayhew, 'Scotland', 109. Also, E. Gemmill and N. Mayhew, *Changing values in medieval Scotland: a study of prices, money, and weights and measures* (Cambridge, 1995), pp. 9-10.

archaeological evidence available for particular towns. Perth, by consensus one of the five most important Scottish towns, is a case in point. Granted royal burgh status in the late twelfth century, and displaying conspicuous physical growth during the thirteenth century, Perth has been shown to have contained 370 burgage plots by the fourteenth century.⁴⁵ 400 years later the town still contained only 404 households, which is consistent with a population estimate in the range 1,800-2,500.⁴⁶ Nevertheless, impressed by archaeological evidence of intense competition for land in the centre of the town, Mayhew has hazarded that Perth's population was in excess of 5,000 on the eve of its capture and occupation by the English in 1296.⁴⁷ If correct, this implies that each burgage was occupied by an average of 14 people and that the town's population was halved in size between 1296 and 1712.

TABLE 4

For England alone the lay subsidy returns of 1327 and 1332 and poll tax returns of 1377 provide a reasonably secure documentary basis for estimating the relative and absolute size of towns c.1290 (Table 4).⁴⁸ Between them these two sources identify 58 towns with populations of at least 2,000 if the national population numbered 4.0 million, to which should be added Chester, Durham, St Albans, and Sandwich which do not feature in these sources. The figures for London with Southwark and for Norwich obtained by this method of estimation are lower than those proposed by historians of these two cities, probably because the 1377 poll tax does not capture the scale of the population decline that occurred as both cities shed their significant pre-plague burden of urban poor. Conversely, Colchester, which was much more prosperous in 1377 than it had been in 1290 thanks to the rise of a textile

⁴⁵ R. M. Spearman, 'The medieval townscape of Perth', pp. 42-59 in Michael Lynch, Michael Spearman, and Geoffrey Stell, eds., *The Scottish medieval town* (Edinburgh, 1988), p. 56.

⁴⁶ Spearman, 'Medieval townscape', p. 59. Compare Exeter, which had 561 households in 1377 and a total population estimated at 2,500-3,000: M. Kowaleski, *Local markets and regional trade in medieval Exeter* (Cambridge, 1995), pp. 371-5.

⁴⁷ Mayhew, 'Scotland', p. 109. See P. Holdsworth, ed., *Excavations in the medieval burgh of Perth 1979-81* (Edinburgh, 1987), p. 211.

⁴⁸ See Campbell *et al.*, *Medieval capital*, pp. 10-11, for this method of deriving the individual and collective sizes of towns, albeit using taxable wealth assessed in 1334 rather than taxpayers recorded in 1327 and 1332.

manufacture, was far smaller at the earlier date than the poll tax in particular suggests.⁴⁹ The population estimate for Coventry yielded by the lay subsidies and poll tax also appears to be higher than that suggested by the 1279-80 Hundred Roll for that city.⁵⁰ In fact, on the figures set out in Table 4, York, Oxford, Canterbury, Salisbury, Gloucester, Winchester, Scarborough, Beverley, Boston, Bury St Edmunds, and Hereford all apparently had far greater populations than they would support in 1750 and may therefore be over-estimated by this method.⁵¹ In 1290, London alone among English towns contained more than 50,000 inhabitants, York was the second city with possibly over 20,000 inhabitants, three towns – Bristol, Lincoln, and Norwich - contained 10-20,000 inhabitants, nineteen towns had 5-10,000 inhabitants, and perhaps a further three-dozen towns had 2-5,000 inhabitants. Including Wales adds only Cardiff to this list for it alone can be shown to have had a population of at least 2,000 by the close of the thirteenth century.⁵² This amounts to 63 towns and a total urban population of approximately 380,000.⁵³

TABLE 5

For Scotland and Ireland (and, indeed, Wales) the evidence of urban size is both less explicit and less direct. Tables 5 and 6 summarise what there is. The Scottish evidence does not support Mayhew's claims that the 50 leading Scottish burghs had a combined population of 100,000 and the top ten of those burghs populations in the range 5-10,000.⁵⁴ On the contrary, on generous assumptions, only Berwick and Aberdeen and possibly Edinburgh may have exceeded 5,000 inhabitants in size and were thus on a par with such leading east-coast English towns

⁴⁹ R. H. Britnell, *Growth and decline in Colchester, 1300-1525* (Cambridge, 1986), pp. 93-6.

⁵⁰ On the evidence of the numbers of 281 burgages, 100 messuages, and 334 cottages recorded by the 1279-80 hundred roll for Coventry the city's population has been conservatively estimated at 3,500-5,600: T. John, ed. and intro., 'The Hundred Rolls of 1280', pp. 365-94 in P. R. Coss, ed. and intro., *The early records of medieval Coventry*, British Academy Records of Social and Economic History, new ser. 11 (1986), 366. I am grateful to Keith Lilley for this reference.

⁵¹ Vries, *European urbanization*, pp. 270-1.

⁵² R. Holt, 'Society and population 600-1300', pp. 79-104 in Palliser, ed., *Cambridge urban history*, p. 100.

⁵³ Dyer, 'Small towns', p. 506, reckons the number of towns with 2,000+ inhabitants at 52.

⁵⁴ Mayhew, 'Scotland', p. 109.

as Newcastle-upon-Tyne (c.9,900), Boston (c.6,200), Kings Lynn (c.6,900), and Yarmouth (c.7,000).⁵⁵ Perth and Dundee were of lesser rank and size and hence may be compared with Kingston-upon-Hull (c.3,800) and Southampton (c.3,500). Given what is currently known from morphological evidence about the physical size of each of these five largest Scottish towns at this time, these seem to be upper-bound estimates.⁵⁶ If correct, they imply that at most only c.24,000 people lived in towns of this size compared with c.380,000 in England and Wales (Table 7). All other Scottish towns probably had fewer than 2,000 inhabitants (typically far fewer) and hence were as small as most historians of Scottish towns have always emphasised.⁵⁷ On this reckoning the combined population of the fifty leading Scottish towns was probably no more than 58,000, less than a tenth of the equivalent English total.

TABLE 6

Ireland, too, seems to have had many very small towns of no more than a few hundred inhabitants. On the evidence assembled in Table 6, only seven stand out as having populations of perhaps 2,000 or more. Of these, Dublin - which may conceivably have rivalled Bristol (c.14,400), its major trading partner, in size - was by far the most important and substantial with at least 11,000 inhabitants.⁵⁸ As a port, the seat of English administration and jurisdiction in Ireland, and with two cathedrals and a major concentration of religious institutions, no Scottish city could rival it in functions or population. Next in size were probably the defended cathedral cities and commercial towns of Waterford and Kilkenny, in Ireland's settled and prosperous southeast.⁵⁹ Their closest English comparator is Exeter, whose modest size at this

⁵⁵ See notes to Table 5.

⁵⁶ McNeill and MacQueen, *Atlas of Scottish history*, pp. 456-62. It is easy to be over-impressed by the volume of the export trade handled by these ports; in fact, in 1290 the whole of Scotland's wool exports probably amounted to no more than about 100 cargoes, those of England to about 520 cargoes, and those of Ireland to about 75 cargoes (at an estimated 60 sacks of wool per cargo). I am grateful to Wendy Childs for providing this information, based upon recorded cargoes from Kingston-upon-Hull in 1304-5. Of course, dutiable exports accounted for only a minority of cargoes handled by most ports, see note 73 below.

⁵⁷ Dennison and Simpson, 'Scotland'; E. Ewan, *Town life in fourteenth-century Scotland* (Edinburgh, 1990), p. 5.

⁵⁸ Clarke, *Dublin*, p. 12.

⁵⁹ J. C. Russell, *Medieval regions and their cities* (Newton Abbot, 1972), p. 139, attributes a population

time (c.3-4,000) is securely documented.⁶⁰ Drogheda, New Ross, Cork, and Limerick seem all to have been of lesser importance and are most appropriately compared with the southern English ports of Plymouth (less than c.4,000) and Southampton (c.3,500).⁶¹ Between them, these seven largest Irish towns may have contained a total urban population of about 34,000. This gives a grand total of about 75 British and Irish towns of at least 2,000 inhabitants and a combined urban population in towns of 2,000+ of around 437,000 (Table 7). Significantly, 83 per cent of these towns and 86 per cent of this urban population were in England.

TABLE 7

Even allowing for substantial margins of error in these admittedly largely conjectural estimates, urban life was plainly far more firmly established in England by 1290 than in Wales, Scotland, or Ireland, where towns were mostly younger and whose respective urban populations (in towns of 2,000+) probably amounted to <1 per cent, 6 per cent, and 9 per cent of the English total. The greater functional maturity of English towns is also evident in the fact that they were more differentiated in size (Table 7), which points to the existence of a more developed and integrated urban hierarchy. Unlike Wales, Scotland, and Ireland, whose large towns all hugged the coast, several inland towns occupied prominent positions in England's articulated urban system (Figure 2), whose undisputed head was the nation's capital, London. It was otherwise in Scotland, where Berwick seems to have eclipsed Edinburgh in size and commercial importance (Table 5), and also in Ireland, where the capital, Dublin, was far outshone by New Ross, Cork, and Drogheda in the value of their dutiable overseas trade and size of their lay subsidy contributions (Table 6). In fact, on the evidence of the revenues generated by overseas trade, there is a clear impression that ties were closer between individual Irish and Scottish ports and their overseas trading partners than with other Irish and Scottish towns (Table 8).

of no more than 3,000 to Waterford. J. Bradley, 'Kilkenny', pp. 249-50 in S. Duffy, ed., *Medieval Ireland: an encyclopedia* (2005), p. 250.

⁶⁰ Kowaleski, *Local markets*, pp. 371-5.

⁶¹ Table 4. The estimate for Plymouth is probably inflated by inclusion in the tax total of two large suburban and predominantly agricultural jurisdictions: Kowaleski, *Local markets*, p. 73n.

In 1290 neither Dublin nor Edinburgh was as yet its country's respective mercantile capital. In terms of duty paid, Dublin was the fifth port of Ireland and Edinburgh the third port of Scotland (Table 8) and in the league table of British and Irish ports they ranked fifteenth and eighth (Table 9). London, in contrast, ranked second and far eclipsed both in the volume and share of its dutiable trade. It generated almost double the customs revenues of the Lordship of Ireland and one-and-a-half those of the Kingdom of Scotland (Table 8). In 1290 Boston still handled more wool than London but by 1295 it had lost that pre-eminence to the metropolis, in whose trade denizen merchants were poised to take the leading role.⁶² Once Boston's fortunes faltered, no other English port commanded a sufficiently large share of trade to pose a significant threat to London's rise to commercial hegemony, with a significance within and beyond England which it would long take Dublin and Edinburgh to match in Ireland and Scotland. Most of the larger Scottish towns are represented, and Dublin and Drogheda are named, on the late fourteenth-century Gough Map but the anonymous creator of that map leaves little doubt that he thought English towns to be more numerous and important, and names the two he considered to outshine all others in letters of gold – London and York.⁶³ Both conducted an active trade but both were also important in their own right as political, administrative, ecclesiastical, and military centres; each regularly hosted parliaments, supported a wide array of crafts and occupations, served as a major centre of concentrated urban demand, and was a setter and dictator of fashion. Scotland and Ireland would have to wait until the seventeenth century before cities of like scale, importance, and influence began to emerge.

III

⁶² E. M. Carus-Wilson and O. Coleman, *England's export trade 1275-1547* (Oxford, 1963), pp. 38-41. Separate figures for denizen and alien exports are available from 1303-4; for the next 7 years denizen exports of wool steadily gained over those of aliens in London, whereas exports from Boston continued to be dominated by alien merchants. See also S. H. Rigby, 'Sore decay' and "fair dwellings": Boston and urban decline in the later middle ages', *Midland History*, 10 (1985), pp. 47-61.

⁶³ E. J. S. Parsons, *Introduction to the facsimile*, memoir accompanying *The map of Great Britain, circa A.D. 1360, known as the Gough Map* (Oxford, 1958).

Trade was the lifeblood of towns and from 1275, when customs revenues were levied in England and the Lordship of Ireland upon exports of wool, woolfells, and hides (a tax soon imitated in Scotland and extended to Wales following its conquest), the volume and value of the dutiable export trade is one of the most measurable of economic activities. For England both the quantities of wool, woolfells, and hides exported and the duty paid on them are recorded from 1275 in the annual enrolled customs accounts which have recently been calendared in detail by Jenks.⁶⁴ Unfortunately, equivalent information for the Irish ports did not survive destruction of Ireland's public records in 1922 and merely the revenues raised, recorded in the pre-1922 published calendars, are known.⁶⁵ Although some form of customs system was probably operating in Scotland by 1290, the earliest extant Scottish accounts, closely modelled on their English counterparts, only date from 1328-33, by which time thirty years of major warfare and significant shifts in the level and composition of European commerce had both had a substantial impact upon the volume and pattern of the country's trade.⁶⁶ Quite possibly Scottish exports prior to the outbreak of the War of Independence exceeded the impressive level recorded between 1328 and 1333; it is unlikely they were less given that Flemish demand for Scottish medium- and low-quality Scottish wools was stronger before 1290 than after.⁶⁷ Certainly, Berwick's position in that trade was more prominent at the earlier than the later date, when it may have profited from the export of quantities of northern English wool and hides.⁶⁸ Its decline may have been to Newcastle's gain, for the latter's customs

⁶⁴ S. Jenks, *The enrolled customs accounts: (TNA: PRO E 356, E 372, E 364) 1279/80-1508/09 (1523/1524)*, List and Index Society 303 (Kew, 2004). I am grateful to Dr Jenks for providing me with an electronic version of these data. These listings supersede the figures in Carus-Wilson and Coleman, *England's export trade*, which omit hides and the amounts of duty paid.

⁶⁵ These are usefully summarised by year and by port in T. E. McNeill, *Anglo-Norman Ulster: the history and archaeology of an Irish barony, 1177-1400* (Edinburgh, 1980), pp. 132-5.

⁶⁶ A. A. M. Duncan, *Scotland, the making of the kingdom* (Edinburgh, 1975), pp. 603-4; J. Donnelly, 'An open port: the Berwick export trade, 1311-1373', *Scottish Historical Review*, LXXVIII (1999), pp. 146-7; M. Rorke, 'Scottish overseas trade, 1275/86 – 1597' (unpub. Ph.D. thesis, Univ. of Edinburgh 2001), pp. 2-11.

⁶⁷ On Flemish demand see note 76 below. English (and Welsh) wool was in stronger demand than Scottish and English wool exports were marginally higher 1328-33 than in 1290: Carus-Wilson and Coleman, *England's export trade*, p. 122.

⁶⁸ A. Stevenson, 'Trade with the south, 1070-1513', pp. 180-206 in Lynch, Spearman, and Stell, eds., *Scottish medieval town*, pp. 187-8; Donnelly, 'Berwick export trade', pp. 148-51. In both 1343 and 1359 Edinburgh was the largest Scottish exporter of wool: J. Stuart and G. Burnett, eds., *The exchequer rolls of Scotland (Rotuli Scaccarii regum Scotorum)*, 1, 1264-1359, 23 vols. (Edinburgh, 1878-1908), 529-41, 594-609 (I am grateful to Sandy Grant for these references).

revenues rose by 20 per cent between 1290 and 1328-33, and it was certainly to the long-term advantage of Edinburgh.⁶⁹ In contrast, Ireland's customs revenues over this same period collapsed (Figure 1).

Probably the most straightforward basis for comparing the relative trades of individual ports and of England and Wales, Scotland, and Ireland *circa* 1290 is in terms of the respective customs revenues that were generated, reckoning those revenues at £0.33 sterling per sack of wool, per 300 woolfells, and per half-last of 100 hides. These are the figures given in Tables 8 and 9. In 1289-90 the combined customs revenues of England and Wales yielded the Crown a gross income of £10,280. Irish revenues, then just past their peak (Figure 1), yielded a further £1,708, equivalent to a sixth of the English and Welsh figure. Scotland's trade appears to have been significantly more valuable than that of Ireland. It yielded a mean annual gross revenue of £2,176 between 1328 and 1333, a quarter more than Ireland's trade at its pre-1294 peak, and in 1290 Scotland's revenues were probably a fifth or even a quarter those of the far greater trade of England (Table 8).⁷⁰ In the case of all three countries the great bulk of these revenues were generated at east- and southeast-coast ports which faced towards the markets of continental Europe in general and Flanders in particular (Figure 2), the demand of whose manufacturing cities for quality wool, woolfells, and hides, was insatiable.⁷¹ The duty received from exports of these commodities by western ports – including ports as active and important as Exeter and Bristol – was negligible.⁷² In 1290 Ireland's leading wool- and hide-exporting port was New Ross, Scotland's undoubtedly Berwick, and England's Boston (Table 8 and Figure 2). Each was a town devoted to trade and little else and

⁶⁹ Calculated from Jenks, *Enrolled customs accounts*.

⁷⁰ By 1700 this relationship between Scottish and Irish trade had been inverted and Irish exports were worth more than four times Scottish exports: L. M. Cullen and T. C. Smout, 'Economic growth in Scotland and Ireland', pp. 3-18 in L. M. Cullen and T. C. Smout, eds., *Comparative aspects of Scottish and Irish economic history 1600-1900* (Edinburgh, 1977), p. 4.

