

Male occupational structure in Northamptonshire 1777-1851

A case of partial de-industrialisation

**Part of an ESRC funded project:
Male occupational change and economic growth 1750-1851**

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Note: this is a preliminary report rather than a fully-fledged paper. Comments would be very welcome (to Leigh Shaw-Taylor lmws2@cam.ac.uk) but please do not cite or reproduce this material without permission.

Introduction

Data collected from a 1777 militia ballot list, Anglican baptism registers for the period 1813-20, and the published census tables of 1841 and 1851, allow us to reconstruct the male occupational structure of Northamptonshire in the period 1777-1851, to pinpoint changes in the county's economy to which the existing literature only vaguely alludes, and to set these changes in the national context. We will also make use of a 1762 militia ballot list and the published census material for 1861, 1871 and 1881 in due course.

This report examines developments in the county's primary, secondary and tertiary sectors in relation to national trends, and will focus, in particular, on two major manufacturing industries: the worsted textile industry and the footwear industry. It is argued that the distinct fortunes of these two industries explain both Northamptonshire's partial de-industrialisation in the late eighteenth and early nineteenth centuries and its resumed industrial development in the second half of the nineteenth century.

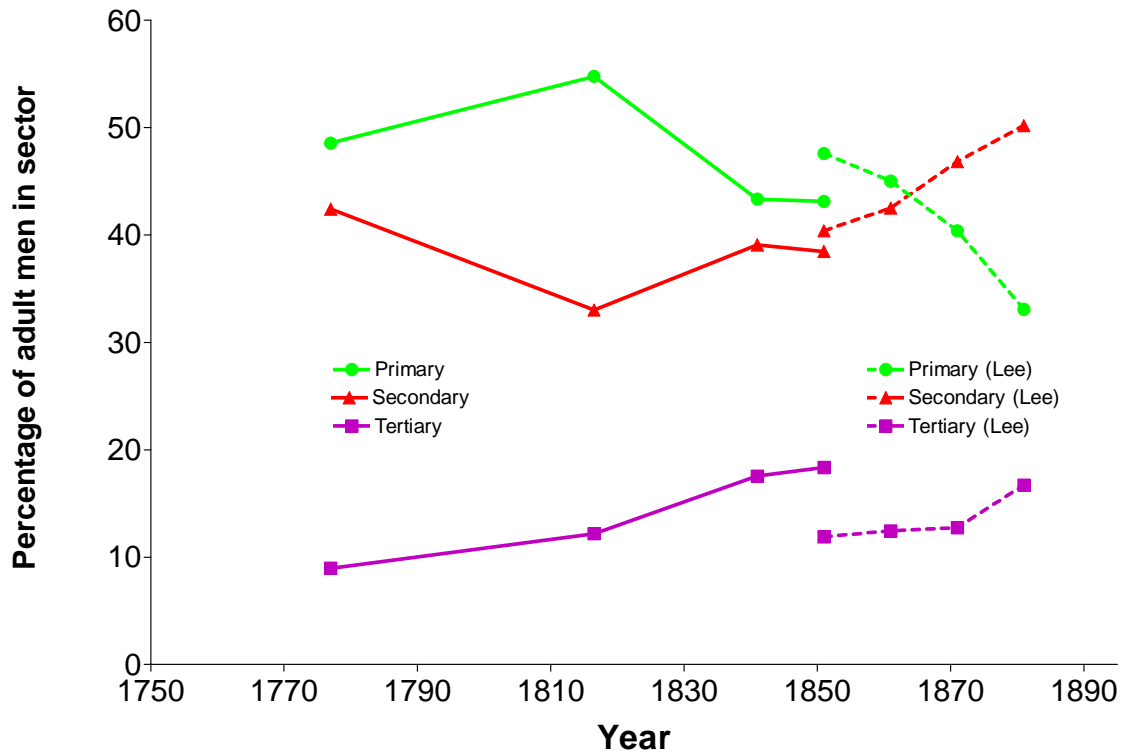
The changing sectoral composition of Northamptonshire's economy 1777-1881

Figure one below shows general trends in the development of Northamptonshire's primary, secondary and tertiary sectors between 1777 and 1881 in terms of the sectors' shares of adult male employment. The green line shows the increase and contraction of the primary sector, with a brief pause in the mid-nineteenth century. The red line shows the decline and partial recovery of the secondary sector, and its subsequent expansion to new levels in the second half of the nineteenth century; and the purple line shows rapid growth within the tertiary sector across the whole period. The trajectories of the dashed lines in the later period are drawn from C.H. Lee's published data. The two series do not meet in 1851 because Lee tabulated the census material in a relatively small number of occupational categories some of which cut across the boundaries of the primary, secondary and tertiary sectors. When we have coded the printed census material for 1861-1881 ourselves we will have a continuous series.

Even by 1777 the primary sector (the green line), which was overwhelmingly agricultural, accounted for only about half of male employment in this relatively agricultural county. Surprisingly, the primary sector increased to 55 per cent in 1813-20, contrary to the long-run decline in agriculture's share of employment at national level. This apparent anomaly will be explained shortly. Figure two (reproduced at the end of this report) shows the percentage of adult males in the primary sector in each hundred c. 1817 for Northamptonshire and for five other counties to the south and east. The percentage of adult males employed in the primary sector in 1813-20 in most of Northamptonshire was between 50 per cent and 75 per cent.

As can be seen in figure, one the primary sector's share of adult male employment had declined to 45 per cent by 1841 and then remained stable to 1851, before declining across the rest of the nineteenth century. The secondary sector (the red line) declined from 43 per cent in 1777 to 33 per cent in 1813-20, and then partially recovered to 40 per cent by mid-century. This decline in secondary employment was driven by a dramatic collapse in the wool textile industry. Shoemaking, Northamptonshire's other main secondary industry, did not grow fast enough to replace the decaying worsted industry. One possible explanation for the surprising increase in Northamptonshire's primary sector by 1813-20 is that unemployed weavers had flooded the agricultural labour market. Shoemaking had expanded sufficiently to fuel a partial recovery of the secondary sector by the 1840s. Growth continued in the second half of the nineteenth century.

Figure 1 Northamptonshire 1777-1881: The share of adult male employment in the primary, secondary and tertiary sectors



