

Changing Patterns of Female Employment in Westmorland, 1787-1851

Auriane Terki-Mignot

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I. Introduction

The British Industrial Revolution counts amongst those few events in history that have reached far beyond their geographic or temporal boundaries to permeate the very way we understand and study history. For decades now, the concept of industrialization has provided historians with a watershed to begin – or end – histories; a core around which to construct historical narratives; or a standard against which to judge or analyse political, economic and social developments around Europe or even outside the continent. As such, industrialization has been central to no less than our current understandings of ‘modernity’, of its processes, and its chronology.

Yet, traditional histories of the British industrial Revolution are but half the story. Whereas women make up over fifty percent of the world population, reliable data on women’s involvement in the British economy prior to 1850 remain extremely scarce, such that current understandings of industrialization are based on accounts of trends in occupational structure, or in output and productivity, that exclude or fail to recognize the role played by women and the impact of industrialization itself on opportunities for women to act as economic agents. This is particularly significant in light of recent work by Shaw-Taylor, Wrigley, and You, which suggests that female occupational data may force us to reconsider current understandings of both the nature and chronology of the Industrial Revolution.¹

In recent decades, growing interest in women’s history has indeed both perpetuated and significantly reshaped interest in questions of the nature, causes, timeline, and consequences of the Industrial Revolution. But an overview of the current literature quickly reveals that lack of reliable data has made it difficult for scholarship to reach conclusions on major aspects of the debate.

¹ Shaw-Taylor, Leigh, and Xuesheng You. “Patterns of female and male employment in England and Wales 1700-1911.” Working paper (2014).

I.1 Understanding the history of women's work: current debates

Earlier histories of women's work during the Industrial Revolution (1750-1850) tended to associate the period with a growth of opportunities for women to take part in the waged labour force. In 1930, in an influential study of female employment in the Industrial Revolution, Ivy Pinchbeck concluded that 'women gained greatly by the transference of manufacture from the home to the factory'² as home and the workplace became increasingly differentiated, and women gained in economic and social independence through work outside the home.

By the 1980s, noting that women's interactions with the market were heavily influenced by their gender, historians such as Bridget Hill, Judith Bennett, or Maxine Berg instead began to emphasize continuity as the main characteristic of women's involvement in the labour market.³ By focusing her analysis on the *status* conferred upon women by apprenticeships or employment, and contrasting it with that conferred upon men, Bennett concluded that 'women were as clustered in low-skilled, low-status, low-paying occupations in 1200 as in 1900', arguing that 'the endurance of women's low status as workers, across time and place', could only be explained by 'a feature common to the experiences of all women, patriarchy.'⁴ In the following decade, Baker would similarly argue that the dissolution of the household-based economy identified by Pinchbeck led to a loss of *status* for women as workers, and hence to their marginalization within the economy.⁵

² Pinchbeck, Ivy. *Women Workers and the Industrial Revolution, 1750-1850*. London: Routledge, 1930. Print. (p.307).

³ See work by Judith Bennett and Maxine Berg in particular, e.g. Bennett, Judith M. "Review: 'History That Stands Still': Women's Work in the European Past." *Feminist Studies* 14.2 (1988): 269-83. *JSTOR [JSTOR]*. Web. 12 Sept. 2016. <<http://www.jstor.org/stable/3180153>>. ; or Berg, Maxine. "What Difference Did Women's Work Make to the Industrial Revolution?" *History Workshop* 35 (1993): 22-44. *JSTOR [JSTOR]*. Web. 12 Sept. 2016. <<http://www.jstor.org/stable/4289205>>.

⁴ Bennett, 'History That Stands Still'. (pp.278-280).

⁵ Barker, Hannah. "Women, Work and the Industrial Revolution: Female Involvement in the English Printing Trades, C.1700-1840." *Gender in Eighteenth-Century England*. Ed. Hannah Barker and Elaine Chalus. Harlow: Longman, 1997. 81-100. Print. (p.82).