⁷¹ R. A. Pelham, 'Medieval foreign trade: eastern ports', pp. 298-329 in H. C. Darby, ed., *An historical geography of England before A.D. 1800* (Cambridge, 1936); Stevenson, 'Trade with the south'; B. M. S. Campbell, 'The sources of tradable surpluses: English agricultural exports 1250-1349', pp. 1-30 in L. Berggren, N. Hybel and A. Landen, eds., *Cogs, cargoes and commerce: maritime bulk trade in northern Europe, 1150-1400* (Toronto, 2002).

⁷² Extant local port customs accounts reveal that coastal trade accounted for 70% of all shipping traffic at Exeter: M. Kowaleski, ed. and trans., *The local customs accounts of the port of Exeter 1266-1321*, Devon and Cornwall Record Society new ser. 36 (Exeter, 1993), p. 31.

all three owed their prominence to the commercial boom of the twelfth and thirteenth centuries.⁷³

TABLE 8

TABLE 9

Customs revenues do not, however, reveal the complete picture, even for dutiable goods, because duty was charged at a flat rate upon commodities that were far from uniform in value. The wools that entered overseas trade were characterised by marked differences in quality and this was reflected in their price.⁷⁴ Welsh wools were most sought after on the international market (mostly sent overseas via English east-coast ports), followed, on good contemporary evidence, by English and by Scottish wools. There are no extant prices for Irish wools, but Flemish producers regarded them as inferior to the English and Scottish product and therefore ill suited to the manufacture of the fine-quality cloths to which they were increasingly turning: by the 1340s the use of Irish wools had been banned from the manufacture of sealed woollens (the luxury fabrics designed for the export market), along with northern-English and the coarser Scottish wools.⁷⁵ A more telling comparison between the export trades of England and Wales, Scotland, and Ireland therefore requires valuation of the commodities that were customed (Table 10). Since Ireland lacks information on the quantities of wool and hides sent abroad and the prices they commanded, this is based upon the assumptions, first, that wool contributed 90 per cent and hides 10 per cent of revenues, and, second, that Irish wool and hide prices

⁷³ New Ross was founded about 1200 by William Marshal: R. E. Glasscock, 'Land and people, c.1300', pp. 205-39 in A. Cosgrove, ed., *A new history of Ireland, II, Medieval Ireland 1169-1534* (Oxford, 1987), pp. 235-6. Berwick had been founded as a royal burgh by 1124: D. M. Palliser, T. R. Slater, and E. Patricia Dennison, 'The topography of towns 600-1300', pp. 153-86 in Palliser, ed., *Cambridge urban history*, p. 161. Boston originated as a town between 1086 and 1113: M. Beresford, *New towns of the middle ages: town plantation in England, Wales and Gascony* (Gloucester, 1988), pp. 463-4.

⁷⁴ J. H. Munro, 'Wool price schedules and the qualities of English wools in the later middle ages', *Textile History*, 9 (1978), pp. 118-35.

⁷⁵ Munro, 'Industrial transformations', p. 136; J. H. Munro, 'Medieval woollens: the Western European woollen industries and their struggles for international markets, c.1000 - 1500', pp. 228-324 in D. Jenkins, ed., *The Cambridge history of western textiles*, 2 vols. (Cambridge, 2003), vol. i, p. 245.

were 90 per cent those of Scottish.⁷⁶ This exercise demonstrates that customs revenues understate the relative value of the overseas trade of England and Wales and overstate that of Ireland. Irish and Scottish exports were worth respectively 12 and 18 per cent those of England and Wales, which accounted for 77 per cent of all British and Irish dutiable exports (Table 10). Thereafter, for a time, the trade of England and Wales rose further in value, whereas Scotland's suffered a prolonged dislocation, due to the adverse effects of a long and destructive war, and Ireland's contracted sharply, never, for the remainder of the middle ages, to recover (Figure 1).⁷⁷

TABLE 10

A combination of factors conspired to undermine Ireland's hard-won export trade. At home, these included the bankruptcy in 1294 of the Riccardi who had been charged with collecting the customs; administrative corruption arising from a lack of effective government control; repeated purveyancing to provision English armies in Wales, Gascony, and Scotland; a general breakdown of security; and then, between 1315 and 1318, a deliberately destructive Scottish invasion, agriculturally disastrous weather, and finally, from 1321, a succession of devastating livestock epidemics. Overseas, the principal cause was a progressive failure of demand for cheap, coarse, Irish wools as Flemish producers switched to the manufacture of high-quality cloths to which these wools were ill-suited. Even in good times Ireland was geographically remote from major European markets for its wool and hides and its location on Europe's Atlantic seaboard was as yet of little strategic commercial advantage. Consequently, Ireland's trade in wool, woolfells, and hides was never worth more than a tenth of England's and probably no more than two-thirds of Scotland's. Commercially, it remained very much the poor relation of its two British neighbours and from 1294 became poorer still. This is consistent with the limited size and fragile fortunes of its ports, the modest scale of its urban population, and its small share of ecclesiastical wealth as measured by the revenues raised by the

⁷⁶ See notes to Table 10.

⁷⁷ Carus-Wilson and Coleman, *England's export trade*, p. 122; Stevenson, 'Trade with the south', pp. 187-8.

Taxatio of 1303-6.⁷⁸ At this stage in its commercial development Ireland was dwarfed by its English neighbour as, for all its stronger performance, was Scotland.

IV

Fuelling the commercial development of all four countries had been the establishment and growth of a money supply. Again, England took the lead and English coins served as the models for those subsequently minted in Scotland and Ireland and were the predominant specie of Wales as well as important components of the money supplies of Scotland and Ireland.⁷⁹ The quality of English silver coins also ensured that they circulated far beyond Britain's own shores. In the twelfth century a native silver-mining boom in the northern Pennines had provided a significant injection of bullion to the nascent monetary systems of England and Scotland.⁸⁰ Thereafter, following effective exhaustion of these ores, continued expansion of English and Scottish money supplies was founded upon the net inflow of bullion from overseas trade.⁸¹ During the thirteenth century a positive and reciprocal relationship therefore existed between the growth of overseas trade, expansion of money supplies, and advance of commercialisation.

Taking mint output as a proxy for money supply, Mayhew and Allen have offered a range of estimates of the volume of currency in circulation in England, Scotland, and Ireland c.1290 based upon mint records and die numbers as revealed by coin finds (Table 11). Inevitably, there are wide margins of error, especially in the case of Ireland for which the available evidence is flimsiest, but the overall orders of magnitude are now fairly securely documented and provide an interesting

⁷⁸ A. F. O'Brien, 'Politics, economy and society: the development of Cork and the Irish south-coast region c. 1170 to c. 1583', pp. 83-154 in P. O'Flanagan and C. G. Buttimer, eds., *Cork history and society: interdisciplinary essays on the history of an Irish county* (Dublin, 1993).

⁷⁹ Davies, *First English empire*, p.162; R. R. Davies, *The age of conquest: Wales 1063-1415* (Oxford, 1991), pp. 161-4; Barrow, *Kingship and unity*, pp. 33, 97; Duncan, *Scotland*, p. 518; N. M. McQ. Holmes, 'The evidence of finds for the circulation and use of coins in medieval Scotland', *Proceedings of the Society of Antiquaries of Scotland*, 134 (2004), pp. 241-9; M. Dolley, 'Coinage, to 1534: the sign of the times', pp. 816-26 in Cosgrove, ed., *New history of Ireland*, pp. 818-22.

⁸⁰ I. Blanchard, 'Lothian and beyond: the economy of the 'English empire' of David I', pp. 23-45 in Britnell and Hatcher, eds., *Progress and problems*; P. Claughton, 'Production and economic impact: Northern Pennine (English) silver in the 12th century', *Proceedings of the 6th International Mining History Congress* (Hokkaido, 2003), pp. 146-9 (I am grateful to Martin Allen for this reference).

⁸¹ Claughton, 'Production and economic impact', p. 149.

perspective on the three economies.⁸² As the estimates summarised in Table 11 demonstrate, by 1290 England and Wales had by far the greatest money supply, more than six times that of Scotland and about eighteen times that of Ireland. In fact, at approximately 83 per cent of the British and Irish total, the English and Welsh share of the value of currency in circulation was marginally greater than its impressive shares of overseas trade, towns, and ecclesiastical wealth. This is hardly surprising given that the English economy had been monetised for far longer than those of Scotland and Ireland, although it is important to remember (as the evidence of coin finds testifies) that English coins comprised an important component of the money supplies of Wales, Scotland, and Ireland (and small quantities of Scottish and Irish coins also circulated in England).⁸³ What is remarkable is that Ireland as a dominion of the English Crown should have lagged so far behind England and between 1250 and 1290, far from catching up, was apparently falling even further behind (Table 11). Here is a further indication of the Lordship's faltering economic fortunes.

TABLE 11

Scotland's economic momentum, in contrast, seems to have been quickening, to judge from the trebling in the supply of coins from Scottish mints that occurred between c.1250 and c.1290 (although this growth is less spectacular if account is taken of the contribution of English coins to Scottish money supplies, especially in the first half of the thirteenth century).⁸⁴ In fact, by c.1290 Scotland's estimated 13 per cent share of British and Irish money supply (Table 11) is broadly consistent with both its estimated 14 per cent share of the value of exported wool and hides (Table 10) and estimated 15 per cent share of the spiritual wealth of the Church (Table 2). On these criteria, on the eve of the War of Independence the Scottish economy was larger, commercially more dynamic, and more monetised, than that of Ireland and, in the speed with which its money supply was growing, bears favourable comparison

⁸² Dolley, 'Coinage, to 1534', pp. 819-21.

⁸³ Dolley, 'Coinage, to 1534'; Holmes, 'Evidence of finds', pp. 241-9, 263-79.

⁸⁴ N. Mayhew, 'Alexander III – a silver age? An essay in Scottish medieval economic history', pp. 53-73 in N. H. Reid, ed., *Scotland in the reign of Alexander III 1249—1286* (Edinburgh, 1990), pp. 61-2.

with its far larger and, in aggregate, wealthier southern neighbour, England. Since there was little native mining of silver in the thirteenth century both economies were clearly earning significant quantities of bullion from their respective export trades. By 1290 there was over two-and-a-half times more money in circulation in England, Wales, and Scotland than there had been *circa* 1250 (Table 11).

V

Of the four countries under consideration England was geographically by far the largest, 55 per cent larger than Ireland, 66 per cent larger than Scotland, and more than six times the size of Wales (Table 12). England's physical advantage was even greater if comparison is limited to land below 500 feet, since virtually all monastic houses, towns, and arable land were located below this altitude. England contained almost half of all lowland, Ireland a third, and Scotland and Wales, with their extensive tracts of mountainous upland, less than a fifth (Table 12). In an overwhelmingly agrarian age it is only to be expected, therefore, that in aggregate the economy of England, with its superior endowment of agricultural resources and more favourable climate for grain production, should have dwarfed the economies of Wales, Scotland, and Ireland. The scale of the discrepancy was, however, significantly greater than this simple difference in geographical areas. With 41 per cent of the combined British and Irish land area and 49 per cent of all lowland, England accounted for 68 per cent of all parishes, 70 per cent of all religious houses, 64-77 per cent of the regular clergy, 76 per cent of the Church's spiritual income, approximately 77 per cent of townsmen, 83 per cent of large towns, and, after allowance for Wales, around 70 per cent of dutiable exports and 75 per cent of currency (Table 13). The level of agreement between these various independent proxy measures of economic activity is striking, for virtually all fall within the range 68 to 83 per cent. On this evidence by 1290 England probably accounted for between two-thirds and three-quarters of all British and Irish economic activity and between three-quarters and four-fifths of all commercialised and monetised economic activities (Table 13).

TABLE 12

TABLE 13

The verdicts to be returned on the Scottish and Irish economies at this date are less clear-cut. Ireland was geographically slightly larger than Scotland and contained more than twice as much lowland (Table 12); it also had two to three times as many religious houses, parishes, and clergy, probably twice as many towns, and possibly 50 per cent more town dwellers (Table 13). Although the Scots had been more abstemious than the Irish in founding monasteries and creating parishes, Scotland, nevertheless, had two-thirds more ecclesiastical wealth, sent at least 50 per cent more dutiable exports overseas, and had two- to three-times as much silver currency as Ireland. Per square mile of lowland, it had as many towns, three times the ecclesiastical wealth, and more than three times the foreign trade of Ireland (Table 13). On these commercial criteria Scotland was by far the larger and more successful economy and bore the closer resemblance to England, notwithstanding that the most fertile and settled parts of eastern and southern Ireland had belonged to the English Crown for more than a century and shared many administrative and legal institutions in common with England.⁸⁵ Neither Ireland nor Scotland - and certainly not Wales - could, however, match the intensity of English economic development. Per square mile England supported significantly higher densities of religious houses, parishes, ecclesiastical wealth, towns, and production for export than any of these neighbours (Table 13). As has been noted (Table 7 and Figure 2), England also supported more large towns and those towns were more clearly integrated into a functioning urban hierarchy, whose primate city, London, was already the political, administrative, legal, cultural, and economic capital and about to become the mercantile capital as well.

⁸⁵ On the transplantation of English rule and institutions to Ireland see, J. F. Lyden, *The Lordship of Ireland in the middle ages* (Dublin, 1972); R. Frame, *Colonial Ireland 1169-1369* (Dublin, 1981). By 1700 the market economy was bigger in Ireland than in Scotland (R. Mitchison, 'Ireland and Scotland: the seventeenth-century legacies compared', pp. 2-11 in T. Devine and D. Dickson, eds., *Ireland and Scotland 1600-1850: parallels and contrasts in economic and social development* (Edinburgh, 1983), p. 3) and Irish exports were worth more than four times Scottish (Cullen and Smout, 'Economic growth', 4).

FIGURE 3

The unevenness of economic development between England, Wales, Scotland, and Ireland, by this date, was matched by a corresponding unevenness of regional economic development within them. Substantial towns, whose growth was contingent upon the elaboration of successful commercial relations with both their rural hinterlands and other towns, were largely confined to the south and east of each country and, outside of England, were mostly tied to the coast where relations were most readily maintained with the more developed economies of mainland Europe whose merchants shipped the bulk of British and Irish exports of wool, woollens, and hides (Figure 2). Levels of ecclesiastical wealth recorded by the *Taxatio* echo this distribution (Figure 3).⁸⁶ The recorded spiritual income of the Church from tithes and glebe lands was almost uniformly higher per square mile in the closely settled arable-farming lowlands of the south and east than in the pastoral-farming north and west. The former also tended to be the areas where the parish system was most fully developed and where, consequently, tithes and glebes yielded their best returns. Indeed, imperfect development of the parish system in much of the west and north of Ireland, where there had been little English settlement in depth, may account for the Church's apparent poverty in the greater part of the land of 'saints and scholars'.⁸⁷ In Ireland, ecclesiastical wealth per square mile peaked in the Anglicised diocese of Dublin; in Wales it peaked in the Anglicised diocese of Llandaff; and in Scotland it peaked in the Anglicised diocese of St Andrews (Figure 3). Nevertheless, although it is in these dioceses that wealth is most visible, undoubtedly it was here that it was also greatest. Adjusted wealth levels – mostly representing income from tithes - in the diocese of St Andrews are impressive and bear witness to the prosperity of the lowlands bordering the Firth of Forth at the climax of a century or more of sustained economic development.⁸⁸ It was, however, within the English dioceses of Ely, Norwich, Canterbury, and Rochester and part of the large diocese of Lincoln that the

⁸⁶ This is a revision of the map reproduced in B. M. S. Campbell, 'The medieval economy', pp. 100-3 in *The Penguin atlas of British and Irish history* (2001).

⁸⁷ The 15 most Gaelicised dioceses contained only a quarter of all parishes; the 10 most Anglicised dioceses contained half of all parishes: Russell, *British medieval population*, pp. 322-3.

⁸⁸ This is a recurrent feature of the economic geography of Scotland in this period: McNeill and MacQueen, *Atlas of Scottish history*, pp. 298-305.

Church's spiritual income per square mile attained its maximum, exceeding by a factor of four the unit wealth of most of the south-west, west, and north-west of the realm, whose wealth levels were inferior even to those of the more developed parts of Ireland and Scotland (Figure 3). This is consistent with what is known about underlying differences in land use, land values, and farming systems, and implied levels of agricultural output per unit area.⁸⁹

VI

Measuring economic development per unit area is, of course, no substitute for measuring it *per capita*. Unfortunately, population is the least securely documented and most contentious of all the key economic variables c.1290. For England alone is there a reasonably secure documentary basis from which an estimate of population may be derived, namely the 1.38 million adult males and females who contributed to the poll tax of 1377.⁹⁰ Estimates of the English population c.1290, 25 years prior to its presumed medieval peak in 1315, are consequently contingent upon the assumptions made about the size of exempt groups and levels of tax evasion in 1377, the accumulated scale of the population loss arising from successive local, regional, and national famines and plague epidemics (offset by any recovery that occurred between them), and the rate and amount of growth — well attested by a wealth of local evidence — that occurred between 1290 and 1315. A wide range of estimates is thus possible, with most historians plumping for a figure in excess of 5.0 million by 1290 rising to at least 5.5 million by 1315.⁹¹ Such a figure is, however, incompatible with what is currently known about the likely area under arable cultivation, patterns of cropping, and levels of grain output in an economy with no significant net food imports; hence the figure of 4.0 million favoured here and used as the basis for generating a range of demographically-derived measures (Tables 4, 14,

⁸⁹ Campbell and Bartley, *Eve of the Black Death*.