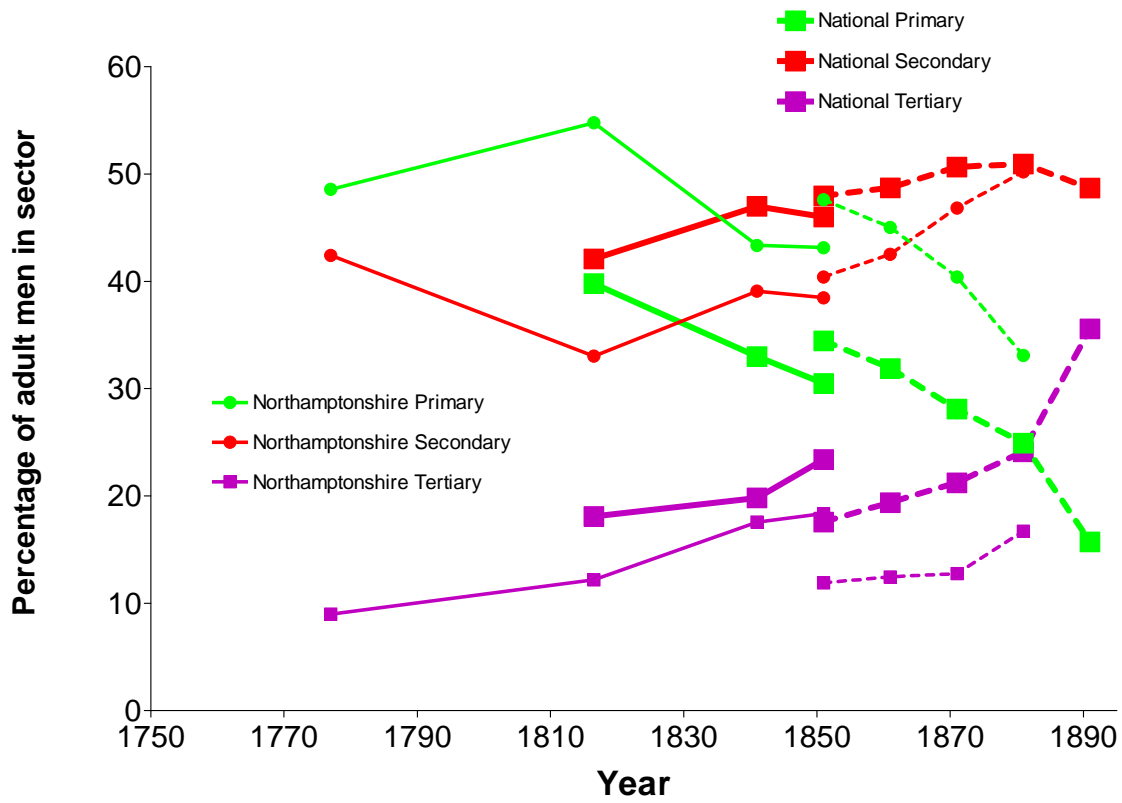
The most dramatic change can be seen in the tertiary sector (the purple line), which doubled from 8 per cent to 16 per cent over the period 1777-1841, and continued to grow further to 1881. Tony Wrigley has shown that, nationally, the tertiary sector was the fastest growing sector between 1813-20 and 1841.¹ The rapid growth of the tertiary sector in Northamptonshire and Hertfordshire over a rather longer period may prove to be part of a more general phenomenon. We will soon have a further nine county level datasets from which to generalise. This sector was surprisingly large at an early date in Northamptonshire, as in Hertfordshire.

Figure three shows the development of primary, secondary and tertiary sector adult male employment in Northamptonshire between 1777 and 1881 and nationally between c. 1817 and 1881. The thicker lines show the national trends and the thinner lines those of Northamptonshire. Comparing the development of Northamptonshire's primary, secondary and tertiary sectors with the national pattern, it is clear that the growth of the tertiary sector in Northamptonshire after 1813-20 parallels national trends, although the development of Northamptonshire's primary and secondary sectors is complicated by the collapse of weaving. The shift from secondary to primary employment before 1813 is a reversal of the national trend, although, after this date, Northamptonshire also reflects the national pattern in this respect.

The next three sections of the paper examine the major components of Northamptonshire's primary, secondary and tertiary sectors in the period 1777 to 1851 in more detail.

¹ Wrigley, 'Nineteenth century.'

Figure 3 The share of adult male employment in the primary, secondary and tertiary sectors: Northamptonshire 1777-1881; England c. 1817-1881

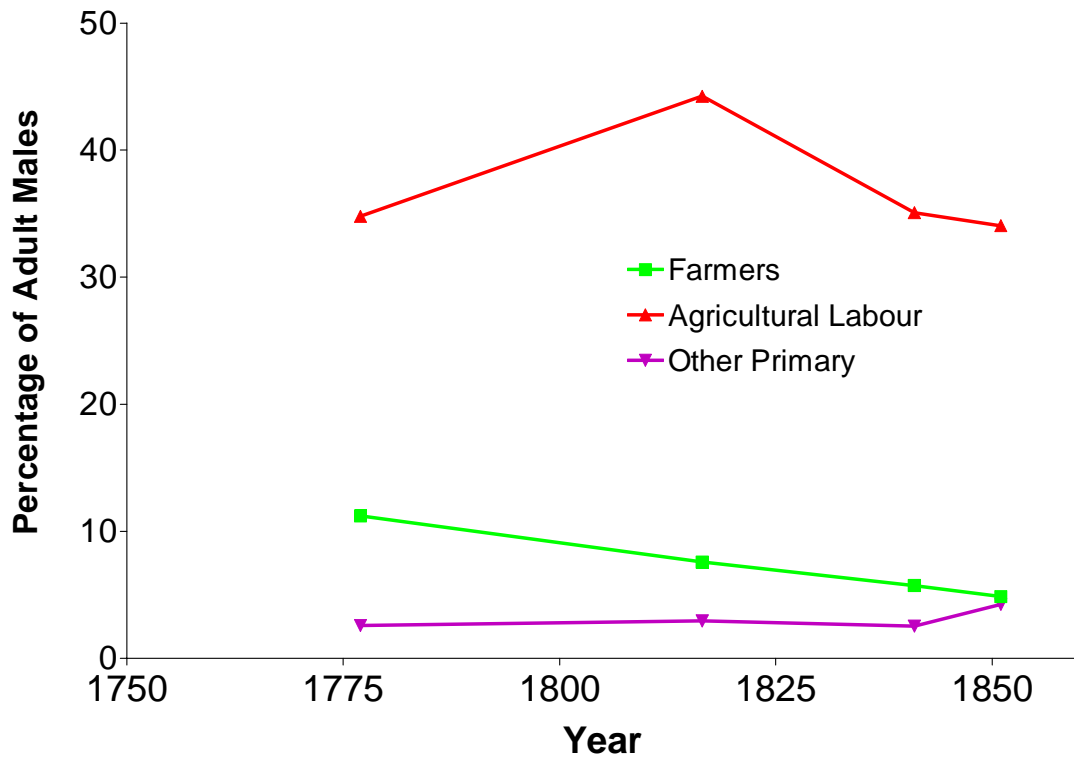


The Primary Sector

Figure four shows the primary sector over the period 1777-1851 in more detail. This shows that the proportion of farmers (the green line) was declining. In consequence, the ratio of farm workers to farmers increased sharply from 3.1 in 1777 to 5.8 in 1813-20, probably partly as a result of the sudden increase in agricultural labourers (the red line) after the collapse of weaving. The absolute numbers of farmers in Northamptonshire decreased very slightly over the period 1777 to 1851 while the absolute number of labourers rose substantially.

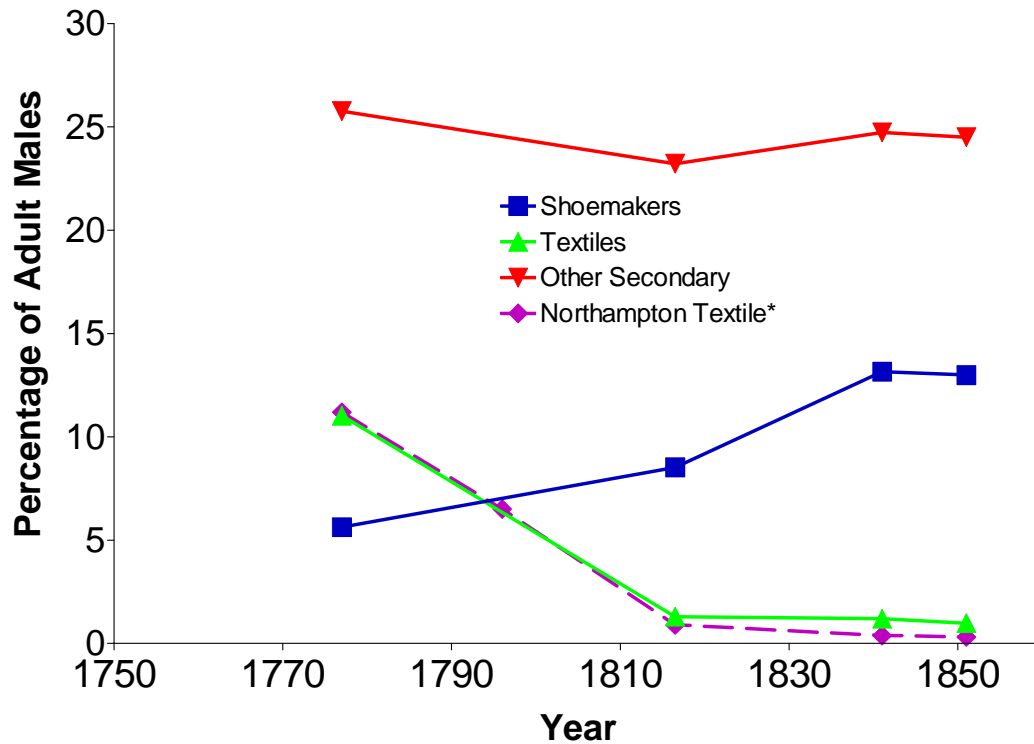
Figure five shows that textiles (the green line) and shoemaking (the blue line), the two major components of the secondary sector in 1777, developed very differently. Northamptonshire's wool textiles industry collapsed suddenly between 1777 and 1813-20. The proportion of adult males employed in textiles fell from 11 per cent in 1777 to 1 per cent in 1813-20, remaining stable to 1851.