The works of historians such as Bennett were extremely influential in identifying socio-cultural understandings of gendered roles as central historical determinants of women's involvement in the market. However, because they relied heavily on the concept of 'patriarchy'⁶ as a universalized, ahistorical reality, such analyses tended to assume that the impact of socio-cultural factors was fixed, of constant weight, and operated in a constant direction across ages and independently of other circumstances. It was through the influence of social constructivism and the turn towards 'gender' in women's history⁷ that more nuanced accounts of the interplay of socio-cultural and economic factors on women's work were developed in the 1990s.⁸

In 1995, Valenze's study of economic and political responses to changing patterns of women's work in England highlighted the culturally and socially mediated nature of these responses, and recognized the importance of temporally and geographically specific negotiations and constructions of gendered divisions of roles and labour to women's waged labour opportunities. Commenting on the Industrial Revolution, she noted that, although by 1850 'factory employment involved a small percentage of the working population, the debates surrounding it created important normative forces' such that perceptions of female factory work became an integral element in the public's formation of 'definitions of masculine and feminine, skilled and unskilled work, and even moral notions of right and wrong.'⁹

⁶ The works of Judith Bennett or Maxine Berg were part of a broader trend of 'feminist' history that made use of patriarchy as a central explanatory framework. This is extremely visible in Bennett's work – e.g. when Bennett strongly criticized works that identified a 'golden age of women's work' prior to industrialization, because 'their conclusions imply that the worst aspects of sexual inequality – at least in economic terms – are comparatively modern and therefore neither profound nor enduring.' See Bennett, 'History That Stands Still'. (p.270).

⁷ A particularly influential article in this 'turn towards gender' was Joan Scott's 1968 'Gender: A Useful Category of Historical Analysis' in which Scott applied post-structural analysis to history to suggest that 'history should be less concerned with things that have happened to women and men and their reaction to such things' and more concerned with 'how categories of identities have been constructed.' See Scott, Joan Wallach. *Gender and the Politics of History*. New York: Columbia UP, 1999. Print. Gender and Culture. (p.6).

⁸ See for example the works of Deborah Valenze or Anna Clark.

⁹ Valenze, Deborah. *The First Industrial Woman*. Oxford: Oxford UP, 1995. Print. (p.98).

Indeed, as early as the eighteenth century, male weavers had been depicted as hard-working men harassed by uncooperative female spinners.¹⁰ By the nineteenth century, regular accounts of the nefarious effects of factory work on women's health and morality suggested growing anxieties about female labour outside the home.¹¹ Not only were female factory workers associated with the physical and moral degradation of the nation, they were also at times portrayed as lacking skill and work ethics, and hence as a factor in the degradation of particular trades. As early as 1747, a Londoner recorded that female button makers 'had reduced the Trade to small Profits, and a small Share of Reputation... The Women are generally Gin-Drinkers, and, consequently, bad Wives; this makes them poor, and, to get something to keep Soul and Body together, work for a mere Trifle, and hawk their Work about to the Trade at an Under-price, after they have cheated the Lace-man of his stuffs.'¹²

Ultimately, Valenze's explanation of a possible causal relation between changing attitudes towards female workers evident in the literature of the period, and her assertion that 'women never gained entrance to high-paying jobs occupied by men, but instead, moved into wholly new positions, at low wages, created by changes in technology'¹³ disappointingly relies on a supposed process of diffusion and emulation of 'middle-class' attitudes and constructions of masculinity and femininity. This takes away from her perceptive analysis of the factory as brewer of social anxieties surrounding female employment by assuming the existence and dominance of 'middle-class' ideals within society at large. But her analysis nonetheless remains a perceptive development of Bennett's focus on the patriarchy as the central factor in determining women's status as workers – for, rather than assuming

¹⁰ See for example Baine's History lamenting, 'he had with much pains to collect [weft] from neighbouring spinsters...' cited in Valenze, *The First Industrial Woman*. (p.79).

¹¹ To give but one – telling – example, in 1833, Peter Gaskell described the archetypal female factory worker in the following terms: 'here will be found an utter absence of grace and feminine manners... no delicacy of figure, no grace in all her steps, no heaven within her eye.' He further argued that the unwomanly voice of the factory worker was due to 'too early sexual excitement' that produced 'vocal organs closely resembling that of the male', and that the 'soft, flaccid, pendulous breasts' of the working-class mother were indicative of 'perversion in the usual functional adaptation of the parts' as they offered little nourishment to the infant.