⁹⁰ R. B. Dobson, *The Peasants' Revolt of 1381* (2nd edn. 1983), pp. 54-9.

⁹¹ Campbell, *English seigniorial agriculture*, pp. 399-406. E. A. Wrigley has recently endorsed a figure of 5.75 million for England and Wales in c.1300: 'The transition to an advanced organic economy: half a millennium of English agriculture', *Economic History Review*, (forthcoming). Clark, 'Long march of history', favours an even higher figure. J. H. Munro, however, has recently argued for a figure of 4.0-4.75m. c.1300: 'Review' of S. J. Borsch, *The Black Death in Egypt and England: a comparative study*, EH.NET (March, 2006) <http://www.eh.net/BookReview>.

and 15).⁹² A population of 4.0 million is consistent with a population gain of 0.25-0.5 million between 1290 and 1315 at a mean annual growth rate of 0.2-0.5 per cent, resulting in a maximum population of 4.25-4.5 million in 1315.⁹³ As will be demonstrated, it is also consistent with possible relative population densities in Wales, Scotland, and Ireland.

TABLE 14

FIGURE 4

The poll tax returns have the additional merit that they can be used to estimate the population of each English county in 1377 and, assuming an unchanging distribution of population, the corresponding totals for a national population of 4.0 million in c.1290 (Table 14 Estimate B). An alternative, and exactly contemporary, perspective on the county distribution of population in 1290 is provided by the lay subsidy returns of that year, using recorded levels of tax per taxpayer in 1327 and 1332 to convert county totals of tax paid into county total of taxpayers (Table 14 Estimate A).⁹⁴ Since only those with movable goods above a certain threshold contributed to these subsidies, they are demographically less representative than the poll tax. The average of the results produced by these two methods is therefore used here (Table 14 Estimate C).⁹⁵ This yields the distribution of population shown in Figure 4, with mean population densities that ranged from a minimum of 28 per

⁹² Campbell, *English seigniorial agriculture*, pp. 399-405. For an alternative view, which presumes a national population of at least 5m., see D. Stone, *Decision-making in medieval agriculture* (Oxford, 2005), pp. 271-2.

⁹³ The chronology of population trends before 1315 is discussed in Langdon and Masschaele, 'Commercial activity', pp. 54-68.

⁹⁴ P. Nightingale, 'The lay subsidies and the distribution of wealth in medieval England', *Economic History Review*, new ser., LVII (2004), pp. 13, 28, considers the 1290 subsidy to be among the most reliable and representative of all the lay subsidies. Unfortunately, vill-level returns recording names and numbers of taxpayers are extant only for Hertfordshire. The 1327 and 1332 data are summarised in Campbell and Bartley, *Eve of the Black Death*, pp. 330-1. I am grateful to Robin Glasscock for supplying these data.

⁹⁵ For 17 counties Estimate C is within 10% of the results obtained from Estimates A and B, for a further 19 counties it is within 20%. The 'fit' between the two methods is therefore reasonably good for 36 of England's 41 counties. The discrepancy is within 25% for Durham, Leicestershire, and London and Middlesex, and widest for Cornwall and Northumberland.

square mile in upland and war-ravaged Cumberland to a maximum, six times greater, of 168 in Norfolk (the figure for Middlesex of 279 per square mile being massively inflated by the presence of London).

Higher estimates of the national population would naturally raise these estimated county population densities proportionately; for instance, figures of 5.0 million and 5.5 million would increase Norfolk's population density respectively to 210 and 231 per square mile. In Wales, Scotland, and Ireland, however, population densities were always much lower and a clear implication of the steep density gradient apparent from east to west and from south to north within England (Figure 4) is that the population densities of less than 75, and often less than 50, per square mile which prevailed throughout the south-western, north-western, and northern counties of England also extended west and north into Wales, Scotland, and Ireland. This accords with the estimates of population currently favoured by historians of those countries and corresponding relative densities in the eighteenth century when for the first time there is good independent evidence for the population of each country (Table 15).⁹⁶

TABLE 15

Post-medieval historians typically reckon the Welsh population at one-twelfth the size of the English, on which basis it would have numbered approximately 0.33 million in 1290. This is remarkably close to the figure of 0.30 million proposed by Keith Williams-Jones on the evidence of the incomplete Welsh returns to the lay subsidy granted in 1291 and now widely accepted by historians of Wales.⁹⁷ The revenues probably raised by that subsidy amounted to about a twelfth those raised by the equivalent subsidy granted the previous year in England.⁹⁸ If the mean population density of Wales roughly approximated to that of the similarly upland and

⁹⁶ In the mid eighteenth century the mean population density of Scotland was below that of the least populous English county (Westmorland), whereas the mean population densities of Wales and Ireland were above those of Westmorland, Cumberland, the North and East Ridings of Yorkshire, and Lincolnshire and on a par with that of Northumberland. If a similar density relationship prevailed c.1290, it follows that that the mean population densities of the least populous English counties are likely to have been above that of Scotland but below those of Wales and Ireland.

⁹⁷ Williams-Jones, ed., *Merioneth lay subsidy roll*, pp. xxxv-lix.

⁹⁸ See above note 4.

predominantly pastoral English counties of Cornwall, Devon, Cheshire, Cumberland, and Westmorland, this too would be consistent with a total Welsh population of approximately 0.25-0.33 million in 1290. Unless Welsh parishes served significantly more souls than their wealthier but smaller English counterparts, on the evidence of the number of Welsh benefices in 1291 (Table 2) a figure towards the bottom end of this range would appear most credible (Table 15). Thus, a Welsh population of approximately 0.25 million in 1290 would imply a mean population density throughout the former principality of 31 per square mile (a little higher than Cumberland, about the same as Lancashire and Westmorland, but below that of both Cornwall and Devon) and a mean parish population of 416 (well above that of the south-western diocese of Exeter but below the mean for England as a whole). Nevertheless, the higher figure of 0.30 million or above hazarded by Williams-Jones should not be discounted, especially if England's own population was higher than the 4.0 million assumed here.⁹⁹ The combined population of the newly united England and Wales can therefore be estimated at 4.25 to 4.33 million c.1290.

The size of Scotland's population at this date is shrouded in far greater mystery. Recently, historians of medieval Scotland have come to favour a figure of around 1.0 million, on the reasoning that in 1290 the country's population is unlikely to have been much smaller than the 1.1 million it is estimated to have been in 1707.¹⁰⁰ As a rule of thumb, they also reckon Scotland to have possessed about a sixth the agrarian resources and therefore to have been capable of supporting about a sixth the population of England, suggesting a population of 0.67 million if England's population was 4.0 million, or 0.9 million if England's population was as large as the 5.5 million mooted by some historians. A total of 0.67 million Scots would yield a mean population density of 22 per square mile, or 31 per square mile (i.e. about the same as that estimated for Wales, Westmorland and Lancashire) if all land above 1,000 feet, and therefore effectively uninhabitable, is excluded. This would also imply a mean parish population of 694, well above that of contemporary English parishes but consistent with the superior area and spiritual wealth of Scottish parishes (Tables 2 and 13). A closer and more relevant comparison is with the 979

⁹⁹ See Table 15, estimates (B) and (C).

¹⁰⁰ A. Grant, *Independence and nationhood: Scotland 1306-1469* (Edinburgh, 1984), pp. 72-3; Gemmill and Mayhew, *Changing values*, pp. 8-9.

benefices in the province of York, which had a mean value of £29 (compared with the adjusted value of £22 for Scottish benefices – Table 2) and an estimated mean population of 670.¹⁰¹ In fact, if the mean populations of Scottish parishes corresponded with those estimated for the province of York, a national population of 0.64 million would appear most credible.

Alternatively, if the estimated mean population densities characteristic of the six northern English counties of Cumberland, Westmorland, Northumberland, Durham, Yorkshire, and Lancashire (Table 14) were repeated throughout Scotland, after allowance for the country's far greater share of inhospitable upland, a higher total population of 0.94 million would result (Table 15). If this were, indeed, the case, on the eve of the outbreak of the War of Independence Scotland would have supported the equivalent of between a fifth and a quarter of the population of England. An estimate of total Scottish population of around 0.75 million c.1290 should not, therefore, be too wide of the mark.¹⁰² This accords with the consensus among historians of Scotland that by this date land scarcity did not constitute a significant economic problem except perhaps at a very local level.¹⁰³

Historians of medieval Ireland subscribe to much the same view. This is not, however, to deny a significant advance of settlement over the course of the twelfth and thirteenth centuries for which there is strong circumstantial evidence.¹⁰⁴ Population growth here also gained impetus from a significant inflow of migrants from Wales, England, and the continent.¹⁰⁵ Nevertheless, the country remained politically divided and riven by fighting and feuding which kept the population below the estimated peak of 2.1 million attained in 1641, the 2.3-2.6 million reached in 1753,

¹⁰¹ Calculated from Davnall *et al.*, 'Taxatio database', pp. 107-8, and Table 14.

¹⁰² For the implications for Scotland of higher English population estimates see Table 15, estimates (B) and (C).

¹⁰³ 'In Scotland, however, historians have not developed a theory of Malthusian overpopulation and here the burgh and rural evidence concur': Mayhew, 'Alexander III', p. 58. The situation in the north-east of England was similar: H. M. Dunsford and S. J. Harris, 'Colonization of the wasteland in County Durham, 1100-1400', *Economic History Review*, 2nd ser., LVI (2003), pp. 34-56. The retreat of settlement from Scotland's upland margins is considered to have been climatically induced: M. L. Parry, *Climatic change, agriculture and settlement* (Folkestone, 1978), pp. 112-23.

¹⁰⁴ M. G. L. Baillie, 'Dendrochronology provides an independent background for studies of the human past', 99-119 in S. Cavaciocchi, ed., *L'uomo e la foresta secc. XIII-XVIII: atti della "Ventisettesima settimana di studi" 8-13 maggio 1995* (Prato, 1996), p. 116.

¹⁰⁵ J. Otway-Ruthven, 'The character of Norman settlement in Ireland', *Historical Studies* 5 (1985), pp. 75-84.

and even, in the opinion of some historians, William Petty's contemporary 'under' estimate of 1.1 million in 1672 (at which time he reckoned that 'Ireland is much under peopled').¹⁰⁶ Almost certainly, however, Ireland's population c.1290 must have been substantially above the guesstimate of 0.5-0.75 million suggested by Gillespie for 1500, given the abundant historical and archaeological evidence of settlement retreat and demographic contraction over the course of the fourteenth and fifteenth centuries.¹⁰⁷ On this reasoning the estimates of 0.72-0.96 million and c.1.0 million for c.1300 advanced by Clarke and Glasscock also look unduly cautious.¹⁰⁸ A population of about 1 million would imply a mean population density of about 31 per square mile - less than half that of England and about the same as that of Wales, notwithstanding the fact that Wales was far less generously supplied with lowland (Table 12). It would also imply a mean Irish parish population of about 415-20, well above that estimated for the diocese of Exeter but below that projected for Wales.

Significantly, Gillespie and Connolly have recently proposed a figure in the range 0.7 to 1.4 million for c.1300.¹⁰⁹ A figure towards the upper end of this range would now appear most credible, with a corresponding density of at least 40 per square mile. The latter is within the range of densities encompassed by the diverse group of western English counties comprising Cornwall, Devon, Somerset, Gloucestershire, Herefordshire, Cheshire, Lancashire, Cumberland, and Westmorland (Table 14). It is above the densities of 26 and 37 per square mile estimated for Scotland and Wales, respectively, neither of which was as well endowed with agricultural lowland, but well below the 79 per square mile estimated for England whose agricultural lowlands were more closely settled and productive (Table 16). At least 40 people per square mile implies a total Irish population of 1.25-1.5 million (Table 15) and a mean population per parish falling midway between

¹⁰⁶ L. Kennedy and L. A. Clarkson, 'Birth, death and exile: Irish population history, 1700-1921', pp. 158-84 in B. J. Graham and L. J. Proudfoot, eds., *An historical geography of Ireland* (1993), pp. 158-61; Sir William Petty, 'The political anatomy of Ireland - 1672' reprinted in *A collection of tracts and treatises illustrative of the natural history, antiquities, and the political and social state of Ireland at various periods prior to the present century*, 2 vols. (Dublin, 1861), vol. ii, pp. 77, 79.

¹⁰⁷ R. Gillespie, *The transformation of the Irish economy 1550-1700* (Dundalk, 1991), pp. 12-13.

¹⁰⁸ Glasscock, 'Land and people', p. 212; H. B. Clarke, 'Population', pp. 383-4 in Duffy, ed., *Medieval Ireland*, p. 384.

¹⁰⁹ R. Gillespie and S. Connolly, 'Population', pp. 478-9 in S. J. Connolly, ed., *The Oxford companion to Irish history* (Oxford, 2nd edn. 2002), p. 478. R. H. Britnell, *Britain and Ireland 1050-1530* (Oxford, 2004), p. 81, favours a figure in the range 1-2 million.

those suggested for England and Scotland. It is a matter of some debate what proportion of that population acknowledged the sovereignty of the English Crown and lived within the Lordship of Ireland, within whose shrinking jurisdiction the bulk of religious houses and almost all towns were located and whose territories contributed at least two-thirds of Irish *Taxatio* revenues and all the customs revenues accounted for to the Crown.¹¹⁰ Given that the Lordship still encompassed almost all the most closely settled and densely populated of Ireland's lowlands, the answer is probably between one- and two-thirds of the total. In other words, the Irish population relevant to *per capita* calculations of towns, trade, and money supply is roughly 0.5-1.0 million.

These separate estimates of the populations of England, Wales, Scotland, and Ireland add up to a total for Britain and Ireland as a whole of 6.0-6.5 million, perhaps double that in 1086 before the great demographic upswing of the twelfth and thirteenth centuries but possibly only three-quarters that in 1688 when populations everywhere were past their mid seventeenth century peak and at a low ebb.¹¹¹ England's population accounted for almost two-thirds of that figure. By c.1290 the English outnumbered the Welsh by at least twelve to one, the Scots by probably five to one, the Irish by perhaps three to one, and the combined populations of all three 'Celtic' countries by almost two to one. In advancing his territorial ambitions against first the Welsh and then the Scots, Edward I enjoyed a massive demographic advantage. Thanks to the Lordship of Ireland, which he had received as a wedding gift from his father (but never visited), Edward was already the acknowledged monarch of almost three-quarters of all those living in Britain and Ireland even before his military annexation of Wales. By the time that he declared war upon Scotland this proportion had increased to nearly four-fifths. Nevertheless, not even these vastly superior manpower resources were capable of delivering him lasting victory in Scotland or of securing the fragmenting English frontiers in Ireland. In fact, not only did sheer weight of numbers not guarantee military success, when it was as unevenly distributed as Figure 4 shows it to have been, it seems actually to have hampered

¹¹⁰ For a minimum estimate of the English Lordship see H. B. Clarke, 'Decolonization and the dynamics of urban decline in Ireland, 1300-1550', pp. 157-92 in T. R. Slater, ed., *Towns in decline AD 100-1600* (Aldershot, 2000), pp. 167-9.

¹¹¹ Britnell, *Britain and Ireland*, pp. 81, 110, has suggested totals for Britain and Ireland of 7.5—9.0m. for 1300 and 2.6-4.5m. for 1086.

the country's *per capita* economic performance at a time of great and growing financial need by the Crown.¹¹²

VII

The population estimates summarised in Table 15 and discussed in the previous section provide a basis for generating the range of *per capita* measures of economic development summarised in Table 16. These again confirm the economic superiority of England relative to Wales, Scotland, and Ireland. England supported the highest densities of people, religious houses, and large towns, was the most urbanised with perhaps 15 per cent of its population living in places with the legal status and economic functions of towns, and *per capita* commanded the most money and exported the most customable goods.¹¹³ These criteria also mark England out as the most commercialised of these four countries by this date, which is no surprise given that towns, monetary exchange, and private property rights in land and goods were all established much earlier in England than either Scotland or Ireland. This gave English economic development more than a head's start over that of its northern and western neighbours (including Wales) and by the close of the thirteenth century, after over a hundred years of vigorous economic and demographic expansion in all four countries, *per capita* England still maintained much of that advantage. On the evidence of Table 16, however, Scotland had been catching up fast.

TABLE 16

Perhaps the most striking feature of the *per capita* estimates set out in Table 16 is how well Scotland's economy was apparently performing relative to that of England on the eve of the War of Independence. Scotland may have been far less densely peopled than its southern neighbour, even in its fertile agricultural lowlands.

