

The role of demesnes in the trade of agricultural horses in late medieval England*

by Jordan Claridge

Abstract

This paper explores the question of how medieval England was supplied with working horses. It uses a national sample of over 300 manorial accounts from c.1300 to assess the role of demesnes in the production and distribution of these animals. It finds that demesnes were significant net consumers of horses, relying primarily upon the market for their supply. This illustrates that there was a well-established market for these animals by c.1300, but also that these large institutional farms did not breed enough horses to sustain their own demand, let alone a surplus that could have supplied the market. Demesne managers did, however, fill an important distributive role in the trade of agricultural horses by acting as 'middle men' in marshalling the various channels of work horse acquisition and dispersion.

This paper examines the role of demesnes – the farms of lords, as opposed to the lands of their peasant tenants – in the trade of agricultural horses in medieval England. The introduction of horse power is recognized to have been a major factor in the development of the medieval English economy, and historians have uncovered a wealth of information about various aspects of medieval horse exploitation, such as their use in agriculture and transport, which increased labour productivity in farming and the efficiency of overland transport.¹ By 1300,

* I am grateful for research support provided by the Economic History Society in the form of a Postan post-doctoral fellowship and for a doctoral fellowship funded by the Social Sciences and Humanities Research Council of Canada. I would like to extend thanks to the archivists and staff at various record offices across England, to Philip Slavin for access to his collection of photographed manuscripts from the Norfolk and Northamptonshire Record Offices, to Xuesheng You for lending his GIS expertise to Map 1, to the British Library for permission to reproduce Figures 1-3, and to Catherine Glover for thorough copy editing. This paper, in various forms, has benefited from pertinent and useful feedback from Mark Bailey, Filip Ani and Eugene Miakinkov as well as economic history seminar participants at the University of Cambridge, the Institute of Historical Research, the London School of Economics and Utrecht University (in particular Bram van Besouw, Maïka de Keyzer, and Joris Roosen). The paper has also benefited from comments, queries and suggestions from Richard Hoyle and the *Review's* referees. I would like to extend heartfelt thanks to John Langdon, who passed away shortly before I completed this paper. He initially piqued my interest in medieval economic history when I was an undergraduate at the University of Alberta and went on to become a colleague, co-author and friend. John fostered this research in its earliest stages and it is to him that this article is dedicated. As always, any errors are my own.

¹ For additional work on the application of horses in agriculture and transport, as well as the changing dynamic between oxen and horses, see John Langdon, 'Horse hauling: A revolution in vehicle transport in twelfth- and thirteenth-century England?', *Past and Present* 103 (1984), pp. 37–66.

draught horses were well-established as a significant source of energy for both farming and transport.² However, the production of these animals and their distribution has remained poorly understood.³ This paper uses a national sample of over 300 manorial accounts from c.1300 to assess the role of demesnes in the production and distribution of working horses. It finds that demesnes were significant net consumers of horses but did not breed enough horses to sustain their own demand, let alone a surplus that could have supplied the market. This suggests that there was a well-established market for these animals by the end of the thirteenth century. Lords and demesne managers tended to pursue policies of market-orientation rather than self-sufficiency when it came to furnishing their operations with draught horses. Demesnes (and their managers) did, however, fill an important distributive role in the trade of agricultural horses by acting, perhaps inadvertently, as ‘middle men’ in marshalling the various channels of work horse acquisition and dispersion.

I

The seigneurial sector is the best-documented component of England’s late medieval agrarian economy. The records of medieval English landlords, who held between 25 and 30 per cent of agricultural land in England,⁴ give us unparalleled insight into the characteristics and productivity of agriculture.⁵ This article employs manorial accounts, a specific type of seigneurial document that recorded, in very high resolution, the business of lords’ demesne farms. These accounts contain information on a year-to-year basis including rents received from tenants, the costs of repairs to buildings and farm implements, the wages paid to labourers, and, usefully, for our purposes, very detailed information on the types and number of animals kept on the farm and how they were acquired and dispersed. The accounts are also very well standardized;

² While there was considerable regional variation, horses accounted for between 25 and 30 per cent of demesne draught animals c.1300. John Langdon, *Horses, oxen and technical innovation: the use of draught animals in English farming from 1066–1500* (1986), pp. 86–93, esp. Tables 12 and 13.

³ For example, Bruce Campbell commented in his authoritative work on seigneurial agriculture that ‘little is as yet known about the medieval horse trade’. Bruce M. S. Campbell, *English seigniorial agriculture, 1250–1450* (2000), p. 126, n. 45.

⁴ Campbell, *English seigniorial agriculture*, p. 26. The size of demesnes varied widely from estate to estate and manor to manor. Therefore, there is no ‘usual’ or ‘standard’ size of demesne. In a study of the Hundred Rolls of 1279–80 from Huntingdonshire, Cambridgeshire, Bedfordshire, Buckinghamshire, Oxfordshire and Warwickshire, Kosminsky calculated that of over half a million acres under cultivation, 31.8 per cent was demesne, 40.5 per cent was villein land and 27.7 per cent was held by free tenants. E. A. Kosminsky, *Studies in the agrarian history of England in the thirteenth century*

(1956), p. 89; Bruce M. S. Campbell, ‘Benchmarking medieval economic development: England, Wales, Scotland, and Ireland, c. 1290’, *EcHR* 61 (2008), p. 940; Campbell, *English seigniorial agriculture*, pp. 58–60.

⁵ The divergence in both the practice and productivity of agriculture between seigniorial demesnes and the lands of peasant tenants has been well established. Research on the agricultural activity of peasants and how it differed from the seigneurial sector is continuing. For examples see Alexandra Sapoznik, ‘The productivity of peasant agriculture: Oakington, Cambridgeshire, 1360–99’ *EcHR* 66 (2013), pp. 518–44; R. H. Hilton, *The English peasantry in the later middle ages* (1975), p. 13; Mark Bailey, ‘Peasant welfare in England, 1290–1348’, *EcHR* 51 (1998), p. 228; Eona Karakacili, ‘English agrarian labor productivity rates before the Black Death: a case study’ *JEcHist.*, 64 (2004), p. 36; David Stone, *Decision-making in medieval agriculture* (2005), pp. 267–86; Bruce Campbell, ‘Constraint or constrained? Changing perspectives on medieval English agriculture’, *Neha-Jaarboek voor economische, bedrijfs- en techniekgeschiedenis*, pp. 61, 19.

they are largely consistent throughout the country and across time, both in the type of information they contain and the format of the documents themselves.⁶ It is their uniformity of format and content which allows for easy comparison over time and place. This article uses a national sample of 322 manorial accounts from around the year 1300 containing data for about 2650 horses.⁷ This sample covers much of the country and allows an examination of the ways in which demesnes acquired, managed and marketed agricultural horses in medieval England.