See Gaskell, Peter. *The Manufacturing Population of England : its moral, social, and physical conditions, and the changes which have arisen from the use of steam machinery ; with an examination of infant labour*. London : Baldwin and Cradock, 1833. Print. Cited in Valenze, *The First Industrial Woman*. (p.99).

¹² Campbell, R. *The London Tradesman*. London: T. Gardner, 1747. Print. Cited in Valenze, *The First Industrial Woman*. (p.118).

¹³ Valenze, *The First Industrial Woman*. (p.127).

the impermanence of socio-cultural forces, it begins instead to show the mechanisms through which, and times at which, these forces came into play.

Anna Clark similarly sought to demonstrate that ‘the gender division of labor and workers’ responses to it were determined, not simply by the location of work or the nature of the technology or skills, but also by power relations within the family and in the workplace.’¹⁴ Where male silk weavers found that they profited more from their wives’ weaving than their winding, such as in Spitafields, the men lobbied to allow women to complete regular apprenticeships and be paid the same as journeymen, obtaining the 1812 Spitafields Act.¹⁵ More frequently, however, male textile workers organised in unions to combat mill owners employing female spinners to cut costs, at times obtaining the immediate dismissal of the women such as in the Glasgow Broomward mill in 1819.¹⁶ By the 1820s, male workers increasingly drew upon fears of physical and moral degradation provoked by factory work to argue that women’s work harmed domestic life by damaging female morality and undercutting male wages¹⁷ – a rhetoric that became part of the campaigning for the Factory Acts.¹⁸ This rhetoric led historians such as Franzoi Bari to conclude that ‘a more pervasive and permanent effect of industrial development was the marginalization of women’s work and the feminization of domestic industry.’¹⁹

¹⁴ Clark, Anna. *The Struggle for the Breeches: Gender and the Making of the British Working Class*. Oakland: U of California, 1997. Print. (p.14).

¹⁵ Note that husbands nonetheless continued to negotiate payments, obtain raw materials and receive wages on behalf of their wives. See Clark, *The Struggle for the Breeches*. (pp.199-215).

¹⁶ *Ibid.* (p.135).

¹⁷ *Ibid.* (pp.199-215).

¹⁸ The first Factory Act of 1833 was designed to restrict child labour by regulating children’s working hours in factories. By 1844, the restrictions were extended to women – such that women were no longer able to work beyond engine hours.

¹⁹ Franzoi Bari, Barbara. " ‘... with the wolf always at the door...’ : Women’s Work in Domestic Industry in Britain and Germany." *Connecting Spheres: European Women in a Globalizing World, 1500 to the Present*. Ed. Marilyn J. Boxer and Jean H. Quataert. Oxford: Oxford UP, 2000. 164-173. Print. (p.164).

More recent studies of women's work during the Industrial Revolution hence tend to recognize that industrialization initially made use of, or relied upon, cheap and flexible female labour – thereby providing new opportunities for women to take part in the waged labour force – but that the extent to which women were able to harness these new opportunities was strongly influenced by social forces. But whereas it has become clear that 'industrialisation, and the social, cultural and political changes associated with it, should be understood as a gendered process',²⁰ current scholarship on industrialization and women's work is notable for its lack of a quantitative basis, relying instead on parliamentary reports, newspapers and periodicals, or contemporary books and pamphlets, as seen above. While these provide ample evidence of changing attitudes to women's work outside the home, they offer no precise indication as to how female participation rates or occupational structure really changed – or failed to change – over the period. Different, even opposing, interpretations of the impacts of industrialization on women's work and of the determinants of these impacts may therefore be supported in turn, through different assumptions as to actual patterns of female employment.

1.2 Understanding the history of women's work: available evidence

Quantitative evidence of women's work from 1750 to 1850 remains scarce, and the conclusions it points towards at times contradictory. In 1974, exploring the idea that the Industrial Revolution had been a catalyst to the emancipation of women, Eric Richards used data collected by Pinchbeck, additional data from cotton factories, and 1851-1881 census data to put forward the hypothesis that British female labour force participation rates followed a U-shaped curve. Industrialization, 'far from "emancipating" women,' would instead have 'led to a contraction of some of [women's] traditional functions in the economy' from what he described as a 'notional maximum' before the Industrial Revolution.²¹ Richards indeed convincingly suggested that the 'rise of the factory girl' should be considered an 'exceptional and atypical development in the industrializing economy',

²⁰ Honeyman, Katrina. *Women, Gender and Industrialisation in England, 1700-1870*. London: Macmillan, 2000. Print. British Studies Ser. (p.12).