¹¹² Campbell, ed., *Before the Black Death*; J. Hatcher and M. Bailey, *Modelling the middle ages: the history and theory of England's economic development* (Oxford, 2001), pp. 21-65; M. Bailey, 'Peasant Welfare in England, 1290-1348', *Economic History Review*, 2nd ser., LI (1998), pp. 223-51.

¹¹³ For a higher estimate of urbanisation see C. C. Dyer, 'How urbanized was medieval England?' pp. 169-83 in J.-M. Duvoisquel and E. Thoen, eds., *Peasants and townsmen in medieval Europe: studia in honorem Adriaan Verhulst* (Ghent, 1995).

Its religious houses were fewer and of lesser grandeur than England's and it was undoubtedly less urbanised, with a wide scatter of absolutely small chartered trading places seemingly only loosely integrated with each other and lacking a single, dominant, primate city (Table 4 and Figure 2). Nevertheless, *per capita* Scotland's money supply was almost three-quarters that of England and since 1250 may have been growing faster; *per capita* the spiritual income of the Scottish Church was almost the same as that of the English; *per capita* the value of Scotland's dutiable exports of wool, woolfells, and hides was almost on a par with, and in 1290 may conceivably have been even greater than, England's; and *per capita* Scotland actually sent more fleeces overseas (although those fleeces were of lower value) than England;¹¹⁴ If mean *per capita* incomes were also much the same in Scotland as in England and Wales, the value of exports of wool, woolfells, and hides as a share of GDP may also have been marginally greater in Scotland than England. These are impressive achievements for a small and mountainous country, located at the north-westernmost extremity of the medieval world economy, which had only recently and with some difficulty achieved internal political unification, and whose commercial development had begun comparatively late by European standards.

With lower estimates of population, Scotland's comparative performance would be more impressive still. Thus, if its population c.1290 was one-sixth the size of England's, rather than the one-fifth posited here (i.e. 0.67 million rather than 0.75 million, a figure nearer to that implied by its number of parishes), its *per capita* money supply would have been very similar to that of England and Wales (and possibly even greater, if English coins circulating in Scotland are taken into account) and its *per capita* exports would actually have been superior. Even Scottish historians find this possibility hard to contemplate: 'If the Scottish population was significantly below a million, Scotland would have had a greater *per capita* wealth than England; but if the Scots were much poorer, then the Scottish population must have been well above a million. Both points are improbable'.¹¹⁵ Yet the logic of the arithmetic is inescapable: the greater the size differential between the English and Scottish

¹¹⁴ Cullen and Smout, 'Economic growth', p. 4, estimate that by c.1700 Irish *per capita* exports were approximately 50% greater than Scottish and English *per capita* exports were several times greater than both.

¹¹⁵ Grant, *Independence and nationhood*, p. 73.

populations, the more impressive the *per capita* performance of the Scottish economy relative to the English (and, of course, *vice versa*). Undoubtedly, a *per capita* comparison of the two economies c.1250 would have been much more decisively in England's favour but by 1290 whereas population growth was beginning to present serious economic problems in much of England this was not yet the case in most of Scotland.

Although the *per capita* availability of agricultural land was far greater in Ireland than either England or Scotland, in *per capita* terms its economic development still lagged far behind that of both these countries (Table 16).¹¹⁶ Ireland may have been almost as amply provided with religious houses as England and far more generously so than Scotland, as it was with both parishes and towns (Table 13), but its lower *per capita* money supply and dutiable exports are symptomatic of a far less commercialised economy, most pronouncedly so in the extensive areas of residual Gaelic control. Since 1250, on currently available estimates, the Irish currency had grown but slowly (Table 11) with the result that by c.1290 its *per capita* money supply was only a quarter that of Scotland and a fifth that of England. This is consistent with the continuing role of cattle as a measure of wealth and store of value, the importance of barter in commercial exchange, and the modest contribution of earnings from foreign trade to the Irish economy. At their peak, *per capita* exports from Ireland were less than a half those of the country's two British neighbours. Poorer still was Ireland's *per capita* contribution to the *Taxatio*, although this may be exaggerated by the later date of its extant assessment and the difficulty of raising more than nominal sums from dioceses beyond prudent reach of those charged with collecting the revenues. Although larger and more populous than Wales or Scotland, on the evidence of the criteria assembled here it was a materially far poorer country. Even its many churches and cathedrals, with a few notable exceptions, were small and architecturally unpretentious. The two most impressive, the twin Dublin cathedrals of Christ Church and St Patrick's, were modest by English, Scottish, and even Welsh standards.¹¹⁷ Significantly, both were in the capital, whose size, greater

¹¹⁶ This answers the question posed in 1977 by Cullen and Smout, 'Economic growth', p. 3: 'Which nation was the more developed to begin with?' Yet by c.1700 it is thought that the Irish economy had overtaken the Scottish (idid., pp. 3-4); Mitchison, 'Ireland and Scotland', pp. 2-3.

¹¹⁷ E. C. Rae, 'Architecture and sculpture, 1169-1603', pp. 737-80 in Cosgrove, ed., *New history of*

than that of any Scottish town, owed much to its status as the seat of English power and royal administration in Ireland.¹¹⁸

Ireland had not lacked economic development during the century or more prior to 1290, but that development, as defined according to the set of measurable criteria employed here, had started from a lower base than that of either England or Scotland.¹¹⁹ Since the advent of English rule in 1171, areas securely within the expanding Lordship had been colonised and planted with an immigrant population. Manors and parishes had been created and many additional religious houses founded. Significant numbers of towns, fairs, and markets had been chartered and the first Irish coins minted. A central administration had been established, the common law had been introduced, and commercial property rights defined and defended. A substantial export trade in cheap wool and hides had also been built up. These developments transformed the Irish Lordship into a modest financial asset to the Crown but they were insufficient to place its economic development on a par with that of England or even Scotland.¹²⁰

Repeating these *per capita* calculations solely for the estimated 0.75 million living within the settled core of the English Lordship in the east and south-east of the island, where most towns were located, the bulk of all money circulated, and whence most of the exported wool, woollens, and hides probably originated, and where *Taxatio* revenues were greatest (Figure 2) narrows but does not eliminate these disparities (Table 16). Certainly, this part of Ireland seems to have been significantly more urbanised than Scotland, although this may have been because here, as in Wales, towns had been used as instruments of conquest and colonisation and many settlers had been attracted by the lure of burgess status.¹²¹ Although conquest had been followed by the establishment of Ireland's first effective silver coinage, even

Ireland, pp. 747-9. St Patrick's Cathedral was the largest church in Ireland; its length of 300 feet compares with the 320 feet of St David's Cathedral, 357 feet of St Andrew's Cathedral, and 556 feet of Winchester Cathedral.

¹¹⁸ Clarke, *Dublin*.

¹¹⁹ For an eye-witness description of Ireland in the 1170s see Giraldus Cambrensis, *Topographia Hiberniae* (Gerald of Wales, *The history and topography of Ireland*), translated from the Latin by J. J. O'Meara (Portlaoise, 1982 edn.).

¹²⁰ K. Down, 'Colonial society and economy in the High Middle Ages', pp. 439-91 in Cosgrove, ed., *New history of Ireland*; H. G. Richardson and G. O. Sayles, 'Irish revenue, 1278-1384', *Proceedings of the Royal Irish Academy*, Section C, 62 (1961-63), pp. 87-100.

¹²¹ Graham, 'Definition and classification'; Clarke, 'Decolonization', pp. 161-8.

within the English Lordship the *per capita* money supply remained less than half that of both England and Scotland. Part of the problem was that *per capita* the Lordship earned less than either from dutiable exports due to the high cost-distance to continental markets and inferior quality of its wool.

Confining analysis to the English Lordship therefore narrows but does not close the economic gap between Ireland and Britain. Only a much lower relative population estimate than that advanced here would significantly improve the Lordship's comparative economic performance. In any such evaluation, however, the smallness of its *Taxatio* contribution, levied following a significant worsening of economic fortunes, will always count against it (Table 3 and Figure 1). From the mid 1290s its economy proved less able to withstand the impact of purveyancing, insurrection, invasion, war, bad weather, livestock diseases, and adverse shifts in the terms of trade, than either of the others. Certainly, there is nothing to suggest on the evidence marshalled here that the very real economic difficulties to which Ireland so conspicuously succumbed after 1290 arose from any scarcity of resources.¹²² On the contrary, if anything, Ireland like Scotland suffered from a deficit of people *circa* 1290, with the result that its nascent commercial economy remained dangerously dependent upon increasingly fickle external markets.¹²³

For all their deficiencies and often wide margins of error, these *per capita* measures seem to bring out genuine differences between the character of thirteenth-century economic development in England, Wales, Scotland, and Ireland and the respective levels attained by each c.1290 (Table 16). Per head of population Ireland was far better furnished with religious houses of all sorts than Scotland but the spiritual wealth of the Scottish Church was far in excess of the Irish. In certain respects, the Lordship of Ireland was more urbanised than Scotland but trade and exchange were hampered by a shortage of coins and the country's geographical remoteness from Europe's commercial core. The Scots had been thriftier in the foundation of towns but plied a far more vigorous foreign trade and, via their many small North Sea ports stretching from Inverness in the north to Berwick in the south (Figure 2), were strategically better placed to do so. In 1328-33, even after 30 years

¹²² Britnell, *Britain and Ireland*, pp. 314-15.

¹²³ Munro, 'Industrial transformations'; Munro, 'Industrial crisis'; Munro, 'Symbiosis of towns and textiles'.

of destructive warfare, the volume of Scottish overseas trade remained impressive (Table 10). This export trade in wool and hides sustained Scotland's overwhelmingly agrarian economy, financed the importation of manufactured and luxury goods from overseas, and fostered rapid growth of the country's money supply. These, however, are the attributes of an economy at a relatively early stage of economic development, as are the absolutely low level of urbanisation and small size of the urban population as estimated here (Tables 7 and 16). By c.1290 probably no more than 7 per cent of Scotland's population lived in towns, the majority of them extremely small, and only a tiny 3 per cent of the country's population lived in 'large' towns with populations of at least 2,000; it is also improbable that any Scottish town had as many as 10,000 inhabitants. As yet it was urban demand overseas rather than at home that led the Scottish economy.

England, too, was primarily a supplier of unprocessed and predominantly pastoral raw materials to continental manufacturers.¹²⁴ Its larger and more urbanised population nevertheless created a more substantial domestic demand for wool and hides from those producing for the home market, with the result that there was a smaller surplus available for export. A great and growing share of that export trade was also channelled through the capital, London, which was the head of a more mature and integrated urban system than that possessed by Scotland (Tables 4 and 8). England had also long enjoyed the benefit of a stable and increasingly ample money supply.¹²⁵ It is remarkable, therefore, that in *per capita* terms its monetary and export lead over Scotland was not more marked. In fact, with a wider size differential between the two populations than that proposed here (e.g. an English population of 5.0-5.5 million and a Scottish population of 0.67-0.75 million) England by c.1290 would have lost this *per capita* economic lead altogether. The explanation lies in the fact that mean population densities per square mile of lowland were 50 per cent higher in England than Scotland (Table 16). Even with a population of 4.0 million,

¹²⁴ E. Miller and J. Hatcher, *Medieval England: towns, commerce and crafts 1086-1348* (Harlow, 1995), pp. 182-225.

¹²⁵ M. Allen, 'The volume of English currency, 1158-1470', *Economic History Review*, 2nd ser., LIX (2001), pp. 595-611.

rural congestion was becoming an increasingly serious problem in many parts of eastern and southeastern England.¹²⁶

Contrasting resource endowments, agrarian institutions, population dynamics, political structures, geo-political locations, and historical trajectories thus underlay the differing socio-economic profiles presented by England, Wales, Scotland, and Ireland *circa* 1290. Thereafter, the same factors shaped each country's unique response to the challenges and catastrophes of the next 60 years. From the opening of the fourteenth century the established economic fabric of life began to unravel at both the periphery and the core, in areas of low as well as of high population pressure, on the political and military much more than the environmental margins, and in areas of strong as well as weak market penetration. Self-evidently, the forces and processes of contraction, like those of the preceding era of expansion, mapped themselves out very differently onto different regions, as also onto different socio-economic groups, in ways that continue to challenge historical explanation.¹²⁷ Only by widening the geographical scope of economic analysis is it possible to appreciate the full complexity of this watershed era and the nature and selective effect of the processes engendering change.

VIII

Evidently it was Maitland who coined the unfortunate phrase the 'Celtic fringe' to describe Wales, Scotland, and Ireland. Recently, Duffy, has countered that actually the 'fringe was larger than the fringed' but this is true solely in terms of the geographical area that it occupied (Table 12), not of the numbers of people who lived there or the aggregate value of their economic output.¹²⁸ By 1290, on all the measurable criteria, England, the coloniser of Ireland, conqueror of Wales, and imminent aggressor of Scotland, had in total more population, religious houses, parishes, ecclesiastical wealth, towns, townspeople, trading places, wool exports, bullion, and economic output than all three 'Celtic' countries combined (Table 13).

¹²⁶ B. M. S. Campbell, 'The agrarian problem in the early fourteenth century', *Past and Present* 188 (2005), pp. 3-70.

¹²⁷ Hatcher and Bailey, *Modelling the middle ages*; Britnell, *Britain and Ireland*, pp. 305-19.

¹²⁸ S. Duffy, 'The British perspective', pp. 165-82 in Rigby, ed., *Companion*, p. 165.

Moreover, outposts of English population, culture, and commerce had been established in Wales, Scotland, and Ireland which would long remain defiantly independent of native society and polity.¹²⁹ They were representatives of a commercialising and Anglicising world whose influence had been powerfully in the ascendant throughout the hundred years or more prior to 1290. Perhaps a million people still lived beyond the manorialised, parochialised, and market-focused ambit of English life in Welsh Wales, Highland Scotland, and Gaelic Ireland. They adhered to laws, beliefs, social structures, value systems, and modes of reciprocity and exchange that were profoundly different from those prevailing in those commercialised and monetised, tax- and tithe-paying, arable-farming lowlands, firmly controlled by Church and state, which unavoidably loom most prominently in the benchmark profile assembled here.¹³⁰ They also occupied the remotest and, seemingly, as yet least populous parts of these islands, for at this stage in economic development rural congestion was not a problem of the 'Celtic fringe' but of the 'English core' and it would be another five centuries before the problem would be relocated to the former from the latter.

Historians of Wales, Scotland, and Ireland have long been familiar with the centrifugal exodus of English colonists to those lands engendered by the deteriorating *per capita* supply of agricultural land to which so many historians of England have drawn attention. Postan, who first stressed the adverse consequences of the doubling or trebling of population that occurred during the two centuries following Domesday, suggested that at its peak, c.1315, England's population may have exceeded 6 million (as many as would be supported in the mid-eighteenth century on the threshold of the industrial revolution).¹³¹ As will be apparent from this paper, such a high estimate of England's medieval population has implications, as yet little grasped, for corresponding estimates of Welsh, Scottish, and Irish population and a range of associated demographically-determined measures. Nevertheless,

¹²⁹ R. R. Davies, *Domination and conquest: the experience of Ireland, Scotland and Wales 1100-1300* (Cambridge, 1990).

¹³⁰ See, for example, K. Nicholls, *Gaelic and Gaelicised Ireland in the middle ages* (Dublin, 1972).

¹³¹ M. M. Postan, 'Medieval agrarian society in its prime: England', pp. 549-632 in M. M. Postan, ed., *The Cambridge economic history of Europe*, vol. I, *The agrarian life of the middle ages* (Cambridge, 2nd edn. 1966), p. 562; M. M. Postan, *The medieval economy and society: an economic history of Britain in the middle ages* (1972), pp. 27-31.

whereas the number of people may be a matter of debate, the existence of a mounting regional imbalance between population and resources is not. For an economy still rooted in primary production and with, as yet, only a small and failing secondary sector, a population in 1290 of 4 million was quite large enough to have created an intractable problem of structural poverty which acted as a dead weight upon further economic progress and deprived England of a clear *per capita* economic advantage over its smaller but more resource-abundant northern neighbour.¹³²

FIGURE 5

A comparison of the county distribution of population c.1290 (as reconstructed in Table 14 for a population of 4 million) with that in 1756, when England's population did number approximately 6 million, highlights where in 1290 the build-up of population pressure was becoming most acute (Figure 5). In particular, ten counties, occupying just over a quarter of the country's land area, stand out in 1290 as having already at least as many people as there would be in 1756. The density differential between the two dates was widest in Lincolnshire, which was almost twice as populous in 1290 as in 1756 (Table 14). Population densities were actually higher in Rutland, Northamptonshire, Bedfordshire, Huntingdonshire, southern Cambridgeshire, and Suffolk, and attained a peak of 140-200 per square mile in Norfolk (Figure 4). Along with the East and North Ridings of Yorkshire and Sussex, these formed an almost contiguous block of eastern counties which were already more populous than they would be over 450 years later (Figure 5), when agricultural technology, the national economy, and international trade were all significantly more developed. Within these ten most 'congested' counties lived about 1.5 million people - 37 per cent of the country's population – and it is they that furnish the most explicit symptoms of mounting land hunger during the 50 years after 1290, when existing economic difficulties were further exacerbated by continuing population growth, repeated purveyancing and taxation, and a succession of environmental disasters.