A sample of accounts was chosen concentrated in a relatively narrow range of years around 1300, effectively encompassing the decades of the 1290s and the 1300s.⁸ Since accounts normally ran from Michaelmas (29 September – the traditional end of the harvest) to Michaelmas of the following year, this meant examining accounts in the range from 1289/90 to 1310/11, resulting in a total span of 22 years. The sample was further narrowed by taking only one account per manor, normally that closest to the year 1300 (1299–1300 was the account year normally preferred, if an account survived), to ensure that no ‘double counting’ occurred within the sample.⁹ The search for extant documents within these parameters turned up over 500 manuscripts. Some of these accounts proved fruitless for the purposes of our study, usually in cases where the demesne did not stock any horses or the manuscript was too badly damaged. Further, only accounts which fully accounted for their horse stocks, with beginning and end-of-year figures as well as additions and subtractions, were deemed eligible for inclusion.¹⁰ The end result was a sample of 322 accounts, and hence manors, which form the basis of our examination of seigneurial involvement in the horse trade. The location of the manors can be seen in Map 1.

The sample is biased, due mostly to the imperfect survival of documents, towards the accounts of large ecclesiastical landlords. Lay landlords are generally under-represented and even those lay lords in the sample tend to be owners of large estates like the De Lacy and Clare families rather than smaller landowners. As Map 1 shows, the coverage of the sampled manors across the country is also uneven, being heavily skewed to the south and east of the country

⁶ See: Richard Britnell, ‘The Winchester Pipe Rolls and their historians’, p. 1; Bruce Campbell, ‘A unique estate and a unique source: the Winchester Pipe Rolls in perspective’, pp. 30–1, both in Richard Britnell (ed.), *The Winchester Pipe Rolls and medieval English society* (2003), Campbell, *English seigniorial agriculture*, p. 27.

⁷ As the number of horses on any given manor changed over the year, the overall sample has two discrete totals: one for the beginning of the year, and a second for the end of the year. In this sample, the total beginning and end figures were 2591 and 2576, respectively.

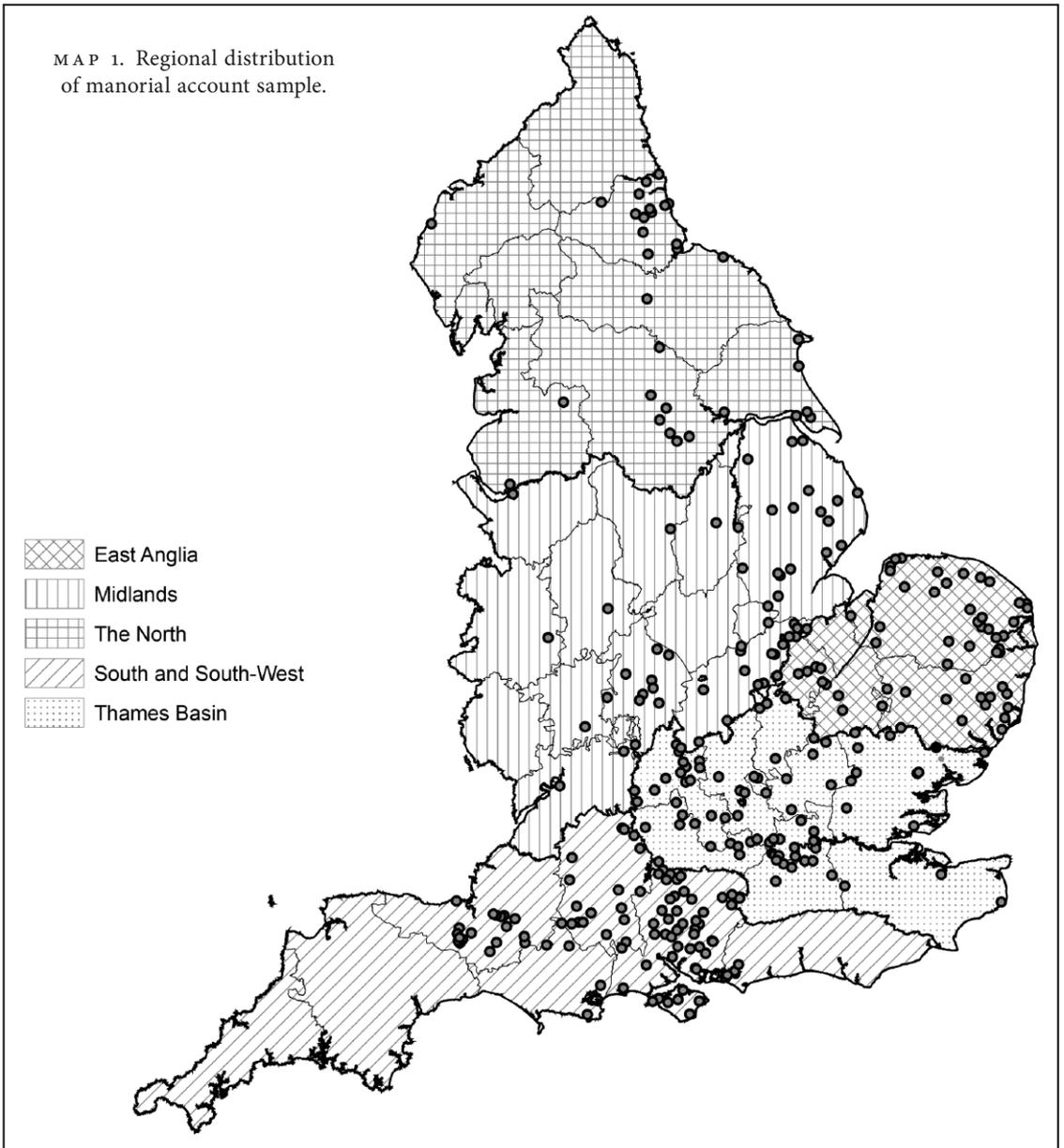
⁸ Philip Slavin, as part of his on-going project of documenting and digitizing the entire corpus of manorial accounts from the ‘direct farming’ period in England, estimates that over 20,000 manorial accounts are extant, out of around 400,000 that were likely to have been created between 1270 and 1400. Philip Slavin, ‘The sources for manorial and rural history’, in J. T. Rosenthal (ed.), *Understanding medieval primary*

sources: Using historical sources to discover medieval Europe (2012), 135. Dr Slavin now estimates that the figure for extant manorial accounts is around 25–27,000. Pers. Comm., 21 Apr. 2012.

⁹ Some exceptions were made if the nearest surviving account to 1300 was in obviously poorer shape than one a little further away in time, or if there was a convenient printed edition available for an alternate year, as in the excellent edition of the 1301–2 Bishopric of Winchester Pipe Roll: Mark Page (ed.), *The Pipe Roll of the bishopric of Winchester, 1301–2* (Hampshire Record Ser., 14, 1996).

¹⁰ Some accounts, especially in cases where the account covers less than a full year, simply have a live-stock ‘inventory’, which is not useful for this study. For example, six such inventories are extant from Durham Priory manors for the year 1302. Richard Britnell (ed.), *Durham Priory manorial accounts, 1277–1310* (Surtees Soc. 218, 2014), pp. 200–8.

MAP 1. Regional distribution
of manorial account sample.



with notable 'empty' areas such as the forest area of the Weald south of London, the extreme southwest (Devon and Cornwall), and the northern and western areas of the country generally. However, this distribution correlates broadly with the distribution of population and levels of relative economic development at that time,¹¹ which means that our sample can be taken to be representative of the English economy as a whole. Map 1 also shows the division of England into five regions which we will use in our analysis later.