Figure 4 Adult male employment in Northamptonshire's primary sector 1777-1851



The Secondary Sector

Figure 5 Adult male employment in Northamptonshire's secondary sector 1777-1851

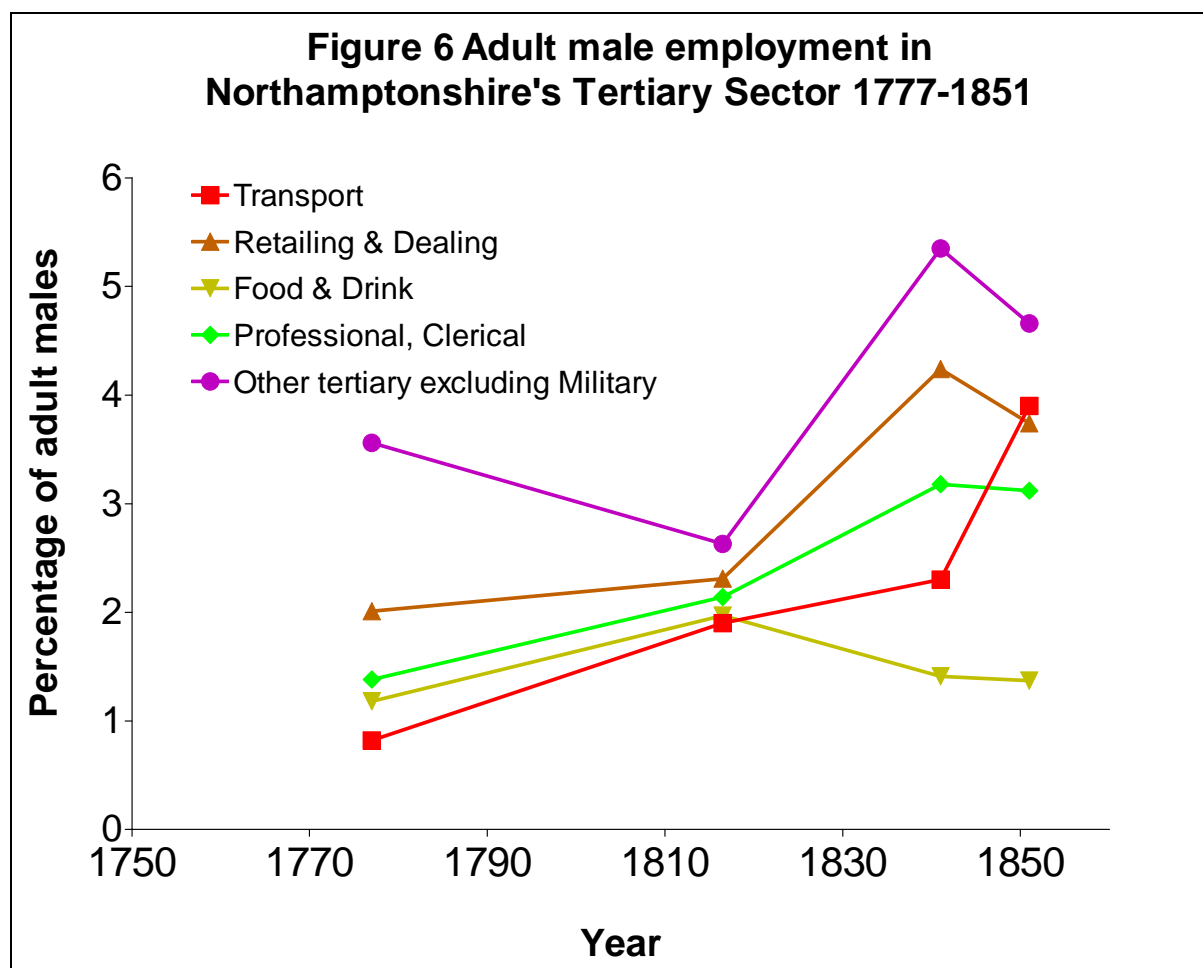


* We are very grateful to Mr Paul French for generously making available the Northampton data from his forthcoming Ph.D thesis

A similar decline was evident in the wool textile industry in Hertfordshire and Northumberland although the industry was much less significant there to begin with. There was a slight increase in textiles as a whole in Hertfordshire, at the end of the period, caused by the development of the silk industry in the county. A parallel development took place in Northamptonshire after the collapse of the wool textiles industry, when silk weaving expanded, particularly in Rothwell and Huxloe hundreds.² By contrast, footwear (the blue line) grew steadily between 1777 and 1851. The proportion of adult males employed in shoe and boot making increased from 6 per cent in 1777 to 13 per cent by mid-century and reached 18 per cent in 1871.

Tertiary Sector

Turning, lastly, to the tertiary sector, figure six shows that traditional service occupations such as retailing and dealing (the orange line) doubled between 1813-20 and 1841, whilst the provision of food and drink (the yellow line) remained relatively stable across the whole period. However, there were two areas of very rapid growth in the tertiary sector. Transport (the red line) was the fastest growing component. The proportion of adult males employed in transport quintupled from 0.8 per cent to 4 per cent between 1777 and 1851. Professional, clerical and government employment (the green line) doubled from 1.4 per cent to 3.2 per cent over the same period.



² VCH *Northants.* 2, p.334; P.R. Mounfield, 'The Footwear Industry of the East Midlands (III): Northamptonshire, 1700-1911', *The East Midland Geographer* 3:8, no. 24 (Dec. 1965), 439. Silk weaving flourished in Desborough, Rothwell, Kettering, Daventry, Towcester and Middleton Cheney in the eighteenth and early nineteenth centuries, and there is evidence of a silk manufactory at Weedon Bec: V.A. Hatley, 'The inhuman taskmaster: a story of Weedon Bec', *Northamptonshire Past and Present* 3:1 (1960), 30-34. On Rothwell, see also, J.M. Steane, 'The Poor in Rothwell 1750-1840', *Northamptonshire Past and Present* 4:3 (1968-69), 143.

Weaving

The rest of the paper will focus on the collapse of weaving and the rise of shoemaking. Our data set enables us to pinpoint the decline of weaving in Northamptonshire more precisely than has previously been possible. The chronology of, and reasons for, this decline require further investigation, particularly in relation to the timing of the mechanisation of wool and worsted weaving in the West Riding and Leicestershire.