²¹ Richards, Eric. "Women in the British Economy since about 1700: An Interpretation." *History* 59.197 (1974): 337-57. *JSTOR [JSTOR]*. Web. 7 Nov. 2017. (p.337).

and further hypothesized that, since the new job opportunities created for women in the cotton industry were regionally concentrated, opportunities for women diminishing in other branches, and no new opportunities being created for them in the great leading sectors of the economy (iron and steel, railways, chemicals, building), the structural changes associated with the Industrial Revolution would have narrowed the range of economic activities undertaken by female workers.²² At this stage, Richards could not, however, provide either a comprehensive (i.e. representative) or detailed (i.e. regionally specific) quantitative basis for his hypothesis, as his pre-1851 data remained restricted to Pinchbeck's earlier work and to case studies of cotton factories.

In a 1979 article, Osamu Saito began developing a more detailed picture of female employment during industrialization by comparing data from Cardington in 1782 and Corfe Castle in 1790 with corresponding data extracted from the 1851 census CEBs.²³ Though male occupations showed no significant variation, trends in female occupations showed far greater variability: in Cardington, employment for women in the 20-50 age group was higher in 1782 than in 1851, though employment for the 50+ age group was higher in 1851. In Corfe Castle, female employment rates were consistently higher in 1790 than in 1851, generally by a factor of two:²⁴ Corfe girls had largely been employed in spinning and knitting, which had all but disappeared by 1851. In Cardington, a similar pattern was paralleled – and partly counter-balanced – by the growth of lace making as an occupation for younger women.²⁵ From this, Saito noted that ‘none of the twentieth-century industrialised countries... show such a high figure (82 per cent) as Cardington in 1782 produced for married women aged 20-39’, and hence concluded that ‘the effect of the cottage industry on the labour force participation profiles of females was remarkable and perhaps even unique’²⁶ with regard to the high levels of female employment it produced.

²² Richards, ‘Women in the British Economy since about 1700.’ (pp.345-347).

²³ Census enumerators’ books.

²⁴ Saito, Osamu. "Who Worked When: Life-time Profiles of Labour Force Participation in Cardington and Corfe Castle in the Late Eighteenth and Mid-nineteenth Centuries." *Local Population Studies* 22 (1979): 14-29. Localpopulationstudies.org.uk. Local Population Studies Society. Web. 9 Sept. 2016. (pp.21-22).

²⁵ *Ibid.* (p.25).

²⁶ *Ibid.* (p.27).

Peter Earle's 1989 study of the London Church court records for 1695-1725 tended towards similar conclusions. Earle found that, between 1695 and 1725, 54% of women recorded in the court depositions claimed to be wholly maintained by employment, with domestic service accounting for 25.4% of stated occupations, followed by making/mending clothes (20.2%) and charring/laundry (11.1%).²⁷ Whereas the occupational structure thereby revealed was very similar to that of the 1851 census, participation rates were higher in the earlier period.²⁸ Earle hence concluded that there was 'evidence of a narrowing of women's employment opportunities as a result of the Industrial Revolution or of Victorian mores', though ultimately 'opportunities were already narrow in 1700 and the only real difference seemed to be that more women worked for their living in the earlier period than they did in the 1850s, probably because more women were poor.'²⁹

A 2008 article by Amy Erickson, which used criminal courts and apprenticeship records for London for the same period, nevertheless suggested that women who took up work did not necessarily do so out of financial necessity. Whereas Earle had found that no woman married to a master of a Company had an occupation herself, Erickson showed that in the Christ hospital's records, 25% of the 69 married women taking apprentices were married to Citizens of London, who must by definition have been masters of a Company and would not have required their wives to have waged employment in order to support their families.³⁰ There is hence scope to believe that female employment rates in 1695-1725 were even higher than initially thought by Earle. In 2011, Muldrew indeed produced

²⁷ Earle, Peter. "The Female Labour Market in London in the Late Seventeenth and Early Eighteenth Centuries." *Economic History Review* 42.3 (1989): 328-53. *JSTOR* [JSTOR]. Web. 9 Sept. 2016. <<http://www.jstor.org/stable/2596437>>. (pp.337-339).