¹¹ Campbell, 'Benchmarking', esp. Table 14, col. C (p. 926).

TABLE 1: Composition of Sample: Horse Types

<i>Type of Horse</i>	<i>n</i>	<i>%</i>
Affers	1069	40.4
Stotts	419	15.8
Young horses	417	15.7
Cart horses	397	15.0
Mares	269	10.2
<i>Equi</i>	66	2.5
Rouncies	5	0.2
Mill Horses	4	0.2
Stallions	2	0.1
Total	2648	100

Source: Author's manorial account database.

II

In medieval England, agricultural horses were used for a number of purposes and were known under a variety of, predominantly functional, terms. Table 1 illustrates the distribution of horse types in the national sample. The horses most commonly found on demesnes were affers and stotts, together comprising 56.2 per cent of all horses in the sample. These horses have generally been categorized in the literature as plough beasts, but could often serve 'all-purpose' roles, performing a variety of other tasks such as harrowing and sometimes even cartage.¹² Chaucer's Reeve is described as 'sat upon a ful good stot' in the general prologue of the *Canterbury Tales*,¹³ suggesting that they were also employed from time to time as riding animals. Stotts are found only in the records of south-east England and East Anglia, but the distinction between these and affers was largely nominal, down to institutional custom or perhaps even managerial or scribal preference.¹⁴

Carthorses were named explicitly in the accounts as *equi carectarii*. Nationally, these comprised 15 per cent of all horses on English demesnes, but a few estates kept considerably higher proportions. For example, they comprised over one third of all horses on the Midlands estate

¹² The general trend in the literature has been to use a binary understanding of agricultural horses, assigning them to one of two categories: carthorses or plough-horses. While we do encounter specifically named 'carthorses' in the accounts (*equi carectarii*), the singular term of 'plough-horse' was not actually part of the medieval nomenclature. Rather, the term 'plough-horse' is an umbrella term that has been used by historians to describe all except carthorses, most frequently affers and stotts (*affri* and *stotti* or the singular *affrus* and *stottus* in the Latin) but also *equi*. Thus, the binary

understanding of *equus carectarius* as 'carthorse' and *affrus* and *stottus* as 'plough-horse' is too simplistic and should be avoided.

¹³ *The Riverside Chaucer*, ed. Larry D. Benson (third edn, 2008), 33, line 615.

¹⁴ John Langdon has argued that there was little difference between stotts and affers, with 'stott' simply being an alternative term for the same type of horse. Our data supports this view. For a full disambiguation of medieval horse types, see Langdon's 'Problems of translation' appendix in *Horses, oxen*, pp. 293–7.

of Peterborough Abbey.¹⁵ These were more specialized than affers and stotts and this is reflected in their higher prices.¹⁶ Many carthorses may have been stronger, fitter and generally more robust than other types of horse, but much of their value was also due to a significant skill premium, added through a combination of superior temperament and additional training.¹⁷ Affers and stotts were most frequently employed drawing ploughs and harrows, and, while skill was required by both the beasts and the ploughmen, there was more margin for error on the field than on the road. Carthorses would necessarily have to be trusted with precious cargo in busy environments on roads and in markets. Figure 1 is an illustration from the famous fourteenth-century Luttrell Psalter of these animals at work. While an uncooperative or flighty plough-horse might make for slow and laborious work, a skittish carthorse could be a far more costly problem. While carthorses were most often male, and the terms 'affer' and 'stott' could be used to describe both male and female horses,¹⁸ female horses were more often referred to less ambiguously as *jumenta* and clearly understood in the context of the accounts as 'mares' or 'female horses'. These female horses comprised 10.2 per cent of the sample.¹⁹

At 15.7 per cent, a significant proportion of demesne horses were juvenile animals. Young horses were almost universally referred to with the term *pullanus*; this word is often translated as 'colt'²⁰ but is probably better understood as 'foal', as the use of the term often encompasses young horses of both sexes. These terms were at times used in a confusingly interchangeable way in the accounts themselves, and in these instances one must look further into other sections of the account to determine the sex of such animals.²¹ Demesnes with a sufficiently

¹⁵ Kathleen Biddick, *The other economy: Pastoral husbandry on a medieval estate* (1989), p. 118.

¹⁶ The variation in prices of agricultural horses is outside the scope of this article, but for discussion on this see Jordan Claridge, 'The trade of agricultural horses in late medieval England' (University of East Anglia, PhD Thesis, 2015), pp. 198–219, esp. Figs 5.1 and 5.2.

¹⁷ *Ibid.*, pp. 207–8, 215.

¹⁸ In many cases, other contextual information from the accounts must be used to determine the sex of affers and stotts. The abbreviated and syncopated nature of the Latin used in the accounts most frequently omits the endings of the terms which could otherwise be used to determine the sex of the animal in question.

¹⁹ In terms of a sex ratio, female horses are under-represented if calculated using only the categories above. While some accounts provide a sex breakdown of horses in the end-of-year total, this practice was not universally adhered to and many female horses were often simply lumped into the general categories discussed above, particularly among affers and stotts. In some instances, scribes provided explicit categories for female horses, such as on the four Yorkshire manors of Little Humber, Holderness, Easington and Burstwick which used the category *pullani feminae* to denote female foals. Little Humber: TNA, SC 6/1079/15, m. 4r–4d; Holderness: SC 6/1079/15, m. 5d; Easington: SC6/1079/15, mm. 2r;

Burstwick: SC6/1079/15, m. 7r–7d. In other instances, specific categories like 'cart mare' (*jumentis [sic] carectar[i]*) and 'mare of the mill' could be used; in these cases, the specific categories were probably employed because female horses were being used for work typically associated only with male animals. For examples see TNA, SC6/1039/11, m. 1r–1d.; Page, *Winchester Pipe Roll*, p. 199. Using the end-of-year data that we do have, we can measure a minimum degree of female under-representation, finding that at least 108 of the 1069 affers in our total sample, or just over 10%, were female.

²⁰ For example, Page, *Winchester Pipe Roll*, *passim*.

²¹ The term *pullanus* is one of the few not discussed in Langdon's appendix. The *Revised medieval Latin word list* gives both 'colt' and 'foal' as possible translations, and indicates that *pultrella* was used in fourteenth-century documents to describe fillies (female horses under the age of four or five years), although this term is not found in any of the accounts in our sample. R. E. Latham (ed.), *Revised medieval Latin word list from British and Irish sources* (1965), p. 382. One example of the term *pullanus* encompassing young horses of both sexes is Downton manor, on the Bishop of Winchester's estate, where, of three *pullani*, one was promoted to carthorse that year, while the other two were promoted to mare. Page (ed.), *Winchester Pipe Roll*, p. 69.