Figure seven (appended to the end of this report) shows the distribution of weavers as a percentage of adult males in 1777. The hatching indicates land over 400 feet. It is clear from this map that there was some tendency for weaving to be concentrated on the higher ground in the north-western part of the county in 1777. Rothwell, Corby, Huxloe, Guilsborough and Spelhoe were the five main weaving hundreds. 25 per cent of adult males in Rothwell were weavers. The comparable figures were 18 per cent for Corby, 17 per cent for both Huxloe and Guilsborough, and 8 per cent for Spelhoe. The decline in secondary employment was driven by a dramatic collapse in the textile industry and, particularly, in worsted weaving. Our data sets enable us to plot this decline over time. The textiles industry fell from 11 per cent of male employment to just 1 per cent between 1777 and 1851. The proportion of weavers fell from 8 per cent in 1777 to 1 per cent in 1813-20 to just 0.5 per cent in 1841. Woolcombers declined at an even faster rate, falling from 2.2 per cent in 1777 to 0.13 per cent in 1813-20. By 1841 they had disappeared completely. The sudden collapse of the worsted industry here was probably due largely to the mechanisation of worsted spinning in the West Riding and over the county border in Leicestershire. Northamptonshire's failure to mechanise may be explained by a number of possible contributory factors, including: lack of water-power, forms of industrial organisation, resistance to mechanisation, product type, differences in markets, and the differential effects of war.³

One possible explanation for the increased proportion of adult males in agriculture in Northamptonshire is that redundant weavers flooded the agricultural labour market. Our data typically shows a 70 per cent rise in the proportion of the population employed in agriculture in the five main former weaving hundreds between 1777 and 1813-20. As can be seen in figure eight (appended to the end of this report) the geographies of the collapse of weaving and the rise in the agricultural labour force are strikingly similar.

Figure nine shows population growth in the hundreds of Northamptonshire and five other counties to the south and east between 1761 and 1841.⁴ As can be seen the weaving districts suffered a net decline in population between 1781 and 1801 when most of the south-east Midlands was experiencing population growth and grew more slowly than most of the region between 1801 and 1821.

³ On Northamptonshire, see J. Donaldson, *General View of the Agriculture of the County of Northampton* (1794), 11; William Pitt, *General View of the Agriculture of the County of Northampton* (1809), 241-43; V.A. Hatley, "'Blaze" at Buckby: A Note on a Forgotten Industry', *Northamptonshire Past and Present* 4:2 (1967-68), 91-96; A. Randall, 'The Kettering Worsted Industry of the Eighteenth Century', *Northants. P&P* 4:5 (1970-71), 313-20 and 4:6 (1971-72), 349-56. For explanations of expansion in the West Riding and decline elsewhere, see particularly, S.D. Chapman, 'The Pioneers of Worsted Spinning by Power', *Business History* 7:1 (1965), 97-116; J.H. Clapham, 'The Transference of the Worsted Industry from Norfolk to the West Riding', *Economic Journal* 20 (1910), 195-210; N. Evans, 'Worsted and Linen Weavers', in P. Wade-Martins (ed.), *An Historical Atlas of Norfolk* (2nd edn., Norfolk Museums Service), 150-51. On the timing of mechanisation, see D.T. Jenkins, *The West Riding Wool Textile Industry, 1770-1835* (Edington, 1965); D.T. Jenkins and K.T. Ponting, *The British Wool Textile Industry, 1770-1914* (2nd edn, Aldershot, 1987), 109, 338, 353; P. Mantoux, *The Industrial Revolution in the Eighteenth Century* (revised edn., London 1964), 206-19, 261-70, 406-07; S. Chapman, 'The Hosiery Industry, 1780-1914', in D. Jenkins (ed.), *The Cambridge History of Western Textiles*, II (Cambridge 2003), 824-45.

⁴ Wrigley, 'Hundredal populations.'

This suggests some out-migration from the weaving district to the rest of the county and into Leicestershire.⁵ This may account for some of the rise in the agricultural population in the rest of the county, but was clearly insufficient to prevent the local flooding of the agricultural labour market. Since this influx cannot have been absorbed, unemployment and underemployment presumably rocketed.

Hundredal-level poor relief data for 1775, 1803-04 and 1813-15 shows no clear corresponding pattern.⁶ This may suggest an upward trend in female unemployment over a much wider geographical area, caused by the widespread collapse of spinning. Parish level data may show a clearer pattern when we map it.

Shoemaking

Turning from the collapse of weaving to the rise of shoemaking, shoemakers increased from 6 per cent of adult males in 1777 to 9 per cent in 1813-20, reaching 13 per cent by mid-century. Shoemaking grew rapidly with mechanisation after 1857 and became a factory-based industry over the second half of the nineteenth century.⁷ Its proportional share of adult male employment in the county had reached 18 per cent by 1871.

As figure ten (appended to the end of this report) shows shoemaking had a very different geography to weaving. In 1777 it was concentrated along the Nene Valley in the south-eastern part of the county. The River Nene, shown in blue on the map, was the main route by which shoes were exported out of the county. Northampton (18 per cent), Hamfordshoe (18 per cent), Higham-Ferrers (7.7 per cent) and Navisford (7.3 per cent) were the main shoemaking hundreds.

Figure eleven (appended to the end of this report) shows the geography of shoemaking in 1813-20. By this period there had been a slight geographical shift. Northampton (27 per cent), Hamfordshoe (27.7 per cent) and Higham Ferrers (15.3 per cent) remained the largest centres, but Navisford had been eclipsed by Wymersley and Huxloe (where shoemakers were just over 10 per cent of adult males). Shoemaking was beginning to spread outwards from its established centres by this time. Fawsley, Orlingbury, Wymersley and Guilsborough hundreds saw the highest growth rates. Interestingly, three of these four rapidly expanding shoemaking hundreds were served by the Grand Junction Canal, shown here in dark blue. The canal was used to transport shoes and leather to and from London after 1805.⁸ Figure twelve (appended to this report) shows the geography of shoemaking parish by parish in 1813-20 for Northamptonshire and five other counties to the south and east. Parish level mapping brings out the fundamental importance of access to the river Nene for the location of the industry rather more clearly.

Northampton: the occupational structure of the county town 1525-1851

Table one shows data relating to Northampton for a considerably longer time span, and at more frequent intervals, than for Northamptonshire as a whole, which provides further clues about the timing of the collapse of weaving.

⁵ 1851 Census Report, Appendix: Tabular Results, pp. clxxviii-clxxix.

⁶ Abstract of the Poor, *Parliamentary Paper*, 1803-04, xiii; Abstract of the Poor, *Parliamentary Paper*, 1818, xix.

⁷ P.R. Mounfield, 'Early Technological Innovation in the British Footwear Industry', *Industrial Archaeology Review* 2:2 (Spring 1978), 134-41. It should be noted that the introduction of sewing machines for upper closing and sole sewing met with some opposition in Northampton. On Long Buckby, see R.L. Greenall, 'The History of Boot and Shoemaking at Long Buckby', *Northamptonshire Past and Present* 5:5 (1977), 437-45.

⁸ R.L. Greenall, *A History of Northamptonshire* (Chichester, 1979), 97-98. The Northampton arm of the Grand Junction Canal was not completed until 1815. See also Mounfield, 'The footwear industry of the East Midlands (III): Northamptonshire, 1700-1911', 445.

Northampton is virtually the only English town with good occupational data from the 1524/25 lay subsidy returns.⁹ This, together with our data sets, and poll book data covering the period 1768-1831 generously made available to us by Paul French, allows us to reconstruct the county town's occupational structure from 1525-1851.¹⁰ The Northampton data mirrors countywide developments in terms of the decline of weaving and the rise of shoemaking.