By contrast, another ten counties of much the same total area in the extreme north, north-west, and south-west of the country contained fewer than 0.7 million

¹³² Campbell, 'Agrarian problem'.

people and were characterised by mean population densities of less than 60 per square mile (Table 14 and Figure 4). By 1756 population densities in several of these counties — notably Devon and Cornwall, and Durham, the West Riding of Yorkshire, Staffordshire, Cheshire, and, above all, Lancashire - would be at least twice as great (Figure 5), although they would owe this doubling more to expanding employment opportunities in mining, manufacturing, and commerce than in agriculture.¹³³ Insofar as these activities gave employment in 1290, when these regions were still blessed with a relative abundance of land, it was on a far smaller scale.¹³⁴ In fact, viewed from a pan-British and Irish perspective, low population densities were characteristic of a far more extensive geographical area than high. Probably at least three-quarters of Britain and Ireland were less populous in 1290 than they would be in 1756, by which time the combined population of the two islands had risen by almost 4 million. Evidently, land scarcity *per se* was not the real problem; rather, it was the regional imbalance within England between population and resources. This, however, was sufficiently acute to depress England's *per capita* economic performance relative to countries such as Scotland where agrarian problems of this magnitude – except perhaps in the most closely settled parts of the eastern lowlands - had yet to materialise.

TABLE 17

Disaggregating the population of England and Wales by socio-economic group further reinforces the impression that in core regions of the realm occupation of the land was reaching its limits by c.1290. Table 17 offers a re-working of Mayhew's pioneering reconstruction of the socio-economic composition of English society c.1300.¹³⁵ It extends the exercise to include Wales, takes account of revised estimates of the incomes of the landed classes, incorporates the more modest

¹³³ P. Deane and W. A. Cole, *British economic growth 1688-1959: trends and structure* (Cambridge, 2nd edn. 1969), pp. 99-135; R. Lawton, 'Population and society 1730-1914', pp. 285-321 in R. A. Dodgshon and R. A. Butlin, eds., *An historical geography of England and Wales* (2nd edn. 1990), pp. 294-6.

¹³⁴ On the late continuation of assarting in these regions see N. J. Higham, *A frontier landscape: the north west in the middle ages* (Macclesfield, 2004), pp. 75-7; Dunsford and Harris, 'Colonization'.

¹³⁵ N. J. Mayhew, 'Modelling medieval monetisation', pp. 55-77 in R. H. Britnell and B. M. S. Campbell, eds., *A commercialising economy: England 1086 to c. 1300* (Manchester, 1995), p. 58.

estimate of the proportion of urban households advanced in this paper, and derives the size distribution of arable tenancies from the 1278-9 Hundred Rolls.¹³⁶ On the principle that there cannot have been more arable holdings than there was land to be held, the estimated numbers of rural households are tailored to the amount of arable land available for occupation (with some allowance for holdings composed exclusively of pasture). This highly conjectural socio-economic profile then provides a basis for comparison with a similar profile of English and Welsh society reconstructed from Joseph Massie's social table of 1759.¹³⁷

By 1290 there were already almost as many rural agrarian households as there would be in 1759, when the total population was more than 50 per cent greater. Moreover, these agrarian households received over four-fifths of all income, compared with just over half at the later date. Notwithstanding that craft manufacture was widely dispersed throughout town and country, the absence of any significant export of value-added goods strongly suggests that as a source of income and employment the secondary sector was as yet comparatively weakly developed. In fact, the established English cloth-textile industry was experiencing profound structural decay and its modest contribution to the national economy was shrinking both absolutely and relatively.¹³⁸ Within the countryside, small holders, cottagers, labourers, rural craftsmen, paupers, and vagrants made up over three-quarters of all families and in the vast majority of cases were too deficient in arable land to have been able to produce themselves the bread and other basic foodstuffs upon which they subsisted. If non-agrarian households are included, probably at least four-fifths of total households *circa* 1290 were endowed with insufficient land to produce a net surplus of grain (Table 17). The effect of further population growth in combination with a stagnant or shrinking secondary sector between 1290 and 1315 was to inflate that proportion still further, since the bulk of the increase in numbers was accommodated by swelling the ranks of the semi-landless, landless, and casually employed. As a result, by 1315 there were very likely 5 per cent more agrarian households than in 1759 and 40 per cent more poor agrarian households.

¹³⁶ See notes to Table 17.

¹³⁷ P. H. Lindert and J. G. Williamson, 'Revising England's social tables, 1688-1812', *Explorations in Economic History*, 19 (1982), pp. 394-9.

¹³⁸ Munro, 'Industrial crisis'.

Herein lay one root of England's burgeoning economic difficulties at the close of the thirteenth century and the reason why, on certain measures, its *per capita* economic performance was not more impressive. The problem was twofold. First, lax tenurial institutions facilitated the proliferation of households on the land via subdivision and subletting; second, there were inadequate income-earning alternatives to agriculture.¹³⁹ By 1759, in contrast, manufacturing and building provided a living to almost 250,000 rural households and 138,000 non-rural households – about a quarter of the national total.¹⁴⁰ This in turn sustained commercial and service sectors which were roughly twice as large and important as in 1290. Higher population estimates at the earlier date would naturally heighten this structural contrast and amplify the scale and seriousness of the problem. Thus, with a population of 5 rather than 4 million there would have been an additional 200,000 households to accommodate on the land yet there is no convincing evidence that in 1290 the arable area was any greater than that under the plough in 1801.¹⁴¹ If anything, it was less.

The population at its medieval peak and corresponding physical extent of the tillage and cultivated areas, relative yield of land in the seigniorial and non-seigniorial sectors, size of towns and aggregate level of urbanisation, socio-economic composition of the population, scale of craft employment, and value of the national income will undoubtedly and deservedly remain matters of debate. Nevertheless, the test of all macro estimates is whether they make sense both in terms of each other and when disaggregated. Further detailed empirical research is therefore required to verify, qualify, or falsify the estimates advanced here. In this ongoing process the historiographical implications for Wales, Scotland, and Ireland of any revisions should not be overlooked since the ultimate aim must be to produce a coherent and internally consistent benchmark profile which in its relative and absolute orders of magnitude fits all four countries rather than just one and is capable to being extended

¹³⁹ Estimates of the arable and grain acreage over time are given in, M. Overton and B. M. S. Campbell, 'Statistics of production and productivity in English agriculture, 1086-1871', pp. 189-208 in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (Middle Ages – 20th century): elements for comparison*, CORN publication ser. 2, (Turnhout, 1999).

¹⁴⁰ Lindert and Williamson, 'Revising England's social tables', pp. 394-9.

¹⁴¹ Campbell, *English seigniorial agriculture*, pp. 388-90.

to include others.¹⁴² William I's and Gregory King's extraordinary efforts at data gathering did not extend as far as Scotland and Ireland but there is no need for modern historians to remain as circumscribed. This is not because the countries of the 'Celtic fringe' were in some way 'larger than the fringed' but because of the assistance they provide in distinguishing estimates that are credible from those that are plausible. The experiences of these smaller and remoter economies also provide invaluable lessons regarding the critical factors shaping change at a time when all four countries were at a comparatively early stage of economic development and the economy of western Europe was about to enter a period of profound crisis.

¹⁴² See Table 15 for estimates of the populations of Wales, Scotland, and Ireland consistent with English populations of 5.0m. and 5.5m..

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Table 1. *Estimated numbers and composition of religious houses and regular clergy in Britain and Ireland, c. 1290*

Religious Order	England	Wales	Scotland	Ireland	Total Britain & Ireland
	<i>% of total British & Irish religious houses:</i>				<i>Approx. number of religious houses:</i>
Monks	75	7	6	12	425
Canons	66	2	5	27	502
Mendicant friars	65	3	8	24	258
Templars & Hospitallers	71	3	3	24	119
Total male convents	69	4	6	21	1,304
Total female convents	74	2	6	19	193
Total all convents	70	3	6	21	1,497
	<i>% of total British & Irish regular clergy:</i>				<i>Approx. number of regular clergy:</i>
Monks	60-73	5-9	7-9	14-23	10,900 - 13,400
Canons	67-80	1-2	4-5	15-26	4,900 - 5,800
Mendicant friars	65-77	2-3	7-8	14-24	6,300 - 7,500
Templars & Hospitallers	71-83	2-3	2-3	14-24	500 - 600
Total male clergy	63-76	3-6	6-8	14-24	22,600 - 27,300
Total female clergy	68-80	1	4-5	15-25	4,600 - 5,400
Total all clergy	64-77	3-5	6-7	14-24	27,200 - 32,700

Note: All numbers are approximate: in all Orders there are houses whose existence, status, and size are uncertain. Mean numbers of religious per convent in England are estimated as follows: Benedictines 14; Cluniacs and other affiliated Benedictines 11; Carthusians and Cistercians (including lay brothers) 74; Augustinian canons 11; Premonstratensian canons 17; Gilbertine and Bridgettine canons 16; other canons 6; Dominican friars 32; Franciscan friars 29; Austin and Carmelite friars 24; other friars 10; Templars and Hospitallers 5; nuns 22; canonesses (including lay sisters) 38. Equivalent figures for Scotland are estimated at 67-100%, and for Wales and Ireland at 50-100%, these English figures.

Sources: D. Knowles and R. N. Hadcock, *Medieval religious houses: England and Wales* (2nd edn. 1971); I. B. Cowan and D. E. Easson, *Medieval religious houses: Scotland* (2nd edn. 1976); A. Gwynn and R. N. Hadcock, *Medieval religious houses: Ireland* (1970).

Table 2. *Total ecclesiastical wealth and benefices of England, Wales, Scotland, and Ireland (1303-06) according to the tax granted by Pope Nicholas IV in 1291*

	England ^a	Wales ^a	Scotland ^b	Ireland ^c	Britain & Ireland
A) <u>Wealth:</u>					
Un-adjusted <i>Taxatio</i>	£127,372	£5,234	£39,382	£12,983	£184,971
Adjusted <i>Taxatio</i>	£127,372	£5,234	£21,320	£12,983	£166,909
% un-adjusted <i>Taxatio</i>	69	3	21	7	100
% adjusted <i>Taxatio</i>	76	3	13	8	100
B) <u>Benefices:</u>					
No. benefices/parishes ^d	8,230	560	960	c. 2,400	c. 12,150
% benefices/parishes	68	5	8	20	100
C) <u>Wealth per benefice:</u>					
Mean adjusted <i>Taxatio</i> wealth per benefice/parish	£15.5	£9.3	£22.2	£5.4	£13.7

Notes and sources:

^a England and Wales (receipts of spiritualities only): S. Davnall, J. Denton, S. Griffiths, D. Ross, and B. Taylor, 'The *Taxatio* database', *Bulletin of the John Rylands University Library of Manchester*, 74, 3 (1992), pp. 100-08.

^b Scotland (assessments of total income): T. F. Tout, 'Introduction', *Register of John de Halton, Bishop of Carlisle A.D. 1292-1324*, trans. W. N. Thompson (Canterbury and York Society, 1913), p. xv. The adjusted total is 54% of the raw total to allow for the inclusion in the latter of temporalities (assessed at one-third of the total in the wealthy archdeaconry of Lothian, as also in the whole of England and Wales: P. G. McNeill and H. L. MacQueen, eds., *Atlas of Scottish history to 1707* (Edinburgh, 1996), pp. 300-01) and probability that receipts were a third less than assessments (W. M. Ormrod, 'The Crown and the English economy, 1290-1348', pp. 149-83 in B. M. S. Campbell, ed., *Before the Black Death: studies in the 'crisis' of the early fourteenth century* (Manchester, 1991), pp. 161-4).

^c Ireland (receipts of total income in 1303-06): *Taxatio ecclesiastica Hiberniae*, Reeves Manuscript KI I 3, Armagh Public Library. The missing receipts for the diocese of Ferns have been estimated at £1,250, based upon the receipts per mile² in the neighbouring dioceses of Dublin, Kildare, Leighlin, and Ossory. No correction has been made for the inclusion of temporalities since this is likely to have been more than offset by a substantial reduction in all forms of Irish taxable wealth between 1291 and 1303-06 (witness a 40% reduction in government revenues and 25% reduction in customs revenues over the same period: Figure 1).

^d English and Welsh figures from Davnall *et al.*, 'Taxatio database', pp. 106-8. Scottish figure (the 65 parish churches on Orkney and Shetland are excluded) from McNeill and MacQueen, eds., *Atlas of Scottish history*, pp. 347-60. Irish figure (based on the number of civil parishes) from H. B. Clarke, 'Population', pp. 383-4 in S. Duffy, ed., *Medieval Ireland: an encyclopedia* (2005), p. 384.

Table 3. *Ecclesiastical wealth per diocese in England, Wales, Scotland, and Ireland (1303-6) according to the Pope Nicholas IV taxation of 1291*

Country/ Diocese (in descending order of adjusted tax value)	Total tax value £		Country/ Diocese (in descending order of adjusted tax value)	Total tax value £	
	Unadjusted	Adjusted		Unadjusted	Adjusted
ENGLAND	128,926	128,926	Brechin	1,009	670
Lincoln	27,436	27,436	Cashel	660	660
SCOTLAND	39,382	21,320	Connor	629	629
York	18,828	18,828	Bangor	608	608
Norwich	15,624	15,624	Whithorn	1,323	590
IRELAND	12,983	12,983	Cloyne	583	583
Salisbury	7,817	7,817	Meath	558	558
Glasgow	11,144	6,790	Leighlin	537	537
Durham	6,742	6,742	Down	424	424
Winchester	6,594	6,594	Ross (Scotland)	682	420
Lichfield	6,369	6,369	Kildare	415	415
PROVINCE OF DUBLIN	6,064	6,064	Limerick	392	392
St Andrews	13,724	5,950	Tuam	360	360
Canterbury	5,308	5,308	Argyll	661	345
London	5,308	5,308	Killaloe	318	318
WALES	5,234	5,234	Emly	313	313
Worcester	4,829	4,829	Caithness	464	310
Chichester	4,718	4,718	Cork	284	284
Bath & Wells	4,104	4,104	Sodor and Man	536	260
Exeter	4,063	4,063	Clonfert	206	206
Hereford	3,857	3,857	Ardfert	179	179
PROVINCE OF CASHEL	3,671	3,671	Waterford	126	126
Ely	2,946	2,946	Killala	96	96
Dublin	2,814	2,814	Derry	76	76
Carlisle	2,557	2,557	Annaghdown	73	73
PROVINCE OF ARMAGH	2,335	2,335	Elphin	69	69
St Davids	2,135	2,135	Kilmacduagh	63	63
Aberdeen	3,440	2,100	Clogher	60	60
Rochester	1,825	1,825	Kilfenora	60	60
Dunkeld	2,526	1,685	Raphoe	59	59
Moray	2,496	1,410	Ross (Ireland)	45	45
St Asaph	1,343	1,343	Dromore	42	42
Ferns	c.1,250	c.1,250	Ardagh	39	39
Llandaff	1,148	1,148	Achonry	35	35
Ossory	1,049	1,049	Clonmacnois	25	25
PROVINCE OF TUAM	912	912	Kilmore	23	23
Dunblane	1,377	790	Armagh	>11	>11
Lismore	711	711			

Notes:

Unadjusted and adjusted figures for England and Wales are recorded receipts from spiritualities in 1291. Those for Ireland are recorded receipts of both spiritualities and temporalities in 1303-6. Unadjusted figures for Scotland are the combined assessments of spiritualities and temporalities in 1291; adjusted figures are estimates of actual receipts from spiritualities using the following diocesan weightings to take account of the varying distribution of religious houses and therefore temporal wealth and discrepancy of approximately one third between assessments and receipts: Caithness and Dunkeld 0.67; Brechin 0.66; Ross 0.62; Glasgow and Aberdeen 0.61; Dunblane 0.57; Moray 0.56; Argyll 0.52; Sodor and Man 0.49; Whithorn 0.45; St Andrews 0.43. For explanation and sources see Table 2.