FIGURE 1: Cart horses illustrated in the Luttrell Psalter
 (© The British Library Board Add. MS 42130, fo. 162)



FIGURE 2: Pack horse or mill horse illustrated in the Luttrell Psalter
 (© The British Library Board Add. MS 42130, fo. 158)

large number of young horses often categorized them according to age, with animals born that year (*de exitu*, literally ‘of issue’) distinguished from those in their second and third years. Horses above three years of age were usually graduated to one of the adult categories, such as affers, mares or carthorses.²²

Small numbers of other horses types round out our sample. Rounceys (*runcini*) were generally elite horses used primarily for riding. They appear infrequently among agricultural stock and were usually accounted for separately in the documents. On rare occasions they could be used on the manor as packhorses or harrowing animals,²³ but no instances of this were found in our sample. Four animals were defined specifically as ‘mill horses’; these were animals either used as power for horse-mills or as delivery animals at wind- or watermills. For example, the Bishop of Winchester’s manor of Farnham in Surrey kept three mill-horses to drive the

²² This progression is clear from studying the stock sections of manorial accounts. The same pattern has also been observed by Stone in his detailed analysis of

the Cambridgeshire manor of Wisbech Barton. Stone, *Decision-making*, p. 114.

²³ Langdon, *Horses, oxen*, pp. 34, 296.



FIGURE 3: Luttrell Psalter harrowing scene
 (© The British Library Board Add. MS 42130, fo. 171)

manor's two horse-mills,²⁴ while another of the Bishop's manors kept a single mill-horse, but this beast was seemingly used as a pack animal working at the manor's water mill.²⁵ Figure 2, also from the Luttrell Psalter, depicts precisely this kind of work. Finally, there are very rare references to stallions (*stallones*). These animals are generally found only on manors engaged in the breeding of rounceys or other more elite horses, such as Isabella de Fortibus' stud farm at Holderness in Yorkshire, and are not a feature of the typical medieval English manor. A few accounts also list horses simply under the general term of '*equus*', but this seems to have been an institutional nomenclature used primarily by the monks of Westminster Abbey,²⁶ as of the 24 demesnes in our sample which record *equi*, 18 were manors of the abbey. These horses were also all-purpose animals similar to the affers and stotts. The *equi* found on the Kentish manor of West Cliffe were used for harrowing (an activity illustrated in Figure 3). The two *equi* on the Berkshire manor of Bray were put to 'diverse jobs of London'.²⁷

III

Regional patterns of demesne horse ownership can be examined more closely by dividing our main sample into five geographical regions: East Anglia, the Midlands, the north, the south and south west, and the Thames basin (see Map 1).²⁸ Some striking differences in the makeup of demesne horse stocks are immediately apparent; Table 2 illustrates this regional variation.

Many regions had a dominant type of horse which comprised a clear majority. On a national level, affers and stotts were the most common type of horse kept by demesnes. Regionally,

²⁴ Page, *Winchester Pipe Roll*, pp. 212, 216.

²⁵ *Ibid.*, pp. 196–7.

²⁶ At least with respect to manorial accounts. The term '*equi*' is also found in lay subsidy returns and manorial court rolls. Claridge, 'Trade of agricultural horses', pp. 114–21, esp. Table 3.1.

²⁷ TNA, SC 6/889/8; 889/9; [*A]d operum diversum de London*, SC 6/724/4, m. 5.

²⁸ The regions are shown in Map 1. Dividing the country into such regions involves some judgment calls. For example, Essex could easily (and often is) considered part of East Anglia; however it was economically more closely tied to London and the Home Counties and has been included in the Thames basin region here.

TABLE 2: Regional distribution of horse types

	<i>East Anglia</i>		<i>Midlands</i>		<i>North</i>		<i>South and south west</i>		<i>Thames basin</i>		<i>National</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>% o</i>	<i>n</i>	<i>n</i>
Stotts	265	56.5	0	0.0	0	0.0	0	0.0	154	22.9	419	15.8
Affers	77	16.4	221	40.6	60	18.9	402	62.5	309	45.9	1069	40.4
Carthorses	70	14.9	104	19.1	4	1.3	115	17.9	104	15.5	397	15.0
Foals	29	6.2	140	25.7	143	45.0	73	11.4	32	4.8	417	15.7
Mares	28	6.0	61	11.2	106	33.3	52	8.1	22	3.3	269	10.2
Rouncies	0	0.0	2	0.4	3	0.9	0	0.0	0	0.0	5	0.2
<i>Equi</i>	0	0.0	17	3.1	0	0.0	1	0.2	48	7.1	66	2.5
Stallions	0	0.0	0	0.0	2	0.6	0	0.0	0	0.0	2	0.1
Mill-horses	0	0.0	0	0.0	0	0.0	0	0.0	4	0.6	4	0.2
Total	469	100.0	545	100.0	318	100.0	643	100.0	673	100.0	2648	100.0

Source: Author's manorial account database.

however, there was significant variation in the numbers of these, ranging from only 18.9 per cent in the north to around 70 per cent in East Anglia and the Thames basin. These regions correlate broadly with those areas of the country which had embraced the move from ox traction to horse ploughing most thoroughly over the preceding century.²⁹ The north and Midlands regions stand out in our sample as having significantly fewer affers and stotts, and this is probably explained by the predominance of ox ploughing which persisted in those regions well into the fourteenth century.³⁰

Proportions of carthorses were relatively evenly distributed throughout the country, except for the north where only four animals were found. Outside the north, few regions deviated significantly from the national average of 15 per cent in terms of carthorse ownership. At 19.1 per cent, the proportion of these animals is slightly higher in the Midlands, but this is a function of the many carthorses kept by Peterborough Abbey, an estate whose demesnes comprise a significant proportion of the overall sample for the region. Perhaps what is most surprising is that demesnes in the more commercially oriented regions of East Anglia and the Thames basin did not have significantly higher proportions of carthorses, as, intuitively, one would assume that the employment of such specialized animals should have been most lucrative in these regions.

The north stands out for having a much higher proportion of mares (33.3 per cent) and young horses (45 per cent) than any other region, and this could be indicative of more active horse breeding in this part of the country. However, given the small size of our northern sample, the significance of this particular finding is unclear, especially as many of these young horses (and any associated breeding activity) came from a single locality. The high proportion

²⁹ Langdon, *Horses, oxen*, pp. 110–11.

³⁰ *Ibid.*

TABLE 3: Demesne horse acquisition

	East Anglia		Thames basin		South and south west		Midlands		National Demesne Sample	
	No.	%	No.	%	No.	%	No.	%	No.	%
Purchased	47	78.3	104	70.7	259	48.9	38	36.9	259	57.8
Seigneurial perquisites	3	5	19	12.9	88	33.6	21	20.4	88	19.6
Bred internally	10	16.7	9	6.1	49	9.9	27	26.2	49	13.2
Other	0	0	15	10.2	42	7.6	17	15.5	42	9.4

Source: Author's manorial account database.

of young horses was significantly bolstered by 62 young *runcini* kept at the earl of Lincoln's stud farm in Ightenhill in Lancashire.³¹ The stud farm also inflated the proportion of mares in the region. While these riding horses were unlikely ever to work on the demesne, they were still an important part of the earl's manorial enterprise, to which he devoted resources.³² Looking at the estate's pastoral activity, Atkin has argued that the earl's estate was 'geared towards a cash economy', especially in terms of the large numbers of cattle produced and sold by the many vaccaries on the estate.³³ The earl was seemingly in the process of applying this strategy to the breeding of riding horses in the late thirteenth and early fourteenth centuries. In 1295–6, the year sampled for this study, the *runcini* breeding operation had not yet produced any animals for sale on the market. However, by 1304–5, the next year for which accounts survive, the Ightenhill stud farm sold 17 young *runcini* stallions, suggesting that the breeding operation was starting to bear fruit and that the horses produced here were beginning to enter the market.³⁴ However, it is important to note that the horses raised here were not used to produce working/traction animals for the earl's demesnes, but rather more 'elite' riding horses for his stables, and for the wider market.³⁵

³¹ If the 67 *runcini* foals are removed, the total number of young horses falls from 129 to 67, or from 52.4% to 27.2%.