Table 1: Percentage of adult males in selected occupations in Northampton 1525-1871

| | 1525 | 1768 | 1774 | 1777 | 1784 | 1790 | 1796 | 1813-20 | 1818 | 1820 | 1831 | 1841 | 1851 | 1871 |
|----------------------------|------|------|------|------|------|------|------|---------|------|------|------|------|------|--------|
| Shoemaking | 12.9 | 14.7 | 13.8 | 17.9 | 14.0 | 15.9 | 24.0 | 24.3 | 23.4 | 26.6 | 34.6 | 32.7 | 39.3 | 45.0 |
| Tanner | 4.5 | 0.9 | 1.3 | 0.6 | 1.2 | 0.7 | 0.7 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | |
| Currier/Leather Dresser | 1.3 | 0.9 | 1.1 | 0.8 | 1.2 | 1.1 | 2.0 | 1.0 | 1.7 | 1.9 | 1.4 | 1.6 | 2.7 | |
| Other Leather * | 6.3 | 1.0 | 0.9 | 1.0 | 1.2 | 1.0 | 0.9 | 1.0 | 0.2 | 0.3 | 0.6 | 0.5 | | |
| Total Leather | 25.0 | 17.5 | 17.1 | 20.3 | 17.7 | 18.7 | 27.6 | 26.5 | 25.6 | 29.0 | 36.7 | 34.8 | 42.0 | |
| Weaver | 5.5 | 6.8 | 5.8 | 6.9 | 5.1 | 4.7 | 4.1 | 0.0 | 0.7 | 0.1 | 0.1 | 0.0 | | |
| Dyer | 2.6 | 0.2 | 0.1 | 0.3 | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 | 0.3 | 0.2 | 0.1 | | |
| Pattern Maker | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Woollen | 7.6 | 4.7 | 5.2 | 3.3 | 4.0 | 4.5 | 2.1 | 0.4 | 0.7 | 0.3 | 0.3 | 0.1 | | |
| Cotton | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Silk | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Line | 0.0 | 0.6 | 0.6 | 0.8 | 0.2 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | | |
| Other Textile | 7.6 | 5.3 | 5.8 | 4.0 | 4.2 | 4.5 | 2.1 | 0.7 | 0.7 | 0.3 | | | | |
| Total Textile | 15.8 | 12.2 | 11.6 | 11.2 | 9.4 | 9.3 | 6.6 | 0.9 | 1.6 | 0.7 | 0.2 | 0.1 | | |
| Bakers | 6.1 | 2.0 | 2.0 | 1.4 | 1.9 | 2.0 | 1.7 | 1.4 | 1.4 | 2.0 | 1.6 | 1.6 | | |
| Blacksmith | 2.4 | 0.1 | 0.0 | 0.8 | 0.4 | 0.6 | 0.3 | 0.7 | 0.9 | 0.4 | 0.3 | 1.1 | | |
| Butcher | 4.2 | 2.8 | 2.8 | 1.9 | 2.8 | 2.4 | 2.1 | 1.4 | 2.2 | 2.7 | 1.5 | 1.7 | | |
| Carpenter | 1.6 | 3.2 | 4.0 | 2.6 | 3.4 | 3.6 | 3.2 | 3.7 | 3.4 | 3.4 | 5.1 | 3.0 | | |
| Brazier | | 0.5 | 0.6 | 0.4 | 0.4 | 0.4 | 0.0 | | | | | | | |
| No. of Observations | 380 | 1139 | 904 | 795 | 906 | 893 | 991 | 2013 | 1287 | 1432 | 2593 | 5574 | 7566 | 10,245 |

Note: we are for very grateful to Mr Paul French, Nene College for generously allowing us to use his poll book data for 1768, 1774, 1784, 1796, 1818, 1820 and 1831

The collapse of Northampton's woollen textiles industry can be more precisely dated using French's poll book data. The decline had apparently started by 1777, but was sharpest between 1796 and 1813-20. Weavers constituted 4.1 per cent of adult males in 1796, but only 0.05 per cent in 1813-20. Whereas 2.1 per cent of adult males were employed in the woollen industry in 1796, this figure had fallen as low as 0.5 per cent by 1813-20.

Turning from weaving to shoemaking, it is clear that shoemaking was already a major employer in the early sixteenth century. The proportion of adult males employed in shoemaking rose from 13 per cent in 1525 to 18 per cent in 1777 and then grew steadily to 39 per cent in 1851. This share substantially increased after the introduction of mechanisation in 1857. By 1871, 45 per cent of townsmen were employed in the footwear industry.

⁹ Alan Dyer, 'Northampton in 1524', *Northampton Past and Present* 6:2 (1979), 73-80.

¹⁰ Paul French, 'Continuity and change in the county town: Northampton c.1675-1841' (PhD thesis, University College Northampton, in progress).

Conclusions

To conclude, our provisional results show a rapid growth in Northamptonshire's tertiary sector, following the national pattern. Whilst Northamptonshire's primary and secondary sectors developed differently from the national pattern in the early period, this difference can largely be explained by the collapse of weaving. After 1813-20, developments in these two sectors generally reflected national trends.

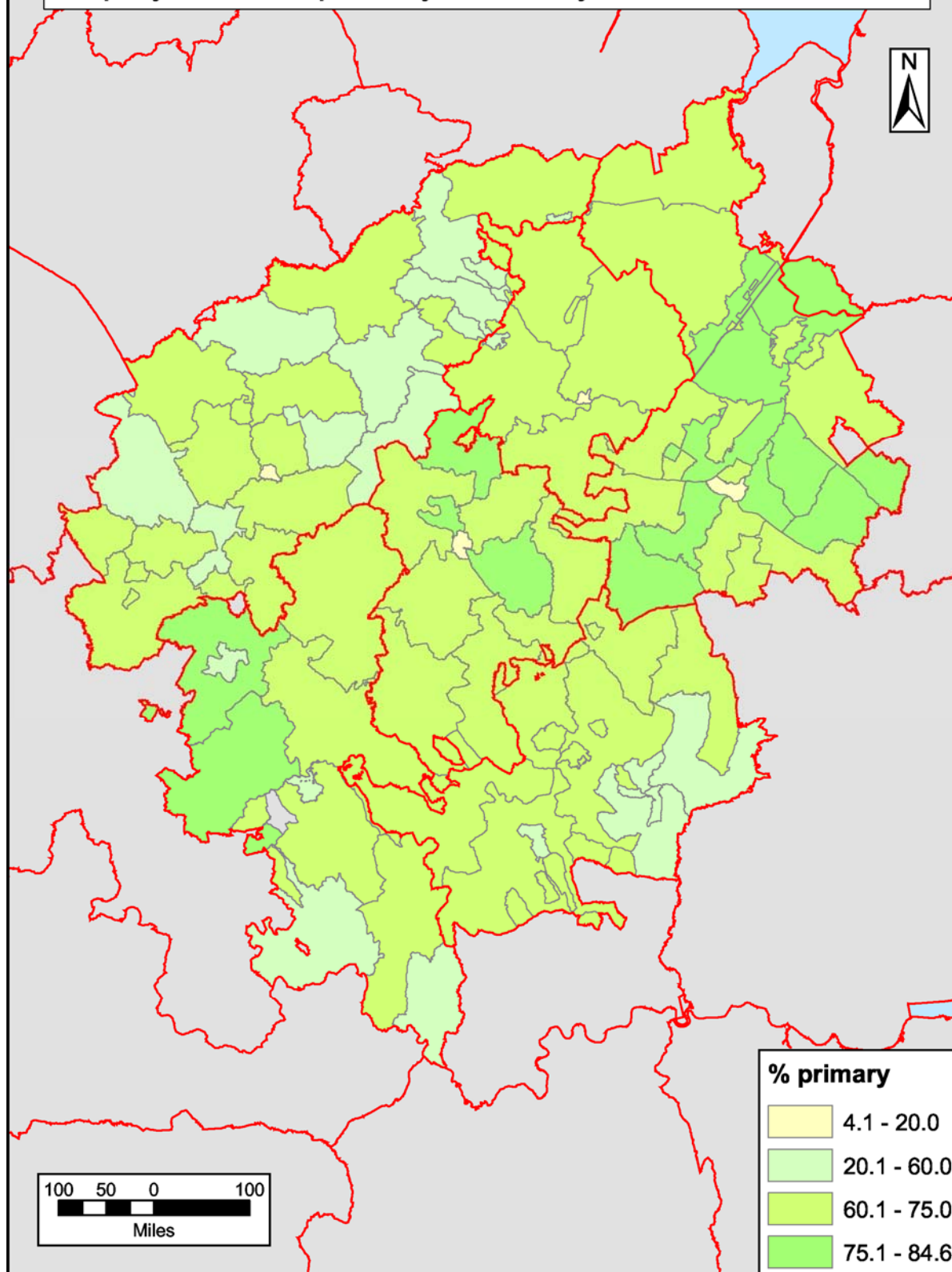
Northamptonshire is a case of partial de-industrialisation from the late eighteenth century, when its worsted textile industry collapsed. The growth of shoemaking fuelled a partial recovery of the county's economy by the 1840s. However, the eighteenth-century level of industrialisation was only exceeded in the second half of the nineteenth century, when shoemaking became a factory industry. Local studies have suggested that the industrialisation process in this land-locked region owed much to the railways, at least outside the county town itself.¹¹