²⁸ This was despite the fact that, as Amy Erickson remarked, it is likely that some women chose to reply that they were married and supported by their husbands even though they were not, for the question 'how and by what means doe you get your living and are you maintained' was most likely to be asked in cases where a witness's source of income was of dubious legality.

See Erickson, Amy Louise. "Married Women's Occupations in Eighteenth-Century London." *Continuity and Change* 23.2 (2008): 267-307. *Cambridge Core*. Web. 27 Oct. 2016. (p.274)

²⁹ Earle, "The Female Labour Market in London." (p.342).

³⁰ Erickson, "Married Women's Occupations in Eighteenth-Century London." (p.282).

estimates of female employment in spinning from the late sixteenth to the late eighteenth century, suggesting that by 1770 as many as 75% of married women may have been employed in spinning.³¹

Other quantitative analyses of female labour nonetheless point in a different direction. In a 2012 article, Jane Humphries and Carmen Sarasúa reconstructed female participation rates in historical Europe from 1700 to 1950, and argued that women's work was not irregular, and that the U-shaped curve described above 'is, partly at least, a statistical mirage' due to under-recording of female labour in existing sources.³² This followed on from a study of household budgets between 1790 and 1865 by Horrell and Humphries, which had detected a pattern of gradually rising monetary contributions by wives and children to total household income up to the 1830s, from about 35% to over 40%, followed by a decline in the 1840s and further decline in the 1860s, after which rising adult male earnings began to dominate the picture.³³ Current quantitative evidence of women's involvement in the market economy over the period of the Industrial Revolution is therefore insufficient to come to definitive conclusions as to the impact of industrialization on women's work - despite recent research suggesting that including data on female occupations in analyses of the Industrial Revolution could, in fact, force us to reconsider the very way we understand and define 'industrialization.'

³¹ Muldrew's estimates included estimates for wool, worsted and linen when most linen would in fact have been imported and would not, therefore, have added to domestic employment – but the rates of female employment suggested by his estimates nonetheless remain incredibly high, and in line with Honeyman's hypothesis. See Muldrew, Craig. *Food, Energy and the Creation of Industriousness: Work and Material Culture in Agrarian England, 1550-1780*. Cambridge: Cambridge UP, 2011. Print. (p.244).

³² Humphries, Jane, and Carmen Sarasúa. "Off the Record: Reconstructing Women's Labor Force Participation in the European Past." *Feminist Economics* 18.4 (2012): 39-67. *Taylor & Francis Online*. Web. 26 Oct. 2016. (pp.44-46).

³³ Horrell, Sara, and Jane Humphries. "Women's Labour Force Participation and the Transition to the Male-Breadwinner Family, 1790-1865." *Economic History Review* 48.1 (1995): 89-117. *JSTOR [JSTOR]*. Web. 23 Sept. 2016. <<http://www.jstor.org/stable/2597872>>. (pp.100-101).

I.3 The significance of women's work to the history of industrialization

In 1992, in a critique of the national accounts approach to economic growth as a means of qualifying the nature of changes during the Industrial Revolution, Berg and Hudson noted that 'the role of women and children in both capital and labour intensive market-oriented manufactures... probably reached a peak in the Industrial Revolution' and that, hence, 'analyses based only on adult male labour forces are clearly inadequate and peculiarly distorting for this period.'³⁴ Berg later developed this argument, remarking that evidence for views of the Industrial Revolution as based on steady increases in agricultural productivity and a shift of labour from agriculture towards the secondary sector 'lies largely in the characteristics of the distribution of the labour force, and in this case the adult *male* labour force' [emphasis added] - whereas, she argued, in the new high-productive industries that spearheaded industrialization, it was the *female* and not the male workforce that was most significant. It was indeed estimated that textile industries contributed as much as 45% of value added in British industry in 1770, and 46% in 1831 – when they had been dominated by female workers for most of the period.³⁵