Table 4. *The largest English and Welsh towns c.1290*

Rank	Town	Population c.1290 as implied by no. of taxpayers in 1327/32 and 1377 ^a	Estimated urban population:		
			c.1290 ^b	1650 ^c	1750 ^c
<u>50,000 + inhabitants:</u>					
1	London & Southwark	60,000	60-80,000	400,000	675,000
<u>20 - <50,000 inhabitants:</u>					
2	York	22,700		12,000	11,000
<u>10 - <20,000 inhabitants:</u>					
3	Bristol	14,400		20,000	45,000
4	Lincoln	12,300			
5	Norwich	12,000	14,000	20,000	36,000
<u>5 - <10,000 inhabitants:</u>					
6	Newcastle	9,900		13,000	29,000
7	Oxford	9,800		9,000	8,000
8	Coventry	9,500		7,000	12,000
9	Canterbury	8,800			
10	Salisbury	7,700			
11	Gloucester	7,200			
12	Yarmouth	7,000		10,000	10,000
13	Cambridge	6,900		9,000	6,000
14	Kings Lynn	6,900		5,000	9,000
15	Winchester	6,800	9,500		
16	Scarborough	6,500			
17	Beverley	6,500			
18	Colchester	6,200	3-4,000	10,000	9,000
19	Boston	6,200			
20	Bury St Edmunds	5,800			
21	Shrewsbury	5,700			13,000
22	Hereford	5,500			
23	Leicester	5,400		5,000	8,000
24	Ipswich	5,300		≥5,000	12,000
<u>2 - <5,000 inhabitants:</u>					
25	Stamford	4,500			
=26	Northampton	4,200			
=26	Nottingham	4,200		6,000	12,000
=28	Plymouth	3,800		7,000	15,000
=28	Kingston upon Hull	3,800			6,000
=30	Exeter	3,700	see note	10,000	16,000
=30	Worcester	3,700		8,000	10,000
=32	Southampton	3,500	≥2,500		
=32	Ely	3,500			
34	Sudbury	3,400			
=35	Chester	c.3,300		8,000	13,000
=35	Barking	3,300			
=35	Ludlow	3,300			

38	Reading	3,100		7,000
=39	Sandwich	<i>c.3,000</i>		
=39	Spalding	3,000		
=39	Maidstone	3,000		
=39	Peterborough	3,000		
43	Derby	2,900		6,000
44	Huntingdon	2,800		
=45	Lichfield	2,700		
=45	Bridgwater	2,700		
=45	Newark	2,700		
=48	Newbury	2,600		
=48	Durham	<i>c.2,600</i>		
50	Barton upon Humber	<i>c.2,500</i>		
=51	Hadleigh	2,400		
=51	Bridgnorth	2,400		
=51	Pontefract	2,400		
=54	Doncaster	2,300		
=54	Wells	2,300		
=56	Barnstaple	2,100		
=56	Penrith	2,100		
58	Cardiff	<i>c.≥2,000</i>	≥2,000	
=59	Grimsby	<i>c.2,000</i>	≥2,000	
=59	Chichester	2,000		
=59	St Albans	<i>c.2,000</i>	2,000	
=59	Banbury	<i>c.2,000</i>		
=59	Bedford	<i>c.2,000</i>		

Notes and sources:

^a Assuming a total national population of 4m. and estimated from recorded taxpayer numbers in 1327/1332 and 1377. Figures in *Italics* are estimates for towns lacking either or both sources of taxpayer information. 1327/1332 lay subsidy data supplied by R. E. Glasscock; 1377 poll tax data from A. Dyer, 'Ranking lists of English medieval towns', pp. 747-70 in D. M. Palliser, ed., *The Cambridge urban history of Britain*, I, 600-1540 (Cambridge, 2000), pp. 758-60.

^b London, Winchester, and other large towns: B. M. S. Campbell, J. A. Galloway, D. J. Keene, and M. Murphy, *A medieval capital and its grain supply: agrarian production and its distribution in the London region c.1300*, Historical Geography Research Series, 30 (1993), pp. 9-11. Norwich: E. Rutledge, 'Norwich before the Black Death'/'Economic life', pp.157-88 in C. Rawcliffe and R. Wilson, eds., *Medieval Norwich* (2004), pp. 157-8. Colchester: R. H. Britnell, *Growth and decline in Colchester, 1300-1525* (Cambridge, 1986), p. 16. Exeter: in 1377, when its economic fortunes were improving, Exeter has been estimated, on detailed and comprehensive evidence, to have had a population of 3,100 (i.e. possibly 16% fewer than in 1290): M. Kowaleski, *Local markets and regional trade in medieval Exeter* (Cambridge, 1995), pp. 371-5. Southampton: C. Platt, *Medieval Southampton: the port and trading community, A.D. 1000-1600* (1973), p. 262. Cardiff: R. Holt, 'Society and population 600-1300', pp. 79-104 in Palliser, ed., *Cambridge urban history*, p. 100. Grimsby: S. H. Rigby, *Medieval Grimsby: growth and decline* (Hull, 1993), pp. 19-20. St Albans: estimate based upon the number of taxpayers who contributed to the lay subsidy of 1290: TNA, PRO E179/120/2.

^c J. de Vries, *European urbanization 1500-1800* (1984), 270-1.

Table 5. *The largest Scottish towns c.1290*

Rank	Town	Friaries c.1290 ^a	Customs revenue 1328-33 ^b	Burgh farms 1330 ^c	Burgage plots c.1300 ^d	Estimated urban population ^e :	
						1650	1750
<u>5 - <10,000 inhabitants:</u>							
1	Berwick ^f	5	£657	£266			
2	Aberdeen ^{g & h}	3	£497	£213		6-7,000	16,000
3	Edinburgh ^{g & i}	1	£423	£34		35,000	57,000
<u>2 - <5,000 inhabitants:</u>							
4	Perth ^{g & j}	1	£93	£160	370	<5,000	9,000
5	Dundee ^g	1	£293	£22		≥7,000	12,000
<u><2,000 inhabitants:</u>							
	Linlithgow		£111	£10			
	Inverness	1	£29	£46			10,000
	Stirling	1	£8	£36			
	Ayr	1	£4	£30			
	Rutherglen			£30			
	Haddington	1		£29			
	Peebles	1		£23			
	Roxburgh	1		£20			
	Cupar		£20				
	Inverkeithing	1	£19	£15			
	Elgin & Forres	1	£15				
	Montrose	1	£4	£13			

Notes and sources:

^a I. B. Cowan and D. E. Easson, *Medieval religious houses: Scotland* (2nd edn. 1976).

^b Calculated from M. Rorke, 'Scottish overseas trade, 1275/86 – 1597' (unpub. Ph.D. thesis, Univ. of Edinburgh, 2001), pp. 490, 499, 508, 517, 526, & 535.

^c J. C. Russell, *British medieval population* (Albuquerque, 1948), p. 358.

^d R. M. Spearman, 'The medieval townscape of Perth', pp. 42-59 in M. Lynch, M. Spearman, and G. Stell, eds., *The Scottish medieval town* (Edinburgh, 1988), p. 56.

^e J. de Vries, *European urbanization 1500-1800* (1984), p. 271.

^f 'In the thirteenth century Berwick was the wealthiest town in Scotland and some documentation from 1302 has been used to produce a population estimate as low as 1,500, while exaggerated figures in chronicle accounts of the sack of the town in 1296 might be adjusted downwards to suggest at least 3,000': E. P. Dennison and G. G. Simpson, 'Scotland', pp. 715-40 in D. M. Palliser, ed., *The Cambridge urban history of Britain*, I, 600-1540 (Cambridge, 2000), p. 731.

^g The 'four great towns of Scotland' as recognised c.1350 by Bruges (Berwick, by then, having been lost to England): 'Introduction' to Lynch, Spearman, and Stell, eds., *Scottish medieval town*, p. 6.

^h Aberdeen's population c.1290 was probably not reached again until the mid-sixteenth century, when the combined populations of Old and New Aberdeen exceeded 5,000: E. P. Dennison, D. Ditchburn, and M. Lynch, eds., *Aberdeen before 1800: a new history* (East Linton, 2002), pp. 111-12.

ⁱ In 1400 Edinburgh had reportedly 400 houses and by 1558 a muster roll indicates a population of c.12,000 (or 15-18,000 if the suburbs are included): P. G. McNeill and H. L. MacQueen, eds., *Atlas of Scottish history to 1707* (Edinburgh, 1996), p. 456; M. Lynch, *Edinburgh and the Reformation* (Edinburgh, 1981), pp. 4, 10.

^j In 1712 the burgh of Perth contained 404 households, equivalent to a population of 1,800-2,000: Spearman, 'Medieval townscape of Perth', p. 59.

Table 6. *The largest Irish towns c. 1290*

Rank	Town	Friaries c.1290 ^a	Customs revenue 1290 ^b	Lay subsidy contribution 1291 ^c	Fee farm c.1290 ^d	Estimated urban population:		
						c.1300 ^e	1650 ^f	1750 ^f
<u>10 - <20,000 inhabitants:</u>								
1	Dublin	6	£164	£205	£133	≥11,000	17,000	90,000
<u>5 - <10,000 inhabitants:</u>								
2	Waterford	2	£434	£93	£67		≥2,000	≥5,000
<u>2 - <5,000 inhabitants:</u>								
3	Kilkenny	2		£79		≤4,500		≥7,000
4	Drogheda	5	£195	£462	£67			
5	Cork	2-3	£322	£230	£57		2,000	58,000
6	Limerick	2	£3	£53			≥3,000	≥11,000
7	New Ross	1	£493	£257				
<u><2,000 inhabitants:</u>								
	Youghal	2	£39	£152				
	Galway	1	£17				4-5,000	≤5,000
	Wexford	1	£3			≤1,500		
	Dundalk	1						

Notes and sources:

^a A. Gwynn and R. N. Hadcock, *Medieval religious houses: Ireland* (1970).

^b T. E. McNeill, *Anglo-Norman Ulster: the history and archaeology of an Irish barony, 1177-1400* (Edinburgh, 1980), p. 134.

^c Calculated from H. S. Sweetman, ed., *Calendar of documents, relating to Ireland, preserved in Her Majesty's Public Record Office, London, Vol. 4, 1293-1301* (1875).

^d A. F. O'Brien, 'The royal boroughs, the seaport towns and royal revenue in medieval Ireland', *Journal of the Royal Society of Antiquaries of Ireland*, 118 (1988), pp. 14-15.

^e Dublin: H. B. Clarke, *Dublin, Part 1, to 1610*, Irish Historic Towns Atlas 11 (Dublin, 2002), p. 12 (estimates as high as 25,000 have been advanced: D. Dickson, 'Dublin', pp. 168-72 in S. J. Connolly, ed., *The Oxford companion to Irish History* (Oxford, 2nd edn. 2002), p. 169). Kilkenny: J. Bradley, 'Kilkenny', pp. 249-50 in S. Duffy, ed., *Medieval Ireland: an encyclopedia* (2005), p. 250. Wexford: estimated on the basis that in the late 1290s c.240 of its 366 burgages were occupied: H. B. Clarke, 'Decolonization and the dynamics of urban decline in Ireland, 1300-1550', pp. 157-92 in T. R. Slater, ed., *Towns in decline AD 100-1600* (Aldershot, 2000), p. 170.

^f J. de Vries, *European urbanization 1500-1800* (1984), p. 271.

Table 7. *England and Wales, Scotland, and Ireland: conjectural urban populations c. 1290*

Urban population (‘000s)	England & Wales ^a		Scotland ^b		Ireland ^c		Britain & Ireland	
	Approx. no. of towns	Approx. total pop ⁿ (‘000s)	Approx. no. of towns	Approx. total pop ⁿ (‘000s)	Approx. no. of towns	Approx. total pop ⁿ (‘000s)	Approx. no. of towns	Approx. total pop ⁿ (‘000s)
50 - <100,000	1	70					1	70
20 - <50,000	1	23					1	23
10 - <20,000	3	39			1	12	4	51
5 - <10,000	19	134	3	c. 19	1	6	23	159
Total ≥5,000	24	266	3	c. 19	2	18	29	303
2 - <5,000	c. 39	c. 113	c. 2	c. 5	c. 5	c. 16	c. 46	c. 134
Total ≥2,000	c. 63	c. 379	c. 5	c. 24	c. 7	c. 34	c. 75	c. 437
All other towns ^d	c. 757	c. 258	c. 45	c. 34	c. 98	c. 60	c. 900	c. 352
Overall total	820	c. 637	50	c. 58	105	c. 94	975	c. 789

Notes and sources:^a Table 4.^b Table 5.^c Table 6.^d England and Wales: C. Dyer, ‘Small towns 1270-1540’ and R. A. Griffiths, ‘Wales and the Marches’ pp. 505-40 and pp. 681-714 in D. M. Palliser, ed., *The Cambridge urban history of Britain*, I, 600-1540 (Cambridge, 2000), pp. 506-8, 681. Scotland: P. G. B. McNeill and H. L. MacQueen, eds., *Atlas of Scottish history to 1707* (Edinburgh, 1996), p. 198. Ireland: B. J. Graham, ‘The high middle ages: c.1100 to c.1350’ pp. 58-98 in B. J. Graham and L. J. Proudfoot, eds., *An historical geography of Ireland* (1993), pp. 82-3.

Table 8. *Shares of English, Scottish, and Irish customs revenues contributed by English ports 1289-90, Scottish ports 1328-33, and Irish ports 1290*

English ports 1289-90:			Scottish ports 1328-33			Irish ports 1290:		
Head port	Total customs revenue	% of English customs revenue	Head port	Total customs revenue	% of Scottish customs revenue	Head port	Total customs revenue	% of Irish customs revenue
Boston	£3,361	32.7	Berwick	£657	30.2	New Ross	£493	28.9
London	£3,241	31.5	Aberdeen	£497	22.9	Waterford	£434	25.4
Hull	£1,289	12.5	Edinburgh	£423	19.4	Cork	£322	18.8
Southampton	£871	8.5	Dundee	£293	13.5	Drogheda	£195	11.4
Lynn	£522	5.1	Linlithgow	£111	5.1	Dublin	£164	9.6
Newcastle	£470	4.6	Perth	£93	4.3	Youghal	£39	2.3
Shoreham	£150	1.5	Inverness	£29	1.3	Ulster ports	£29	1.7
Ipswich/Dunwich	£93	0.9	Cupar	£20	1.1	Galway	£16	1.0
Sandwich	£88	0.9						
Chichester	£193	1.9	Inverkeithing	£53	2.5	Dingle	£16	1.0
Weymouth/Poole			Elgin & Forres			Limerick		
Seaford			Stirling			Wexford		
Yarmouth			Ayr					
Exeter			Montrose					
Bristol			Wigtown					
			Dumbarton					
Total duty paid	£10,280	100.0	Total duty paid	£2,176	100.0	Total duty paid	£1,708	100.0

Notes and sources:

All duty costed in £ sterling according to the Ancient Custom of 1275 paid equally by alien and denizen merchants on wool, woolfells, and hides. For sources, see Table 10.

Table 9. *English ports 1289-90, Scottish ports 1328-33, and Irish ports 1290 ranked according to customs duty paid*

Rank	Port	Total customs duty paid @ 1275 rates	Estimated % of total British & Irish customs duty paid
1	Boston	£3,361	23.7
2	London	£3,241	22.9
3	Hull	£1,289	9.1
4	Southampton	£871	6.2
5	Berwick (1328-33)	£657	4.6
6	Lynn	£522	3.7
7	Aberdeen (1328-33)	£497	3.5
8	New Ross	£493	3.5
9	Newcastle	£470	3.3
10	Waterford	£434	3.1
11	Edinburgh (1328-33)	£423	3.0
12	Cork	£322	2.3
13	Dundee (1328-33)	£293	2.1
14	Drogheda	£195	1.4
15	Dublin	£164	1.2
16	Shoreham	£150	1.1
17	Linlithgow (1328-33)	£111	0.8
18	Ipswich & Dunwich	£93	0.7
19	Perth (1328-33)	£93	0.7
20	Sandwich	£88	0.6
	All other English ports	£193	1.4
	All other Scottish ports (1328-33)	£102	0.7
	All other Irish ports	£102	0.7
	Total	£14,164	100.0

Notes and sources:

All duty costed in £ sterling according to the Ancient Custom of 1275 paid equally by alien and denizen merchants on wool, woolfells, and hides. For sources, see Table 10.

Table 10. *Estimated annual gross value and quantities of dutiable exports of wool, woolfells, and hides: England 1289-90, Scotland 1328-33, and Ireland 1290*

Year	England (& Wales) ^a	Scotland ^b	Ireland ^c	Britain & Ireland
A) <i>Total value of export duty paid @ £0.33 per sack of wool, per 300 woolfells, & per 100 hides^d:</i>				
1289-90	£10,285			} c. £14,165
1290			£1,708	
1328-33 (6-yr. mean)		£2,176		
% share of British & Irish total	c. 73%	c. 15%	c. 12%	100%
B) <i>Estimated total number of fleeces exported @ 260 per sack:</i>				
1289-90	8.1m.			} c. 10.9m.
1290			c. 1.2m.	
1328-33 (6-yr. mean)		1.6m.		
% share of British & Irish total	c. 74%	c. 15%	c. 11%	100%
C) <i>Estimated total number of hides exported @ 200 per last:</i>				
1289-90	60,000			} c. 155,000
1290			c. 51,000	
1328-33 (6-yr. mean)		44,000		
% share of British & Irish total	c. 39%	c. 28%	c. 33%	100%
D) <i>Estimated total value of dutiable exports @ £8.85 per sack of English wool, £7.84 per sack of Scottish wool, £7.00 per sack of Irish wool, £20 per last of English hides, £18 per last of Scottish hides, & £16 per last of Irish hides^e:</i>				
1289-90	c. £282,000			} c. £367,000
1290			c. £34,000	
1328-33(6-yr. mean)		c. £51,000		
% share of British & Irish total	c. 77%	c. 14%	c. 9%	100%

Notes and sources:

^a Data on English exports, Easter 1289 to Easter 1290 from S. Jenks, *The enrolled customs accounts: (TNA: PRO E 356, E 372, E 364) 1279/80-1508/09 (1523/1524)*, List and Index Society 303 (Kew, 2004); M. Kowaleski, ed. and trans., *The Havener's accounts of the earldom and duchy of Cornwall, 1287-1356*, Devon and Cornwall Record Society, new ser. 44 (Exeter, 2001), p. 69.