This case study suggests that, whilst the early phase of the Industrial Revolution was regional, centring on the northern industrial counties, it had become much more widespread by the second half of the nineteenth century. This seems to confirm the view of Nick Crafts and other revisionists that it was only in the second half of the nineteenth century that steam power and factory production spread beyond wool and cotton textiles to manufacturing more generally.¹²

¹¹ This argument is made for the east midland region as a whole by J.V. Beckett and J.E. Heath, 'When was the industrial revolution in the East Midlands?', *Midland History* 13 (1988), 77-94. This article covers the counties of Derbyshire, Leicestershire, Nottinghamshire, and Lincolnshire, although Northamptonshire seems to fit this pattern. Cf. Greenall, *A History of Northamptonshire*, 100-01.

¹² N. Crafts, *British Economic Growth during the Industrial Revolution* (1985). See also Beckett and Heath, 'When was the industrial revolution in the East Midlands?'

Figure 2. The six counties. Percentage of adult males employed in the primary sector by hundred 1813-1820



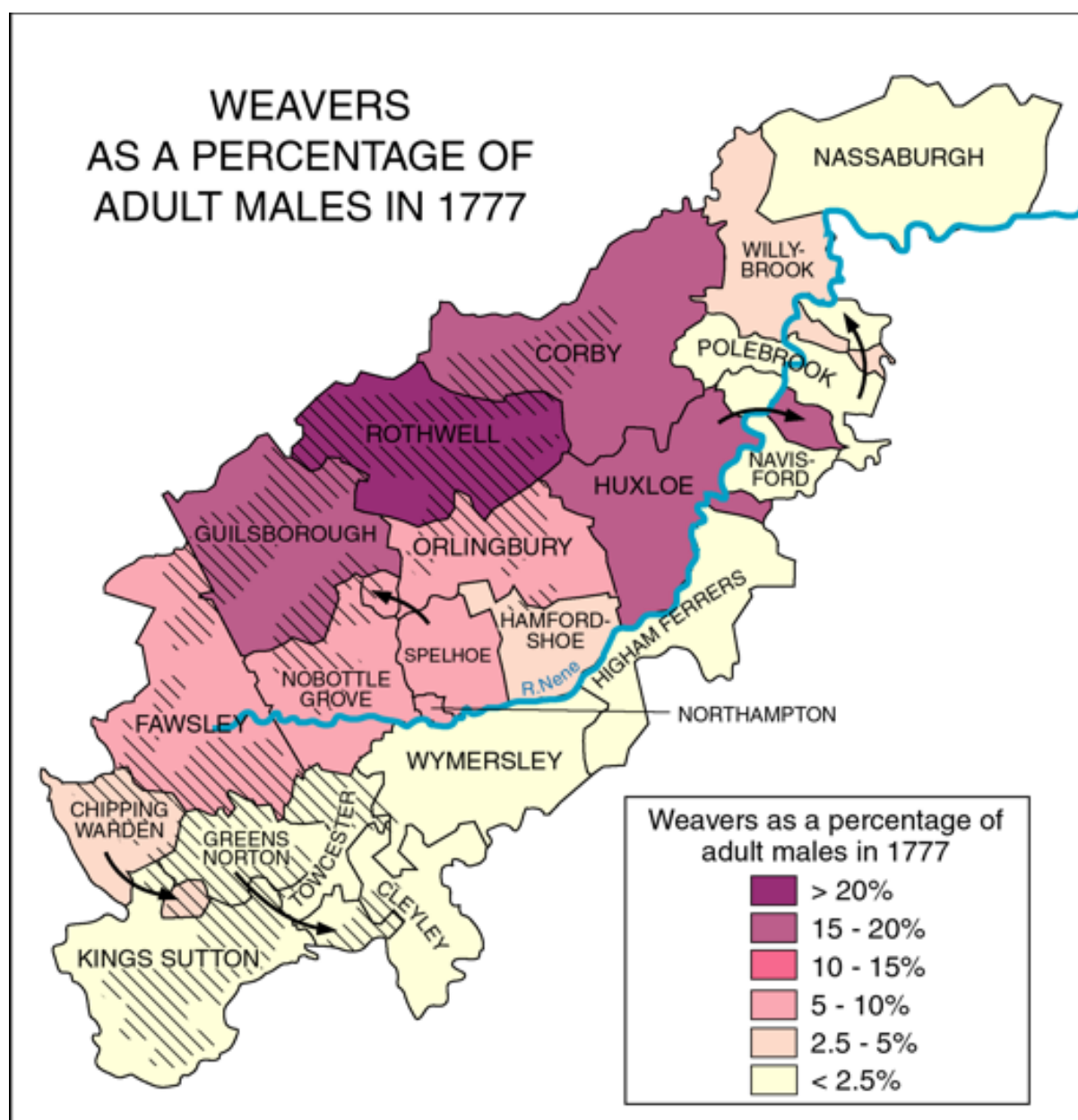


Figure 7: Adult male employment in weaving in Northamptonshire 1777.