If women's contribution to industrialization was indeed so central to the process itself, then, adding female occupational data to male occupational data in studies of industrialization could further our understanding of its mechanisms, or may even force us to reconsider its accepted causes, consequences, and characteristics. In 2014, Shaw-Taylor and Wrigley estimated the distribution of the British female workforce for c.1710 from 1851 data, using a series of assumptions.³⁶ From this, Shaw-Taylor and You later suggested that, if there was an industrious revolution leading to increased female

³⁴ Berg, Maxine, and Pat Hudson. "Rehabilitating the Industrial Revolution." *Economic History Review* 45.1 (1992): 24-50. *Ebscohost*. Web. 7 Nov. 2017. (p.35).

³⁵ Berg, "What Difference Did Women's Work Make to the Industrial Revolution?" (pp.25-34).

³⁶ The assumptions were as follows: that women formed twice as large a share of agricultural workforce in 1851; that, assuming overall employment in the clothing sector was close to a constant share of employment in the eighteenth century and that women took over parts of the clothing trade in the eighteenth century, their relative importance was reduced in c.1710 by 20%; that women constituted twice as large a fraction of the textile workforce in c.1710 as they did in 1851; and that in all other sub-sectors women formed the same share of the labour force in c.1710 as they did in 1851.

See Shaw-Taylor, Leigh, and Edward Anthony Wrigley. "Occupational Structure and Population Change." *The Cambridge Economic History of Modern Britain*. Ed. Roderick Floud, Jane Humphries, and Paul Johnson. Vol. I. Cambridge: Cambridge UP, 2014. 53-88. Print. (p.68).

labour force participation from 1650 onwards, it was largely complete by 1710, and reversed after 1770 due to changes in the demand for female labour. On the basis of their estimations, and remarking that FLFP rates remained high where work was on offer, Shaw-Taylor and You proposed that the mechanization of textiles between c.1770-c.1810 in particular saw a precipitated decline in female labour force participation rates. They also estimated that adding female employment data to male employment data would mean that the secondary sector's share of total employment only rose from 43% to 48% of the labour force across the eighteenth and nineteenth centuries, rather than between 38% and 53% if only male data is included. If correct, this would almost entirely remove the structural shift in employment towards the secondary sector so long assumed to be a defining feature of the Industrial Revolution.³⁷

It is therefore apparent that additional quantitative evidence of female labour force participation and female occupational structure in the period of the Industrial Revolution would be invaluable to current studies of women's work and, more broadly, of industrialization.

³⁷ Shaw-Taylor and You, "Patterns of female and male employment." (pp.2-5).

II. Uncovering evidence – Westmorland, 1787-1851

On October 30th, 1787, the county's Justices of the Peace meeting in the Westmorland Court of Quarter Sessions at Lowther directed that: 'the High Constables of this County do immediately issue their Precepts to the several Petty Constables in their respective Wards to make Returns to them... of the names and number of Inhabitants within their constablewicks distinguishing their Occupation, Sex and of what each Family severally consists.'¹

It is still unclear why the 'census' was requested, or what it was used for, and only 45 returns survive. The 1787 'census' nonetheless offers a unique window onto the history of women's work during the Industrial Revolution, for a number of returns gathered occupational information for both men *and* women. This dissertation therefore undertakes a critical analysis of the occupational data available in the 1787 census, before comparing it with data from the 1851 national census in order to add to existing knowledge of patterns of female employment during the Industrial Revolution. Before doing so, the validity of the approach must first be established.

II.1 Censuses as source material for the study of occupational structure and, more specifically, female occupational structure

In the past, several historians have strongly criticized the use of the early English censuses as sources for the study of women's work, arguing that these failed to accurately reflect reality because of the gendered assumptions that had informed their creation. Humphries' and Sarasúa's claim that the U-shaped pattern of women's labour force participation is in part a statistical artefact was based on an argument that population censuses 'fail to reflect the actual dimensions of women's economic activity rates' and that, although errors in documentation were not restricted to female workers, in the case of

¹ Ashcroft, Loraine, ed. *Vital Statistics: The Westmorland 'Census' of 1787*. N.p.: Curwen Archives Texts, 1992. Print. (p.iii).