^b Data on Scottish exports are calculated from the quantities given in M. Rorke, 'Scottish overseas trade, 1275/86 – 1597' (unpub. Ph.D. thesis, Univ. of Edinburgh, 2001), pp. 490, 499, 508, 517, 526, 535.

^c Data on customs revenue per Irish port in 1290 are taken from T. E. McNeill, *Anglo-Norman Ulster: the history and archaeology of an Irish barony, 1177-1400* (Edinburgh, 1980), pp. 132-5 (NB hide exports are assumed to have contributed 10% of Irish duty, compared with 7% of Scottish, and 2% of English, with wool and woolfells accounting for the remainder).

^d All duty reckoned according to the Ancient Custom on wool, woolfells, and hides paid at £0.33 sterling per sack of wool, per 300 woolfells, and per half-last of hides, by denizen and alien merchants alike.

^e All commodities are valued at English sterling prices c.1290. Prices of English and Scottish wool exports, c.1290/94, are taken from J. H. Munro, 'Wool price schedules and the qualities of English wools in the later middle ages', *Textile History*, 9 (1978), pp. 131-2: Scottish wools are valued at 90% the price of English wools and, in the absence of explicit evidence, exported Irish wools are assumed to have commanded 90% the price of Scottish wools, due to the lesser quality of the Irish product. Prices of English hides are taken from J. E. Thorold Rogers, *A history of agriculture and prices in England*, I, 1259-1400 (Oxford, 1866), p. 451: Scottish hides are assumed to have commanded c. 90% of the price of English hides (E. Gemmill and N. Mayhew, *Changing values in medieval Scotland: a study of prices, money, and weights and measures* (Cambridge, 1995), p. 280), and Irish hides c.90% the price of Scottish hides.

Table 11. *Estimated volume of currency: England (and Wales), Scotland, and Ireland, c.1290*

Year	Estimated volume of currency (£m.)			
	England (& Wales) ^a	Scotland ^b	Ireland ^c	Britain & Ireland
c.1250	0.465 ± 0.015	0.055 ± 0.005	c.0.043m.	0.563 ± 0.020
c.1282	0.850 ± 0.050	0.155 ± 0.025	≤ c.0.060m.	1.065 ± 0.075
c.1290	1.150 ± 0.150	0.155 ± 0.025	≤ c.0.065m.	1.370 ± 0.175
% British & Irish total c.1290	c. 83%	c. 13%	c. 5%	100%
Growth c.1250-82	+83%	+182%	+40%	+89%
Growth c.1250-90	+147%	+182%	+51%	+143%

Notes and sources:

^a In the absence of a native Welsh coinage, English mints effectively supplied both England and Wales and English coins also circulated widely in Ireland and Scotland. M. Allen, 'The volume and composition of the English silver currency, 1279-1351', *British Numismatic Journal* 70 (2000), pp. 43-4; M. Allen, 'The volume of English currency, 1158-1470', *Economic History Review*, 2nd ser., LIV (2001), p. 603; M. Allen, 'The quantity of money in England 1180-1247: new data', *British Numismatic Journal*, 75 (2005), pp. 48-9.

^b N. Mayhew, 'Alexander III – a silver age? An essay in Scottish medieval economic history', pp. 53-73 in N. H. Reid, ed., *Scotland in the reign of Alexander III 1249—1286* (Edinburgh, 1990), pp. 61-2; N. J. Mayhew, 'Scotland: economy and society', pp. 107-24 in S. H. Rigby, ed., *A companion to Britain in the later middle ages* (Oxford, 2003), pp. 112-13.

^c M. Dolley, 'Coinage to 1534: the sign of the times', pp. 816-26 in A. Cosgrove, ed., *A new history of Ireland, II, Medieval Ireland 1169-1534* (Oxford, 1987), pp. 820-1; Mayhew, 'Alexander III – a silver age?', pp. 61-2.

Table 12. *Absolute and relative surface areas of England, Wales, Scotland, and Ireland*

	England	Wales	Scotland	Ireland	Britain & Ireland
Land area (mile ²) below 500 feet	39,453	3,257	11,924	25,609	80,243
Land area (mile ²) above 1,000 feet	3,114	2,199	9,195	1,408	15,916
Land area (mile ²)	50,362	8,019	30,414	32,589	121,384
% national land area below 500 feet	78%	41%	40%	79%	66%
% national land area above 1,000 feet	6%	27%	31%	4%	13%
% national land area	100%	100%	100%	100%	100%
% Br. & Ir. land area below 500 feet	49%	4%	15%	32%	100%
% Br. & Ir. land area above 1,000 feet	20%	14%	58%	9%	100%
% Br. & Ir. land area	41%	7%	25%	27%	100%

Note: I am grateful to Lorraine Barry for supplying these data.

Table 13. *Some comparative measures of the economies of England, Wales, Scotland, and Ireland, c. 1290*

Variable	England	Wales	Scotland	Ireland
Estimated % share of British & Irish total:				
Land area	41	7	25	27
Lowland area	49	4	15	32
Religious houses	70	3	6	21
Regular clergy	64-77	3-5	6-7	14-24
Benefices/parishes	68	5	8	20
Ecclesiastical wealth (spiritualities)	76	3	13	c. 8
Large towns (2,000+)	83	1	7	9
All towns	74	10	5	11
Urban population	c. 77	c. 3	c. 7	c. 13
Dutiable exports		77	c. 14	9
Currency	c. 83		c. 13	c. 5
Relative to total land area:				
Religious houses per 100 miles ²	2.08	0.56	0.29	0.97
Mean size of parish (miles ²)	6.1	14.3	31.7	13.6
Ecclesiastical wealth per 100 miles ²	£253	£65	£63	£40
Number of towns per 100 miles ²	1.43	1.25	0.16	0.32
Dutiable exports per 100 miles ²	£560		£170	£100
Relative to lowland area below 500 feet:				
Religious houses per 100 miles ²	2.66	1.4	0.75	1.23
Mean size of parish (miles ²)	4.8	5.8	12.4	10.7
Ecclesiastical wealth per 100 miles ²	£323	£161	£161	£51
Number of towns per 100 miles ²	1.82	3.07	0.42	0.41
Dutiable exports per 100 miles ²	£660		£428	£133

Sources: Tables 1, 2, 3, 7, 10, 11, & 12.

Table 14. *England: estimated county populations in 1290 and 1756*

County	Estimated total population in 1290 based on:			Estimated population (C) per mile ²	Estimated population 1756
	(A) 1290 & 1327/32 subsidies	(B) 1377 poll tax	(C) Mean of (A) & (B)		
Bedfordshire	54,041	58,834	56,438	119	58,418
Berkshire	51,772	65,730	58,751	78	90,649
Buckinghamshire	74,613	71,367	72,990	98	86,164
Cambridgeshire	115,646	84,616	100,131	115	76,622
Cheshire	30,336	42,811	36,573	38	113,497
Cornwall	29,392	99,143	64,268	46	139,067
Cumberland	50,988	36,213	43,600	28	85,465
Derbyshire	71,432	70,259	70,846	70	106,207
Devon	124,475	137,982	131,228	50	323,178
Dorset	82,596	99,047	90,821	88	93,117
Durham	63,551	39,340	51,445	52	137,159
Essex	141,143	147,285	144,214	94	190,270
Gloucestershire	128,009	131,077	129,543	104	214,030
Hampshire	79,185	113,178	96,182	60	141,436
Herefordshire	61,035	48,368	54,701	65	74,252
Hertfordshire	71,160	57,781	64,470	103	80,612
Huntingdonshire	55,718	40,986	48,352	131	31,902
Kent	137,756	171,971	154,864	99	177,844
Lancashire	51,320	69,076	60,198	31	335,003
Leicestershire	59,229	97,861	78,545	94	96,629
Lincolnshire	325,121	275,145	300,133	112	161,598
London & Middlesex	65,158	99,961	82,559	279	622,232
Norfolk	409,910	282,950	346,430	168	233,276
Northamptonshire	122,557	120,629	121,593	122	117,911
Northumberland	124,663	48,622	86,642	43	146,564
Nottinghamshire	59,367	83,554	71,460	86	89,628
Oxfordshire	76,405	79,079	77,742	105	94,075
Rutland	19,914	17,339	18,626	123	12,380
Shropshire	96,509	77,603	87,056	65	132,922
Somerset	127,121	162,202	144,661	89	234,616
Staffordshire	47,745	65,053	56,399	49	148,200
Suffolk	190,063	180,970	185,516	124	168,247
Surrey	68,719	52,181	60,450	80	140,676
Sussex	103,896	104,699	104,297	71	99,439
Warwickshire	73,096	87,543	80,319	83	131,538
Westmorland	28,435	21,373	24,904	31	37,904
Wiltshire	134,574	132,556	133,565	101	165,747
Worcestershire	50,906	46,568	48,737	69	100,967
Yorkshire, E. Riding	97,466	122,816	110,141	93	77,626
Yorkshire, N. Riding	137,754	116,958	127,356	59	113,367
Yorkshire, W. Riding	107,226	139,278	123,252	43	319,566
ENGLAND	4,000,000	4,000,000	4,000,000	79	6,000,000

Notes:

Estimates (A), (B), and (C) all assume a total national population of 4.0m..

Estimate (A) = (((taxable wealth per county in 1290) ÷ (taxable wealth per taxpayer in 1327/32)) ÷ (total estimated taxpayers 1290)) × 4.0m.

Estimate (B) = ((poll tax payers per county in 1377) ÷ (total poll tax payers in 1377)) × 4.0m.

Taxpayer numbers for Cheshire, Durham, and Northumberland (in *Italics*) derived by interpolation from taxpayer densities in immediately neighbouring counties.

Estimated population in 1756 = ((population per county in 1751) ÷ (total population in 1751)) × 6.0m.

Sources:

Taxable wealth per county in 1290: S. Jenks, 'The lay subsidies and the state of the English economy (1275-1334)', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte* 85 (1998), p. 31.

Taxable wealth per taxpayer in 1327/32: B. M. S. Campbell and K. Bartley, *England on the eve of the Black Death: an atlas of lay lordship, land and wealth, 1300-49* (Manchester, 2006), pp. 338-9 (except for the following estimates - Buckinghamshire £2.4, Northumberland £1.9, and Yorkshire East Riding £2.0 – substituted due to missing/defective data).

Poll tax payers per county in 1377: R. B. Dobson, *The Peasants' Revolt* (2nd edn. 1983), pp. 55-7.

Population per county in 1751: P. Deane and W. A. Cole, *British economic growth 1688-1959* (Cambridge, 1969), p. 103.

Table 15. *Alternative estimates of the populations of England, Wales, Scotland, and Ireland, c. 1290*

Variable	England	Wales	Scotland	Ireland	Britain & Ireland
Historical estimates of population c.1290 ^a	3.5-5.5m.	0.2-0.3m.	0.5-1.0m.	0.8-1.0m.	5.0-7.8m.
Assumed mean population per parish ^b	486	335-486	486-670	335-670	463-486
Population implied by number of parishes ^c	4.00m.	0.19-0.27m.	0.47-0.64m.	0.80-1.61m.	5.63-6.52m.
Estimated/assumed population per mile ² in 1290 ^d	79	36 ± 5	35 ± 4	42 ± 4	55 ± 2
Relative population per mile ² in 1290	100	46 ± 6	44 ± 5	53 ± 5	70 ± 3
Relative population per mile ² in 1751/5 ^e	100	65	0.35	63	72
Estimated population in 1751/5 ^e	6.0m.	0.6m.	1.3m.	2.4m.	10.3m.
A) Numbers implied by presumed population densities in 1290 ^d	4.00m.	0.25-0.33m.	0.93-1.17m.	1.25-1.50m.	6.43-7.00m.
B) Potential population in 1290 if English population = 5.0m. ^f	5.00m.	0.31-0.41m.	1.16-1.46m.	1.56-1.88m.	8.03-8.75m.
C) Potential population in 1290 if English population = 5.5m. ^f	5.50m.	0.34-0.45m.	1.28-1.61m.	1.72-2.06m.	8.84-9.62m.

Notes and sources:

^a England: B. M. S. Campbell, *English seigniorial agriculture 1250-1450* (Cambridge, 2000), pp. 399-406. Wales: J. C. Russell, *British medieval population* (Albuquerque, 1948), pp. 360-1; K. Williams-Jones, ed., *The Merioneth lay subsidy roll 1292-3* (Cardiff, 1976), pp. xxxv-lix; R. R. Davies, *The age of conquest: Wales 1063-1415* (Oxford, 1991), pp. 146-7. Scotland: Russell, *British medieval population*, p. 363; A. A. M. Duncan, *Scotland, the making of the kingdom* (Edinburgh, 1975), p. 309; A. Grant, *Independence and nationhood: Scotland 1306-1469* (Edinburgh, 1984), pp. 72-3; E. Gemmill and N. Mayhew, *Changing values in medieval Scotland: a study of prices, money, and weights and measures* (Cambridge, 1995), pp. 8-9. Ireland: Russell, *British medieval population*, p. 362; R. E. Glasscock, 'Land and people, c.1300', pp. 205-39 in A. Cosgrove, ed., *A new history of Ireland, II, Medieval Ireland 1169-1534* (Oxford, 1987), p. 212; H. B. Clarke, 'Population', pp. 383-4 in S. Duffy, ed., *Medieval Ireland: an encyclopedia* (2005), p. 384. Britain and Ireland: the sum of the previous estimates.

^b England: assuming a total population of 4.0m. and 8,230 parishes. Wales: assuming a minimum mean parish population equivalent to that of the 590 poor and thinly peopled parishes in the diocese of Exeter as estimated from Table 14; Scotland: assuming a maximum mean parish population equivalent to that of the 979 large and wealthy parishes in the province of York as estimated from Table 14. Ireland: minimum assumption as for Wales, maximum assumption as for Scotland. Britain and Ireland: the product of the previous figures and estimates.

^c Method from Clarke, 'Population', p. 384; parish numbers from Table 2.

^d England: assuming a total population of 4.0m.. Wales: assuming mean population densities equivalent to those estimated for the English counties of Cornwall, Devon, Cheshire, Cumberland, and Westmorland (Table 14). Scotland: assuming all land above 1,000 feet was uninhabited and that maximum population densities elsewhere were equivalent to those estimated for the six northern English counties of Cumberland, Westmorland, Northumberland, Durham, Yorkshire, and Lancashire (Table 14). Ireland: assuming that mean population densities corresponded to those estimated for the western English counties of Cornwall, Devon, Somerset, Gloucestershire, Herefordshire, Cheshire, Lancashire, Cumberland, and Westmorland (Table 14). All land areas from Table 12.

^e Total populations and relative population densities estimated from P. Deane and W. A. Cole, *British economic growth 1688-1959: trends and structure* (Cambridge, 1969), p. 103; E. A. Wrigley, and R. S. Schofield, *The population history of England 1541-1871: a reconstruction* (Cambridge, 2nd edn. 1989), pp. 208-9; L. Kennedy and L. A. Clarkson, 'Birth, death, and exile: Irish population history, 1700-1921', pp. 158-84 in B. J. Graham, and L. J. Proudfoot, eds., *An historical geography of Ireland* (1993), pp. 160-1.

^f Following the same method as Estimate A but assuming correspondingly higher population densities for Wales, Scotland, and Ireland.

Table 16. *Some demographic and per capita measures of English, Welsh, Scottish, and Irish economic development, c.1290*

Variable	England	Wales	Scotland	Ireland	Lordship of Ireland	Britain & Ireland
Estimated population	4.0m.	0.3m.	0.8m.	1.3m.	c.0.7m.	6.4m.
People per mile ²	79	37	26	40		53
People per mile ² lowland	101	92	67	51		80
Religious houses per million people	262	150	112	242		234
Regular clergy per 1,000 people	5.3	4.0	2.5	4.4		4.7
People per benefice/parish	490	535	835	540		530
<i>Per capita</i> ecclesiastical wealth	7.6d.	4.2d	6.4d.	2.4d.	c.3.2d.	6.3d.
Towns per million people	180	333	63	81	c.160	152
Large towns (2,000+) per million people	16	3	6	5	10	12
Proportion living in the capital(s)	1 in 60	0	1 in 160	1 in 85	c.1 in 60	1 in 110
% urbanised	15%	9%	7%	7%	c.14%	12%
% living in towns of 2,000+	9%	>1%	3%	3%	c.5%	7%
<i>Per capita</i> exports	15.7d.		≥15.3d.	6.3d.	c.12.6d.	13.8d.
<i>Per capita</i> money supply	64d.		47d.	12d.	c.24d.	51d.

Sources: Tables 1, 2, 3, 7, 10, 11, 12, & 15. All figures are approximate.