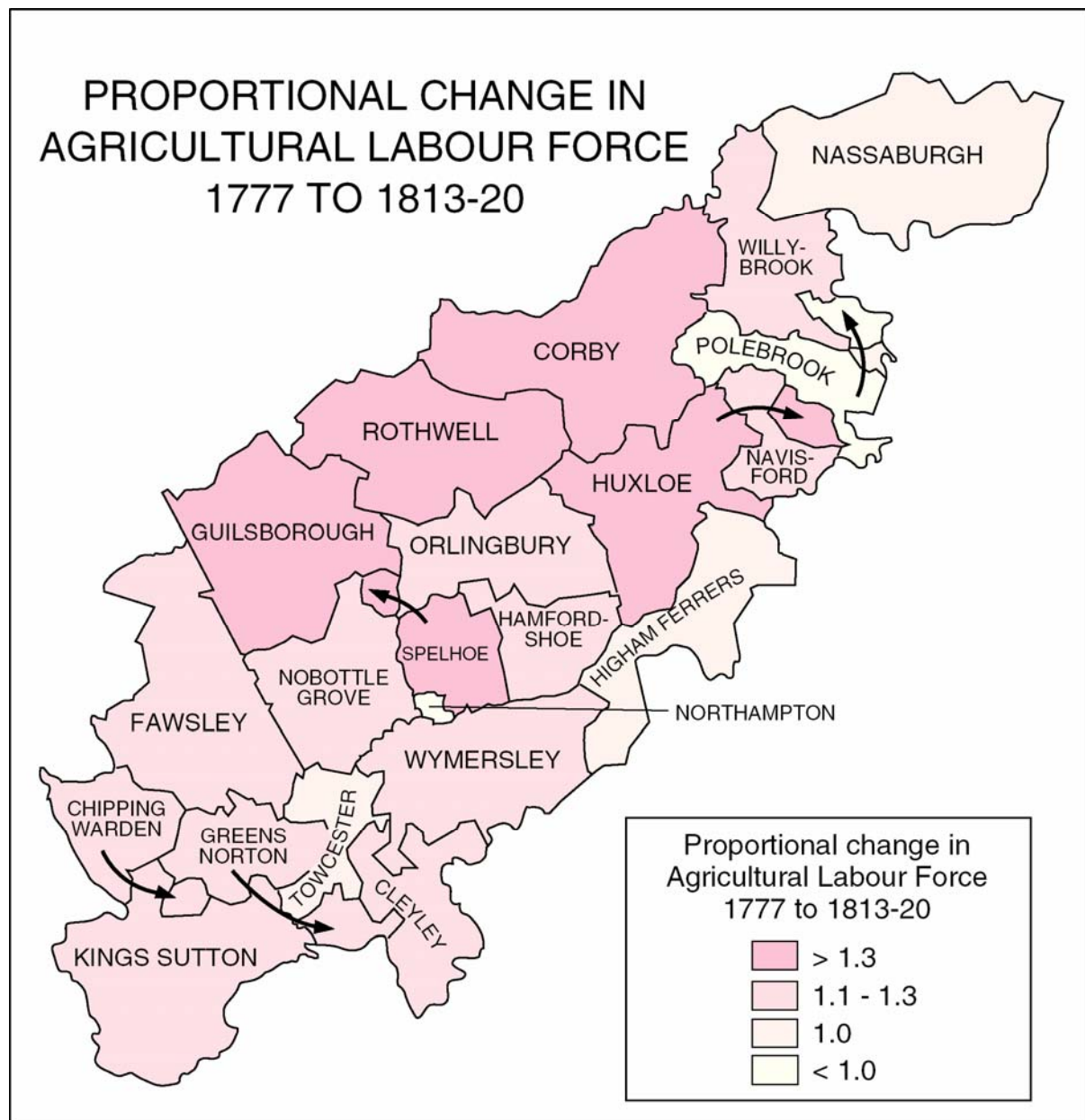
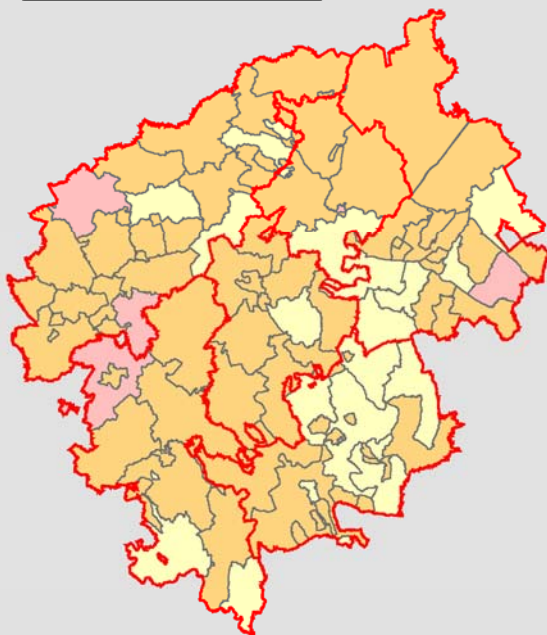


Figure 8: The growth of the adult male agricultural labour force in Northamptonshire between 1777 and 1813-20.

1761-1781



1781-1801

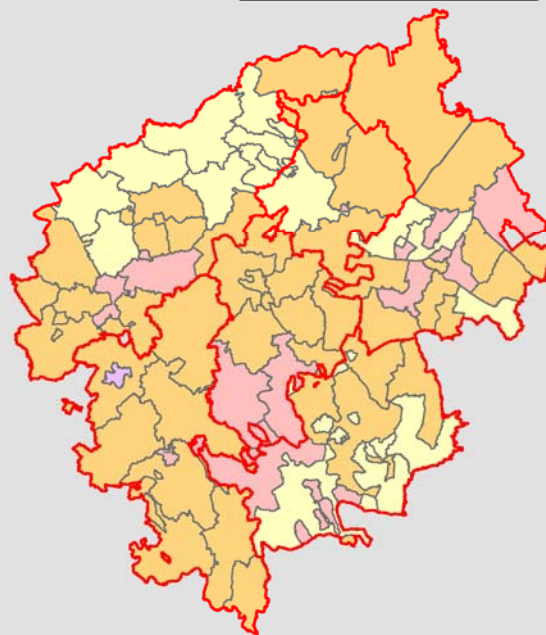
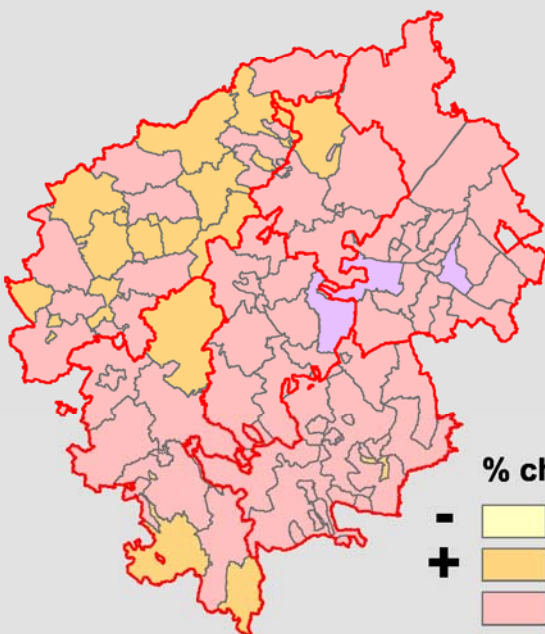
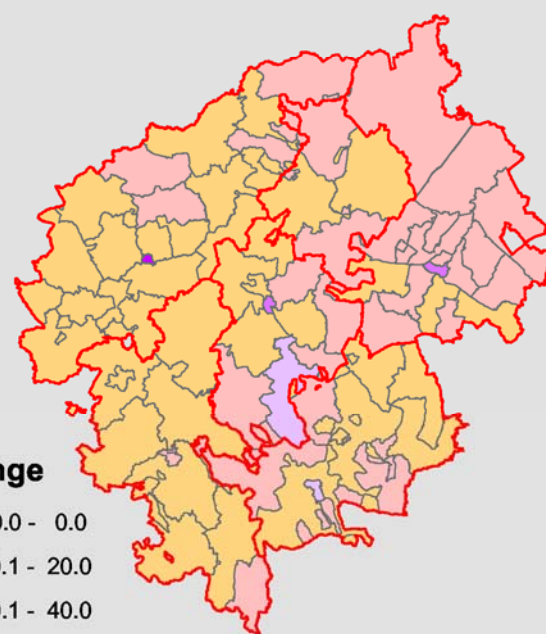


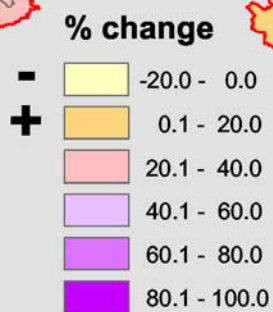
Figure 9.
The East Midlands: Population change
by hundred 1761-1841