³² For example, his expansive cattle raising activity spread across 27 vaccaries on his estate. M. A. Atkin, 'Land use and management in the upland demesne of the De Lacy estate of Blackburnshire, c.1300' *AgHR* 42 (1994), p. 2.

³³ *Ibid.*, pp. 1–2.

³⁴ A similar pattern is observed for the estate's vaccaries, which initially provided only a modest supply of cattle to local markets, but by the middle of the thirteenth century grew into much larger operations. Campbell, *English seigniorial agriculture*, p. 140.

³⁵ Edward Miller argued that the earl's stud farm

at Ightenhill 'provided many of the horses needed by the earl's manors and household'. A close examination of two extant accounts for the earl's estate (for 1295–6 and 1304–5; the former is contained in the sample used for this study) shows that none of the horses bred ever trickled down to work on the demesnes. A small number of rouncies were transferred from Ightenhill to other manors on the estate in 1295–6, but they were most likely reserved for the personal use of the earl and his household. Edward Miller, 'Northern England', in H. E. Hallam (ed.), *The agrarian history of England and Wales*, II, 1040–1350 (1988), p. 409; Ightenhill account 1295–6: TNA, DL 29/1/1, m. 3; Ightenhill account 1304–5: TNA, DL 29/1/2, m. 8.

After the north, mares and young horses were most prominent in the Midlands, where 25.7 per cent of total horse stocks in those regions were young animals. These figures are, however, again skewed by anomalous practices on the *runcini* stud farms of Peterborough Abbey which make up a significant portion of the Midlands subsample. The abbey raised these horses in the park at Eye in Northamptonshire. Proportions of young horses in East Anglia and the Thames basin are low, accounting for only 6.2 per cent and 4.8 per cent of total stocks in those regions. Young horses comprised 11.4 per cent of stocks in the south and south west; this region seems to be a middle ground between areas where young horses were scarce, East Anglia and the Thames basin, and where they were more plentiful, in the north and in the Midlands. Breeding will be discussed in more detail below, but at this point the data suggests that areas which were home to a high proportion of young horses, like the Midlands and the north, were more likely to be actively breeding horses, while the Thames basin and East Anglia, by this metric, were seemingly less engaged in horse breeding.

IV

We can get a sense of the market for work horses by analyzing how the demesnes acquired their working animals. For this we focus only on external methods of procurement, ignoring the animals circulating within manorial or estate stocks.³⁶ As illustrated in Figure 2, we can see that demesne managers used an array of methods to acquire working horses. Common sense would lead us to suppose that breeding and rearing, which I refer to as ‘internal production’, would have been an important source of animals.³⁷ After all, breeding programmes could have provided demesnes with (comparatively) cheaper horses than those purchased at market by cutting out any price premium that horse dealers or other middlemen would add in making their own profits.³⁸ As we have seen above that mares and foals accounted for a significant proportion of horse stocks on English demesnes, especially in the Midlands and the north, internal breeding was something that demesne managers could ostensibly have controlled quite closely; and as horses played a central role in the agrarian enterprise of many of these farms, then it is logical to suppose that landlords and their managers were committed to ensuring their manors possessed a secure supply and a robust stock of horses from such an internal breeding programme. The anonymous author of the thirteenth-century agricultural treatise *Husbandrie* certainly assumed this, asserting that demesne mares should produce one foal each year, and in cases where this target was not met, demesne managers were to provide specific reasons for the shortfall:

³⁶ In addition to the 448 horses added to the demesnes, a further 81 animals were transferred internally. In these instances, the lord was not acquiring new animals, but was simply manipulating his stocks across all or part of his estate to ensure that each manor, and, in the case of categorical reclassifications, each category, had a requisite profile of horses.

³⁷ ‘Internally produced’ horses are defined as horses which were ‘graduated’ to the pool of adult working

horses from the demesne’s group of young horses.

³⁸ For a thorough discussion of horse dealers in the early modern period see Peter Edwards, *The horse trade of Tudor and Stuart England* (1988), pp. 77–104. For an examination of horse dealers and other ‘middlemen’ in the trade of elite horses in medieval England, see Jordan Claridge, ‘Horses for work and horses for war’ (University of Alberta MA Thesis), pp. 53–71.

The reeve ought to answer for the issue of the mares of the manor, that is to say for each mare one foal in the year. And if there is any mare which has no foal an inquiry ought to be made whether this is due to bad keeping or lack of food, too much work or through lack of a stallion, or whether the mare is barren and that the reeve could have changed her – and in time – for another but did not do so. In these cases he [the reeve] ought to be charged fully for the foal or the value.³⁹

However, contrary to the suppositions of common sense, and despite the advice of the author of the *Husbandrie*, our data reveals that the proportion of internally bred horses was actually quite small; across all the sampled demesnes, only 59 horses were raised internally, accounting for 13.2 per cent of total additions. Not only did internally produced horses trail behind purchased animals by a margin of 45 per cent, but internal breeding was actually only the third most important method of horse acquisition at the national level. When these factors are considered, it seems that demesne horse breeding was a ‘hit and miss’ endeavour, hampered by the poor health and sterility of overworked mares and perhaps also the incompetence or indifference of reeves and other demesne managers in swapping out infertile mares for more viable animals quickly and efficiently.⁴⁰

The *Husbandrie* suggests that breeding on some demesnes fell short of the ideal one foal per year goal for want of a stallion, and the almost complete absence of such specialized male breeding horses in our sample is a puzzle. Stallions were very rare on demesnes, accounting for well less than 1 per cent of total stocks, and the only two stallions in the sample were found on the earl of Lincoln’s stud farm at Ightenhill, which bred rouncies for his stables rather than working horses. Therefore, the few demesnes that kept dedicated stallions and operated breeding operations of any appreciable scale catered towards the breeding of more elite and expensive riding or war horses, rather than agricultural stock. This suggests that if knowledge of specialist breeding did exist, it was restricted to only the most expensive horses.⁴¹ Even landlords which maintained specialized studs seemingly did not apply these practices to the agricultural horses on their demesnes, probably because they did not see it as a prudent use of resources.

³⁹ Dorothea Oschinsky (ed.), *Walter of Henley and Other Treatises on Estate Management and Accounting* (1971), p. 423.

⁴⁰ For example, the reeve of Merdon, a manor of the Bishop of Winchester, recorded in the account for 1301–2 that there were no foals born that year ‘because there are no mares here’. The reeve of Ivinghoe (Bucks.), was seemingly more proactive in maintaining productive breeding stock, as the manor’s account reads that there were ‘no foals this year because the female plough horses were feeble and sold’; For Morton (Bucks.), the account records that there were no foals that year simply because ‘the mares did not foal’. Page (ed.), *Winchester Pipe Roll*, pp. 84, 158–172. The account for the Warwickshire manor of Fletchamstead records that all of the mares remaining at the end of the year 1309–10

were sterile. TNA, SC 6/1039/11, m. 1r–1d. Frequent infertility among demesne mares is also a phenomenon observed by Stone for the manor of Wisbech Barton. *Decision-making*, p. 114.