Table 17. *A hypothetical socio-economic profile of England and Wales c.1290*

Socio-economic group	Approx. no. of families/ households	% of <i>families/ households</i>	Arable land per family/ household (acres)	% of <i>arable area of 11.3m. acres</i>	Mean income per family/ household	% of total <i>GDP of £3.6m.</i>
Landowners (spiritual lords, aristocracy, gentry, clergy)	22,250	2%	96.5	19%	£26	16%
Substantial tenants	10,000	1%	60.0	5%	£10	3%
Yardlanders	150,000	15%	30.0	40%	£5	21%
Smallholders	250,000	25%	12.5	28%	£3	21%
Cottagers, labourers, rural craftsmen, paupers, & vagrants	382,750	39%	2.3	8%	£2	21%
AGRARIAN SUB-TOTAL	815,000	83%	13.9	100%	£4	82%
Minor clergy, lawyers, professionals, merchants, tradesmen, builders, craftsmen, urban labourers.	37,000	14%	0	0%	} £4 }	} 18%
Miners, men-at-arms, sailors & fishermen	30,000	3%	0	0%		
NON-AGRARIAN SUB-TOTAL	167,000	17%	0	0%	£4	18%
OVERALL TOTAL ENGLAND AND WALES	982,000	100%	13.9	100%	£4	100%

Notes: all estimates are approximate and assume a total English & Welsh population of 4.3m., mean family/household size of 4.4, total English & Welsh arable area of 11.3m. acres, two-thirds of demesne arable kept in hand and one-third leased to tenants, and the mean incomes per household as stated.

Sources: Landowners' incomes from B. M. S. Campbell, 'The agrarian problem in the early fourteenth century', *Past and Present*, 188 (2005), pp. 12-13; all other incomes from N. J. Mayhew, 'Modelling medieval monetisation', pp. 55-77 in R. H. Britnell and B. M. S. Campbell, eds., *A commercialising economy: England 1086 to c.1300* (Manchester, 1995), p. 58 [as adapted from C. C. Dyer, *Standards of living in the later middle ages: social change in England c.1200-1520* (Cambridge, 1989)]. Size distribution of tenancies derived from the 1278-9 hundred rolls as tabulated by R. C. Allen, *Enclosure and the yeoman: the agricultural development of the south midlands 1450-1850* (Oxford, 1992), pp. 62-3. Number of urban households from Tables 7 and 16.

Figure 1. *Irish customs revenues and government revenues, 1275-1349*

Sources and methods: calculated from H. G. Richardson and G. O. Sayles, 'Irish revenue, 1278-1384', *Proceedings of the Royal Irish Academy*, Section C, 62 (1961-3), pp. 87-100; T. E. McNeill, *Anglo-Norman Ulster: the history and archaeology of an Irish barony, 1177-1400* (Edinburgh, 1980), pp. 132-5.

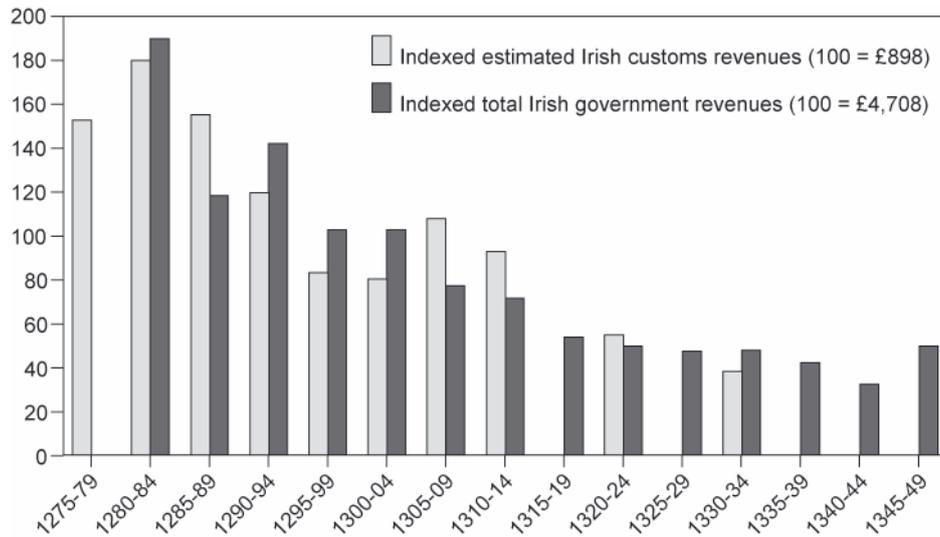


Figure 2. *British and Irish towns and dutiable trade circa 1290*

Sources: Tables 4, 6, 6, and 8.

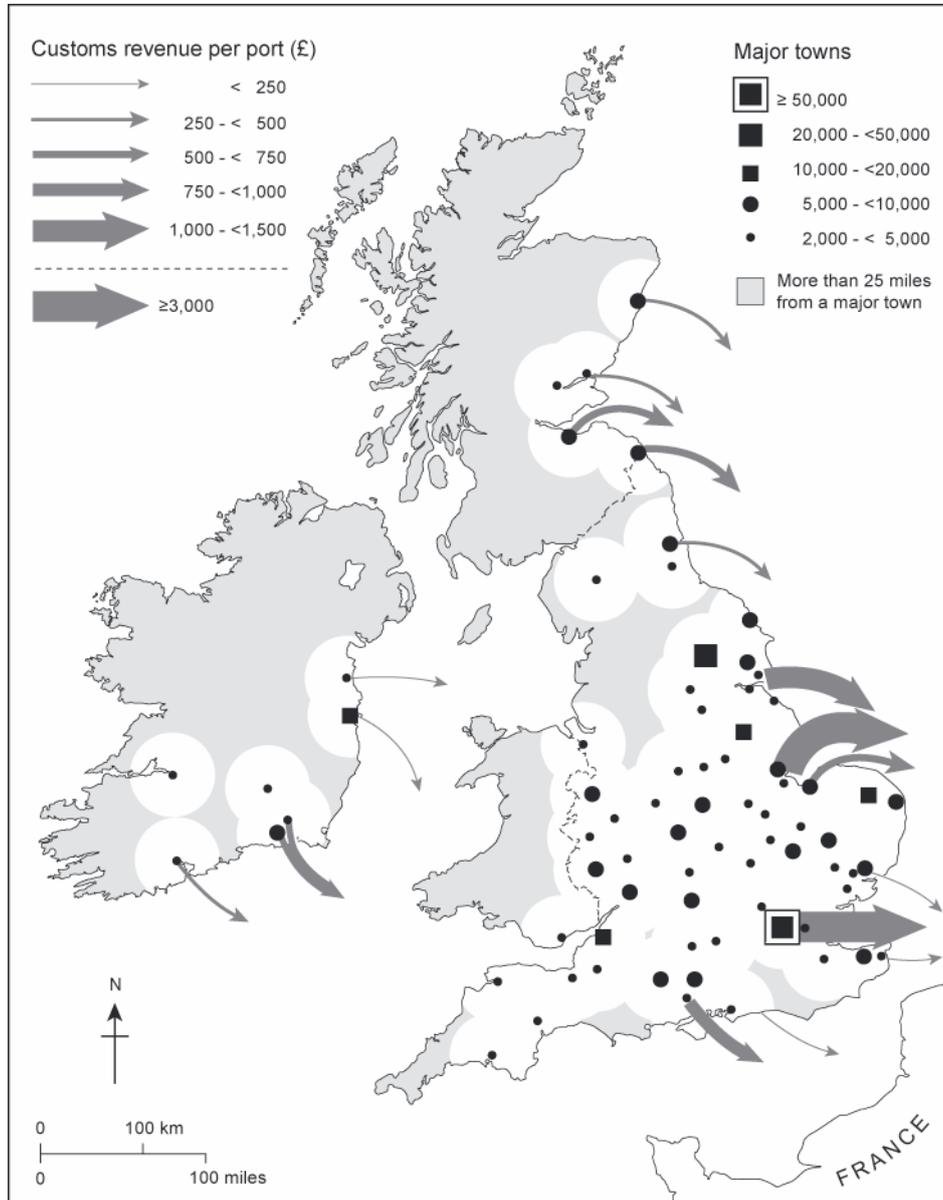


Figure 3. *Income of the Church from spiritualities in England, Wales, and Scotland (1291) and from spiritualities and temporalities in Ireland (1303-06)*

Sources: Tables 3 and S. Davnall, J. Denton, S. Griffiths, D. Ross, and B. Taylor, 'The *Taxatio* database', *Bulletin of the John Rylands University Library of Manchester*, 74, 3 (1992), pp. 100-08.

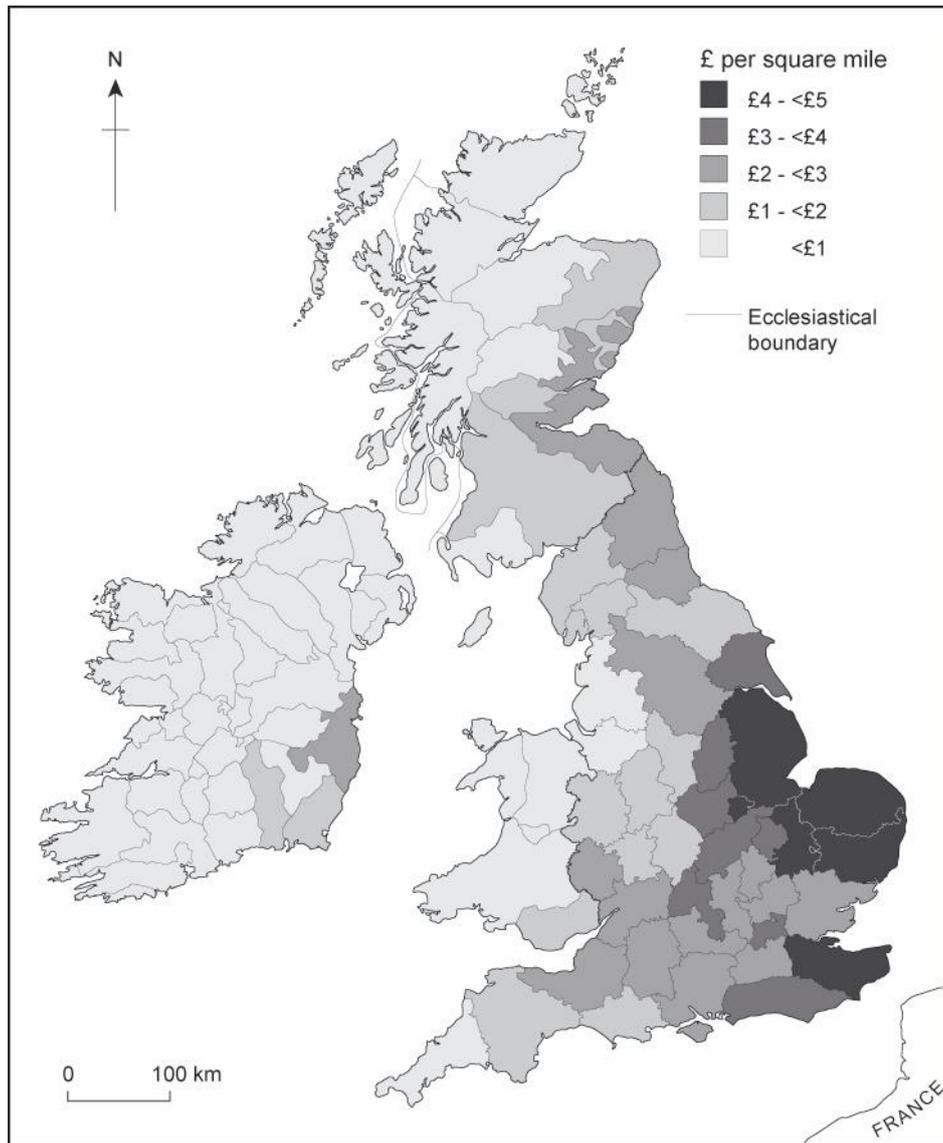


Figure 4. *England and Wales: estimated population density per county in 1290*

Sources: Table 14 (Estimate C).

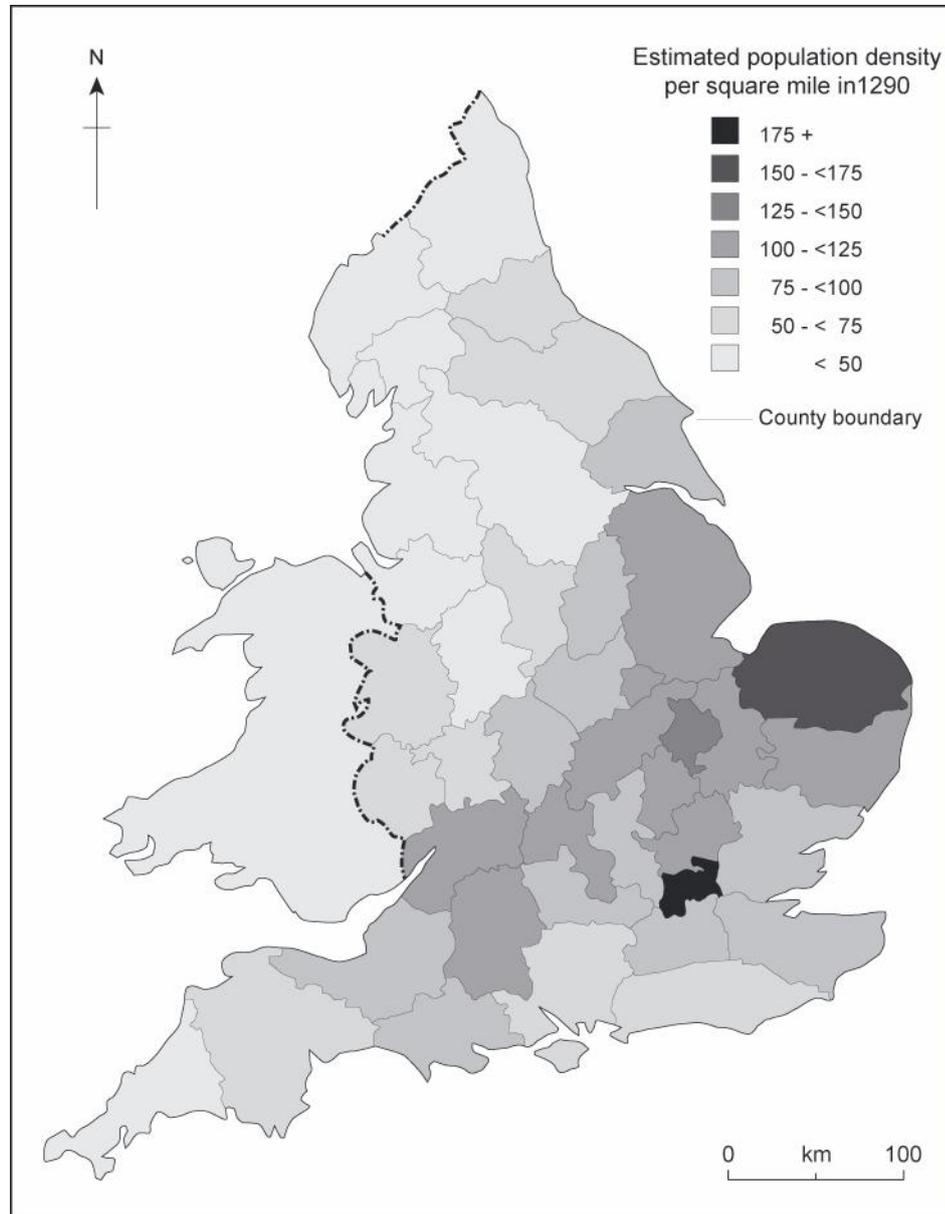
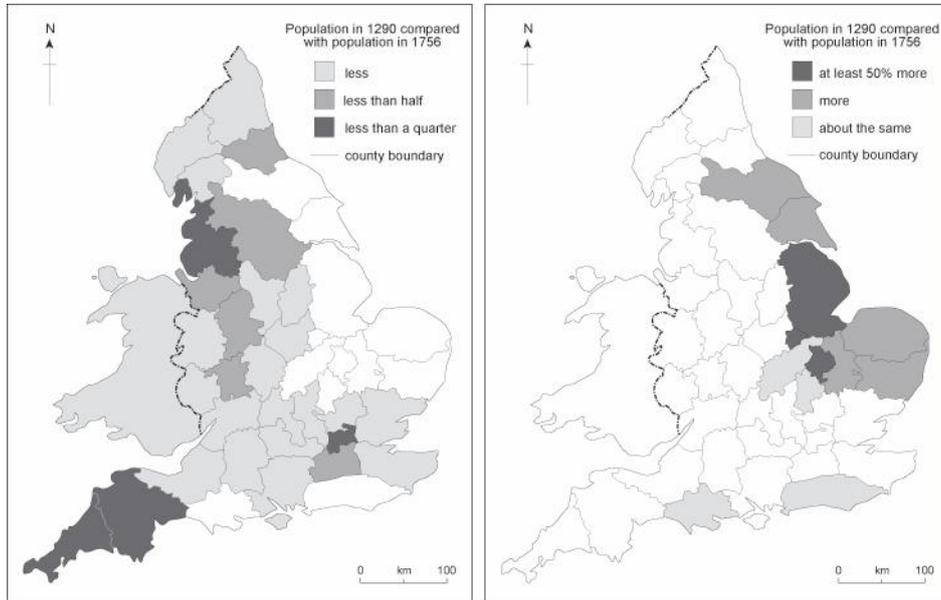


Figure 5. *England and Wales: estimated population change per county between 1290 and 1756*

Sources: Table 14.



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