1801-1821



1821-1841



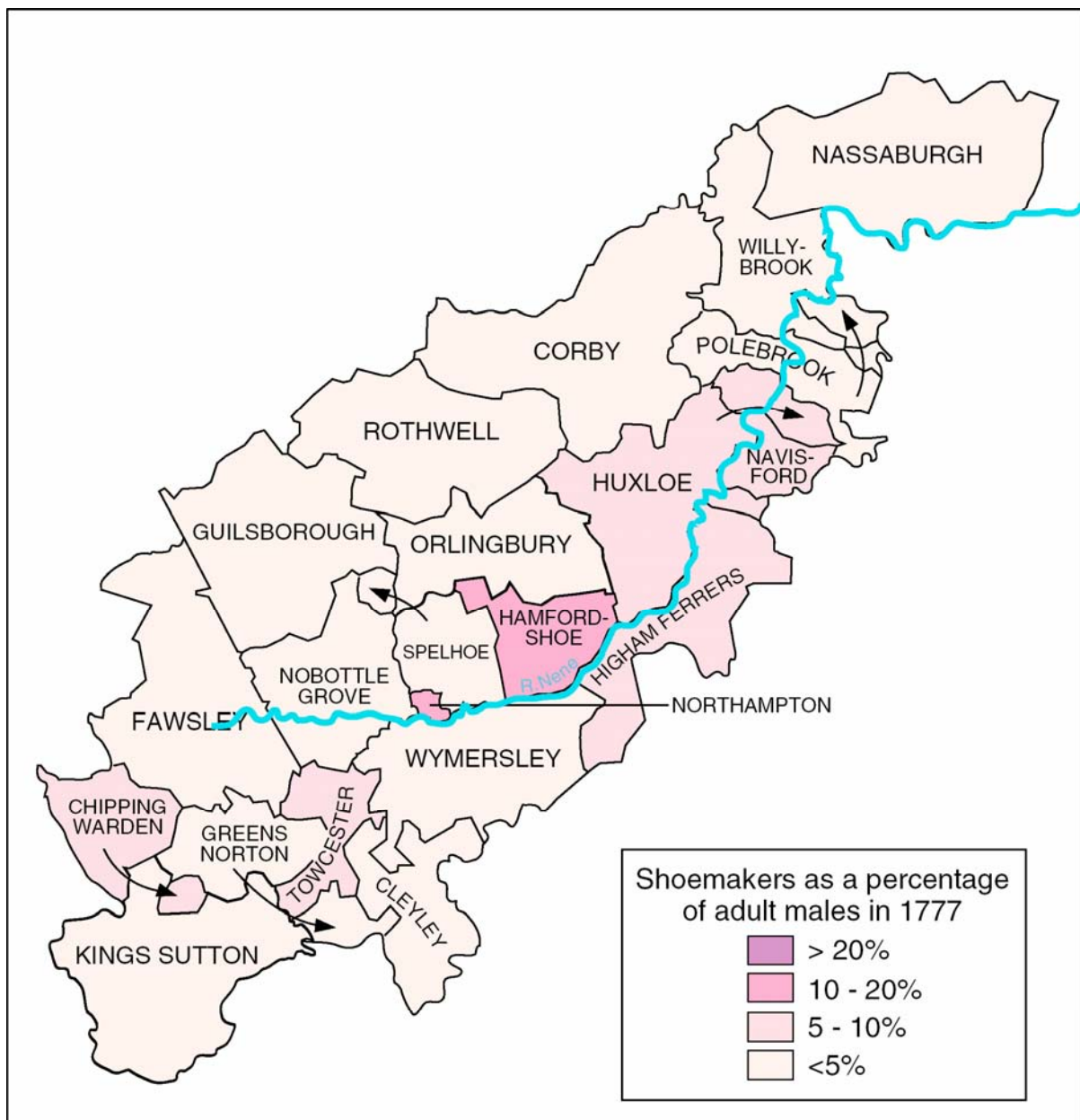


Figure 10: Adult male employment in shoemaking in Northamptonshire 1777.

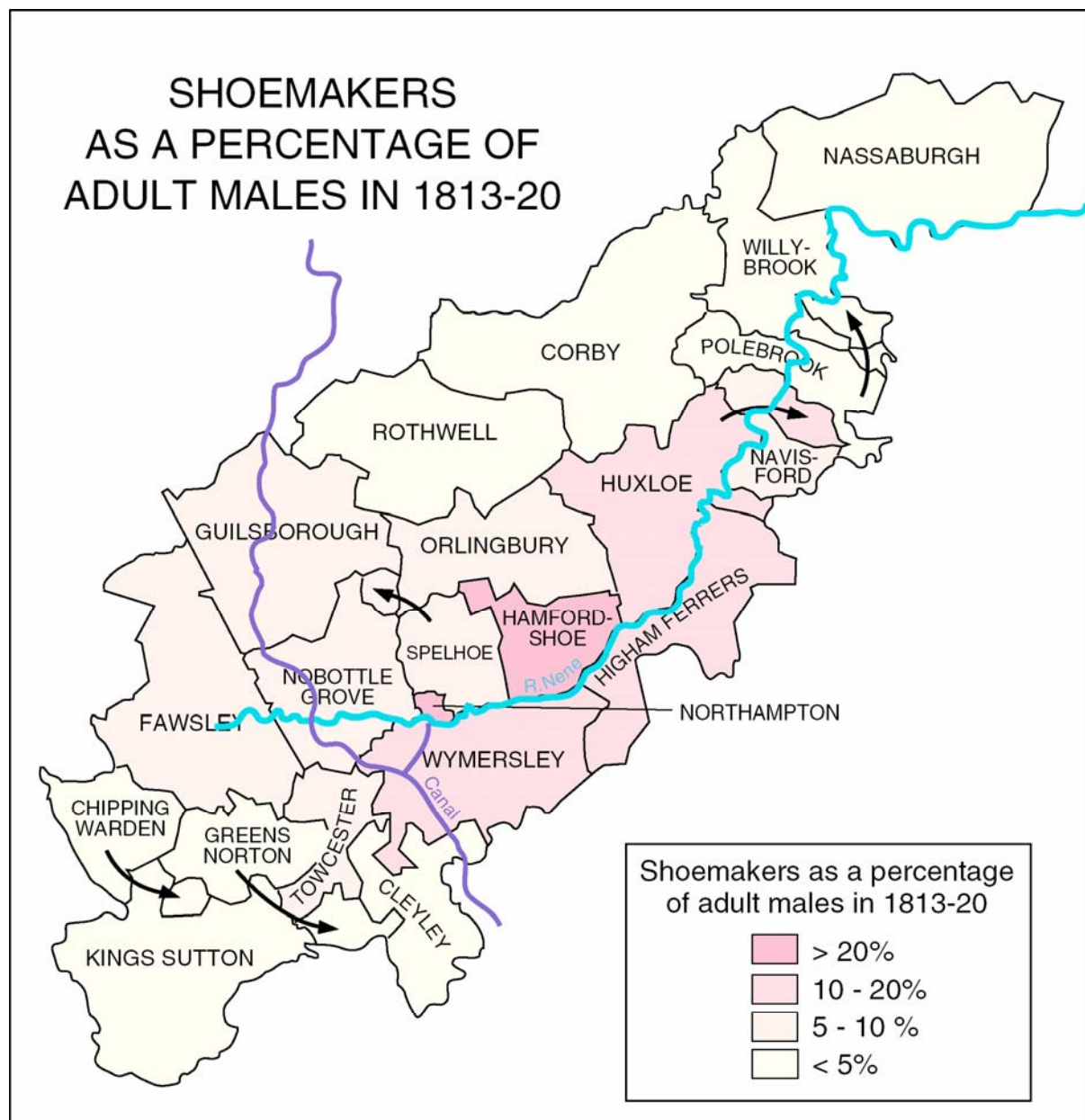


Figure 11: Adult male employment in shoemaking in Northamptonshire 1813-20.

Figure 12. Percentage of adult males employed as shoemakers c.1820