⁴¹ Notable examples of specialized breeding from our sample occurred on the estate of Peterborough Abbey and the earldom of Lincoln. Other notable examples exist from the earl of Cornwall’s estate, which bred elite riding and war horses at Knaresborough (Yorks.) and Mere (Wilts.). L. Margaret Midgley (ed.), *The ministers’ accounts of the Earldom of Cornwall, 1296–7* (2 vols, Camden Third Ser., 66, 68, 1942–5), I, p. 63, II, p. 193. Edward, the Black Prince was also engaged breeding elite war and riding horses across his estates. See: *Register of Edward, the Black Prince* (4 vols, 1930–3), IV, p. 15 (18 May 1351); p. 67 (28 Nov. 1352).

How then were even the relatively meagre levels of demesne horse breeding achieved? Insemination could have been conducted through a 'stud service' of some sort, where an intact male horse was brought in for the sole purpose of impregnating female horses. If this occurred, however, it must have been on a relatively informal basis, as there are no records of payment for any such activities in the manorial accounts of our sample. The most likely scenario is that un-gelded male horses were common enough among both demesne and peasant stocks to facilitate the breeding of animals. Thomas Tusser's treatise on husbandry offers insight into pre-modern gelding practices. Though recorded in the sixteenth century, many of the practices discussed were broadly similar to the agricultural techniques of the medieval period. Tusser gives a clear indication that gelding was preferred for only certain horses, and many working animals were probably left intact:

Thy coltes for the saddle, geld yoong to be light:
for cart doo not so, if thou judgest aright.
Nor geld not, but when they be lusty and fat:
for there is a point, to be learned in that.

Geld fillies (but tits) er an nine daies of age:
they die else of gelding, (or gelders foo rage).
Yoong fils so likelie of bulke and of bone:
keepe such to be breeders, let gelding alone.⁴²

Interestingly, while the castration of pigs and other animals is recorded frequently in manorial accounts, they are silent on the gelding of horses. With Tusser's assertion that at least some work horses were better left intact, and the lack of any evidence of the regular practice of castration among demesne horse stocks, we can perhaps assume that this occurred infrequently, if at all, on demesnes. If working horses were regularly left intact, it follows that demesne stocks could have been sustained by even a small number of un-gelded male horses which would have been sufficient for breeding on both demesne and peasant farms, and this must have rendered specialized stallions unnecessary.

We can also see significant regional differentiation in demesne horse breeding. The south and south west and the Thames basin stand out for how *unimportant* it was, as internally produced horses account for only 9.9 per cent in the former region and 6.1 per cent in the latter. In the Thames basin, the low numbers of internally produced work horses correspond broadly with the low proportions of mares and young horses kept by demesnes in the region; here the numbers of mares and foals relative to other types of horses were lower than any other part of the country and the region produced the fewest of its own horses. Breeding was most prolific on Midlands demesnes, with over a quarter of all horses graduating to the adult stocks from the demesnes' own young horses. By the seventeenth century, horse breeding and rearing were thriving economic activities in this region, with the Severn Valley and the Vale of Trent both home to intensive breeding and rearing of horses.⁴³ Our data suggests that this characteristic was already established in the region by the fourteenth century. It is difficult to say whether a

⁴² Thomas Tusser, *Five hundred points of good husbandry*, ed. Geoffrey Grigson (1984), p. 77.

⁴³ Edwards, *Horse trade*, pp. 22–3.

relatively weak market for horses forced demesnes in this region to rely on internal production, or if the geography of the region was more suited to profitable horse rearing which diminished the need to rely as heavily on the market as demesnes in other regions did.

The second most important source of horses was seigneurial perquisites, an array of channels such as heriots, strays and, in some cases, the confiscated chattels of criminals, through which many demesnes were able to procure working animals. Heriots were a death duty, customarily rendered in the form of a 'best beast' upon the death of a tenant, or in some places, upon any surrender of customary land.⁴⁴ The high value of horses relative to other forms of livestock meant that they were often regarded as a deceased tenant's most valuable animal and thus rendered as payment. In terms of horse acquisition, heriots were the most productive perquisite for demesnes, accounting for 58 per cent of all such seigneurial acquisitions (and therefore 10.5 per cent of all horse procurement). However, there was quite a bit of regional variation as the rate at which horses became available to demesnes through heriots was obviously not within the manor's control. There was no guarantee of the number of tenant deaths in any given year, nor that the 'best beast' would always be a horse. Many heriots were took the form of oxen; and the Bishop of Winchester also received heriots of beehives and axes in 1301–2, an indication that some of his tenants lacked not only a horse (or an ox), but any kind of livestock at all.⁴⁵ The collection of heriots also depended upon administrative efficiency, the number of liable tenants and local custom. In some places custom dictated a cash payment in lieu of a 'best beast' and in others, the payment of death dues was seemingly either rarely enforced, evaded through a variety of measures, or rendered by incoming rather than outgoing tenants.⁴⁶ That said, many demesnes in our sample clearly received significant numbers of work horses as heriots and added them to their own stock, rather than accepting a cash equivalent.

Another seigneurial source of horses was strays and waifs. The origin of these so-called 'stray' horses is somewhat of a mystery, as manorial accounts do not provide any information about the origins of these animals. Were they wild or feral horses that were captured for subsequent use as draught animals? Or were they 'stray' in the modern sense of the term, that is, fully domesticated animals that had wandered off from their owners?⁴⁷ While there is some anecdotal evidence that supports the former possibility,⁴⁸ given that, by 1300, there was very little waste land, especially in southern England, the latter situation is more likely. The fourteenth-century legal treatise *Britton* lays out in great detail the mechanisms by which stray, or waif, animals could be impounded, and if left unclaimed, seized by certain lords, provided they met specific eligibility requirements.⁴⁹ Given the fourteenth-century origins of this particular

⁴⁴ Mark Bailey, *The English manor c.1200–c.1500* (2002), p. 244.

⁴⁵ Page (ed.), *Winchester Pipe Roll*, pp. 153, 305.

⁴⁶ See the discussion of heriots in East Anglia below.

⁴⁷ A variety of Latin terms were used to describe stray horses in manorial accounts, and the terminology could vary from region to region. In the accounts studied here, the most common terms encountered are the Latin *vagabundus* and the anglicized *stray*. For a definition of the former see: Latham, *Medieval Latin word list*, p. 504.

⁴⁸ Claridge, 'Trade of agricultural horses', pp. 82–4.

⁴⁹ The right of strays, or waifs, was the right held by some lords, under certain circumstances, to seize stray or wandering animals. After the requisite conditions were met, usually involving keeping the animal for a year and a day, the animal became the property of the lord and could either be added to the demesne livestock or sold. F. M. Nichols (ed. and trans.), *Britton: The French text carefully revised with an English translation, introduction and notes* (2 vols. 1865), I, pp. 66–7; 216.

treatise, it is likely to be a good reflection of the legal questions surrounding the issue of strays in our data sample. Like heriots, waifs and strays were a regionally varied phenomenon, but still accounted for 36 per cent of horses acquired through perquisites nationally. The significant role that seigneurial perquisites played in the overall scheme of demesne horse acquisition is striking, because it indicates the extent to which demesne acquisition of horses was dependent upon variable and unpredictable sources largely outside the control of the estate. Neither the number of horses acquired through these sources, nor their quality, could be guaranteed. Thus the uncertainty of acquiring horses through seigneurial perquisites compounded the uncertainty of breeding horses on the estate, which may suggest why these demesnes were so dependent upon the market if they were to ensure that they maintained a consistent level of working animals.

Regional differentiation in levels of seigneurial perquisites is at least partially explained if, as it appears, heriots were not rendered uniformly across the country. At 33.6 per cent of all acquisitions, the proportion of seigneurial perquisites was higher in the south and south west than in any other region and was driven by the large number of heriots exacted by manors in this part of the country. Thirty horses were taken as heriot, and these would have accounted for 23 per cent of total acquisitions on their own, double the proportion added from internally bred animals. In the Thames basin the second most important method of horse acquisition was through seigneurial perquisites, but it was not overly significant, as only 19 animals, or just under 13 per cent, were acquired in this way. East Anglian and Midland demesnes relied less on this method of horse procurement. The conspicuously low number of heriots rendered on the East Anglian manors in our sample pulled down the total number of horses enumerated in the 'seigneurial perquisite' category. The limited contribution of heriots here is surprising, considering that horses constituted as 75 per cent of all peasant draught animals in East Anglia by c.1300.⁵⁰ However, large estates like Norwich Cathedral Priory, which owned 12 manors within the East Anglian sample, recorded no heriots paid as horses on its demesnes. East Anglian landlords seemingly did not collect heriots following the deaths of customary tenants in any great numbers.⁵¹ It is possible that 'light-touch' villeinage in this region meant that heriot was not payable on some manors, but more likely that tenants routinely rendered cash payments as heriot in lieu of livestock, and that tenants avoided heriot through a variety of local customs and practices.⁵² Northern demesnes collected no horse heriots at all, although the small and narrow sample size there may not be representative in this regard.

With respect to strays, the data suggests that a lord's right to impound and seize stray animals was enforced more frequently and strictly by some lords than others, perhaps a reflection of the

⁵⁰ Langdon, *Horses, oxen*, p. 205.

⁵¹ Langdon observed a low number of post-Black Death heriots in East Anglia, Langdon, *Horses, oxen*, pp. 196–7. In her study of land transfers in late medieval Norfolk, Whittle also observed that no heriots were paid by outgoing tenants on any of the manors she studied. She suggests that in both Norfolk and Suffolk heriots were either paid by the incoming tenant instead of an entry fine, or no heriot was paid at all. This seems

to have been a regional anomaly in East Anglia, as in most other places in England, the lord charged heriot to the outgoing/deceased tenant as well as an entry fine to the incoming tenant. Jane Whittle, *The development of agrarian capitalism: land and labour in Norfolk, 1440–1580* (2000), p. 67, n. 108.

⁵² Mark Bailey, 'Villeinage in England: A regional case study, c.1250–c.1349', *EcHR* 62 (2009), pp. 430–57.

fact that not all lords possessed the right to seize stray animals when the opportunity offered itself. The right to execute felons was also a franchise held by only a few lords, and this would have been necessary in order to claim the chattels of hanged thieves.

Buying horses was by far the most important method of horse acquisition; of the 448 adult horses acquired by all demesnes in our sample, 259, or 57.8 per cent, were purchased on the market. This magnitude of purchased horses is significant in that it clearly indicates that there was a strong market for these animals. It can also be seen as an indication of a high degree of commercialization in this sector of the economy. Regionally, the purchase of horses was also the dominant method of acquisition in each of the regions, and this trend was especially pronounced in East Anglia and the Thames basin, which stand out, in terms of work horses, as the most market-oriented parts of the country with over 70 per cent of animals in both regions acquired via purchase. Purchasing was somewhat less dominant in the south and south west,⁵³ where only 48.9 per cent of horses were bought, and was weakest in the Midlands, where only 36.9 per cent of new horses were purchased. In this latter region, horse acquisition was more evenly distributed across the full array of procurement routes, which reflects a combination of a greater amount of breeding and rearing activity on demesnes in this part of the country where the market seems to have been comparatively weaker. The low number of acquisitions in the north, a function of the small sample of only 35 demesnes, makes it difficult to make any significant conclusions about acquisitions in the region, and therefore will not be discussed at length.

The preference of demesnes in East Anglia and the Thames basin to purchase horses over other means of acquisition is closely linked to the degree to which demesnes in these regions had shifted from oxen to horses as draught animals around the year 1300.⁵⁴ We might also surmise that horse breeding activity was relatively unimportant here, as the commercial force of London as well as the high market density of East Anglia meant that farmers would have been compelled to specialize in the production of other goods which would benefit most from close market proximity.⁵⁵ By not engaging in the breeding of horses themselves, demesnes in

⁵³ The south and south west region also includes Devon and Cornwall, but there are no demesnes from either of these counties in our sample.

⁵⁴ In looking at the increasing prevalence of all-horse plough teams over the period of 1250–1420, Langdon found that horse ploughing was most actively and completely embraced in East Anglia and the Home Counties. Of the 65 demesnes in his sample that utilized all-horse ploughing between 1250 and 1420, only six of these were outside the Thames basin and East Anglian regions. Langdon attributes the establishment of all-horse demesnes in Norfolk and the Chiltern Hills to the particular suitability of horses for ploughing in these areas. The light and sandy soils in Norfolk could be easily worked by horses, while the thin and often stone-ridden soil of the Chilterns were precisely the type that presented difficulties for oxen, who could easily slip on the stones. Mixed plough teams, which made use of both horses and oxen, were also largely

concentrated in these two regions. By 1300, demesnes in these regions, above all others in England at the time, had embraced horses to a greater degree than other parts of the country. Horses also accounted for just under half of peasant draught animals at the dawn of the fourteenth century, but like demesnes, the preference for horses was strongest in the south and east of the country. In East Anglia horses accounted for 75 per cent of all draught beasts, while in the Home Counties the figure was 55 per cent. Langdon, *Horses, oxen*, pp. 100–11, esp. 102–3 and 108–9; 205.

⁵⁵ In von Thünen's model, little can be gained from producing livestock near markets, and they are relegated to the areas furthest from markets. Peter Hall (ed.), *Von Thünen's isolated state: an English edition of Der Isolierte Staat* (1966). For a recent discussion of von Thünen in the context of medieval economic history, see John Hatcher and Mark Bailey, *Modelling the middle ages* (2001), pp. 132–3.

TABLE 4: Surplus/deficit of horse stocks

<i>Horse type</i>	<i>No.</i>	<i>No. of horses 'needing' replacement</i>	<i>No. of horses acquired</i>	<i>Surplus/deficit horses</i>
Stotts	412	75	83	8
Affers	1088	198	216	18
Carthorses	398	57	77	20
Mares	253	46	38	-8
Rounceys	10	2	2	0
<i>Equi</i>	61	11	18	7
Stallions	0	0	0	0
Mill-horses	4	1	2	1
Total	2284	390	436	46

Sources: Author's manorial account database. 'No. of horses "needing" replacement' column calculated using John Langdon's demesne-life figures. See: Langdon, 'Economics of horses and oxen', p. 36.

these regions would have been especially reliant on the market to provide work horses. The high proportion of purchased horses in these two regions suggests that the market for horses was both well established and easily accessible to demesne managers by 1300.

This article has shown that demesnes were not producing work horses for the market. However, demesnes and their managers probably had an important distributive role in the trade of these animals. Some reeves and bailiffs, perhaps even unconsciously, acted as middlemen, and, in aggregate, these transactions facilitated the exchange of many animals including those which came to the lord as heriots or other perquisites and were judged surplus to requirements. Many of these transactions probably occurred within the same manor or community. In the particular case of heriots, if the family of a deceased tenant had to surrender a horse to the lord, they would likely have needed to acquire another one rather quickly in order to continue their farming activities. An easily accessible market for horses would be required to facilitate this and it is possible, or even probable that, in many cases, the lord sold the same animal back to the family that had surrendered it.

Using Langdon's demesne life figures, which chart the average working life of horses in the seigneurial sector, we can see that, on a national level, demesnes acquired more horses than they would have needed to maintain their stocks. Langdon calculated that the average working life on demesnes for carthorses and plough-horses was 7 and 5.5 years, respectively.⁵⁶ It can then be inferred that, for carthorses, one in every seven animals would, on average, require replacement in any given year, while two out of every 11 affers and stotts would also require replacement. We have assumed that the same working life of 5.5 years applied to all other categories of horses (excluding cart animals). From this, we can compare the number of horses 'needing' replacement against the number of animals actually acquired by demesnes in our sample. The results of this are displayed in Table 4. We can see from the table that the

⁵⁶ John Langdon, 'The economics of horses and oxen in medieval England', *AgHR* 30 (1982), p. 36.

sampled demesnes had a net surplus of 46 horses, or about 12 per cent over the minimum number of animals needing replacement. Many of these surplus horses were acquired through seigneurial perquisites such as heriots and strays, and were either quickly sold for cash or used to replace an incumbent animal which was likely either older or less fit. While the primary concern in 'swapping' work horses was the effective management of demesne draught horses, in doing this, many demesne managers, either consciously or unconsciously, acted as horse dealers themselves.

V

What do demesne accounts reveal about the extent of the horse trade and its regional variety in England in 1300? An important insight is the sheer range of horse acquisition options available to demesne managers. We have seen that the seigneurial perquisites of heriots and strays were often more heavily relied upon to supply demesnes with horses than internal breeding. We have also established that the majority of demesnes were consumers of work horses and invested relatively few resources and little effort in breeding them, therefore, when considering the demesne sector, the horse trade is more of a demand-side story.

For most demesnes, the breeding of horses was only a tertiary method of acquisition. A small number of managers did manage to maintain their stocks of working horses through internal breeding programmes, but, in aggregate, these farms did not produce enough work horses to sustain their own demand, let alone a surplus that could have supplied the market. Even in the few instances where landlords engaged in large-scale horse breeding, these operations were always for the production of elite riding and war horses, rather than the agricultural-grade working animals upon which the agrarian economy was so dependent. In these terms, horse breeding on demesnes could be seen as only a semi-reliable form of horse acquisition where managers had some agency and ability to encourage or discourage horse production, but were hampered not only by the fact that foals took around three years to reach an age where they could work and contribute to the manor's agricultural enterprises as draught animals, but also by the fact that there was no guaranteed year-by-year supply of foals from the mares of the estate. The former factor would have necessitated that reeves and other demesne managers plan ahead at least three years in planning and projecting their stocks of horses, while the latter consideration meant that reeves would often need to supplement their stocks of adult horses in any given year by other means.

The significant role that seigneurial perquisites played in the overall scheme of demesne horse acquisition is striking, because it indicates the extent to which demesne acquisition of horses was dependent upon variable and unpredictable sources largely outside the control of the estate. Neither the number of horses acquired through these feudal sources, nor their quality, could be guaranteed. Thus the uncertainty of acquiring horses through seigneurial perquisites compounded the uncertainty of breeding horses on the estate, which may suggest why these demesnes were so dependent upon the market if they were to ensure that they maintained a consistent level of working animals. We might argue, then, that it was not a case of whether demesnes and estates could breed a sufficient number of replacement horses, but rather if they wanted to invest in breeding work horses at all.

Significantly, the fact that purchases were the major method of procurement means that all forms of agricultural horses must have been widely and commonly available in most parts of the country. Bruce Campbell has argued that 'when estates and demesnes could not breed sufficient replacement animals they had no other recourse but to buy them'.⁵⁷ While this might have been true for livestock in general, and cattle and sheep in particular, the attitude of most demesne managers to horse acquisition was to go to the market first, and to use other methods of procurement to supplement the horses they purchased. Thus, this study underlines unequivocally the importance of a horse market in supplying English demesnes around 1300.

Although outside the scope of this study, an obvious question is, if demesnes were not producing horses for the market, who was? The answer is almost certainly the peasantry. Sources for the peasant sector are not as reliable, detailed or precise as manorial accounts, but a study of lay subsidy returns has illustrated that the peasantry had both the potential and the incentive to produce a surplus of work horses that would have been in excess to their own draught needs.⁵⁸ Managerial concerns that demesne managers faced would also not have weighed as heavily on peasant farmers. In general, their farming operations were smaller, so managing and projecting a breeding program would not have been as large an undertaking as it would have been for demesne managers.

It has been well established that the spread of horses in the thirteenth century contributed to the commercialization of the economy,⁵⁹ and our data reveals how this phenomenon in turn created a stronger market for horses in some areas of the country, like the Thames basin and East Anglia, than others, like the Midlands and the north. In addition to the shift from oxen to horses, and the subsequent development in the horse market, the influence of commercialization around London and in East Anglia likely made purchase the most logical option for demesne managers in these areas. Our evidence suggests that horses were purchased most frequently in the areas of England where commercial forces were strongest. On the one hand, we might expect this, as the market for horses, like other goods, is likely to thrive in the most commercially oriented areas where markets were most integrated. In this respect, we can see horses both driving the process of commercialization, as Langdon has suggested, but we also see clear evidence of this commercialization within the horse market itself. What the evidence also suggests is that commercialization and demesne horse production were perhaps inversely proportionate. In cases where demesnes adapted to increasing market orientation in England by specializing in the production of specific goods for the market, be it grain, wool or dairy products, the evidence from our seigneurial sample suggests that the breeding of work horses was not a specialization that the seigneurial sector invested in, but they may have, even inadvertently, filled an important distributive role in acting as 'middle men' in the horse market.

⁵⁷ Campbell, *English seigniorial agriculture*, p. 135.

⁵⁹ Langdon, *Horses, oxen*, pp. 160, 255.

⁵⁸ Claridge, 'Trade of agricultural horses', pp. 104-43.