men, over- rather than under-counting tended to occur.² The 1851 census status indeed stated that ‘the occupations of women who are regularly employed from home, or at home, in any but domestic duties are to be distinctly recorded’ – and hence, because the definition of participation focused on ‘regular’ employment, and because women’s work was more likely to be seasonal and unskilled, women’s work was likely to be under-enumerated.³ This could be exacerbated by the fact that the designation ‘worker’ was not purely occupational, but also included an element of ‘status’ more readily associated with men.⁴ When Humphries and Sarasúa reconstructed female participation rates for Europe between 1700 and 1950 using alternative sources,⁵ they found little evidence of a ‘U-shaped’ curve, and argued that women’s work was not, in fact, irregular.⁶ It is nonetheless unclear to what extent the evidence they collected can be considered any more than anecdotal, and their sources were likely to have been skewed towards workers whose work was not irregular – independently of whether that was the case for most women.

By using farm accounts from 84 farms throughout England to compile a dataset of male and female winter, summer and harvest wages, Joyce Burnette also suggested that the 1851 census may have recorded only about 41% of female agricultural labourers⁷ - for indeed, female day labourers were almost absent from the census. Though her data showed high cross-sectional variation and was based on estate farms rather than a random sample,⁸ Burnette’s work does highlight the fact that female employment in agriculture was likely to have been under-enumerated in the census, *because it was often seasonal and irregular*. Edward Higgs agreed that the censuses were indeed likely to under-report agricultural activity, though his own analysis suggested that this was a characteristic of the census independently of agricultural workers’ gender, since agricultural activities were often

² Humphries and Sarasúa, "Off the Record". (pp.43-44).

³ Horrell and Humphries. "The Transition to the Male-Breadwinner Family." (p.95).

⁴ Humphries and Carmen Sarasúa. "Off the Record." (p.45).

⁵ Including charitable and poor-law institutions, court proceedings, autobiographical evidence or wills and probate records.

⁶ Humphries and Sarasúa, "Off the Record." (pp.46-53).

⁷ Burnette, Joyce. "The Wages and Employment of Female Day-Labourers in English Agriculture, 1740-1850." *Economic History Review* 57.4 (2004): 664-90. *JSTOR [JSTOR]*. Web. 27 Oct. 2016. (pp.667-682).

⁸ *Ibid.* (p.679).

seasonal.⁹ Hence, though the early English censuses are undeniably imperfect sources of data, it can be argued that a large part of the issues encountered when using censuses as a source of data on women's work is in fact the result of misinterpretation of the information they contain, most notably failure to recognise that they only aimed to capture regular employment.

Moreover, alternative measures of women's work also come with their own set of issues: in their 1995 article, Humphries and Horrell contrasted data from the 1851 census with data they had collected from household budgets, concluding that 'the occupational definition... by and large produced lower estimates of participation than the earnings definition.'¹⁰ While this indeed ought to alert us to potential biases in census data, the extent to which women's contribution to the family budget is a better measure of women's true involvement in the economy is debatable, as women were frequently underpaid¹¹ such that the size of their contribution to the family budget cannot serve as a direct measure of their relative involvement in the labour market. Moreover, the opposition of the occupational definition and earnings definition – or time-use definition – is itself debatable depending on the kind of research one wishes to undertake. Whereas a combination of time-use and earnings definitions will provide additional, and valuable, insights into women's everyday lives, only an occupational definition will allow the history of women's work to be directly comparable with that of men, and allow it to be integrated within current histories of processes of industrialization.

An influential attempt to 'escape' the neo-classical framework in studies of women's work is undoubtedly de Vries' 'industrious household' model – but although this model is particularly valuable in that it makes space for individual agency in studies of the market, it also shows severe shortcomings when applied to women's work during industrialization. De Vries argued that the middle of the nineteenth-century saw the emergence of a 'breadwinner-homemaker' household as 'shifts in

⁹ Higgs, Edward. "Occupational Censuses and the Agricultural Workforce in Victorian England and Wales." *Economic History Review* 48.4 (1995): 700-16. *JSTOR [JSTOR]*. Web. 25 Oct. 2016. (pp.704-706).; and Higgs, Edward, and Amanda Wilkinson. "Women, Occupations and Work in the Victorian Censuses Revisited." *History Workshop Journal* 81.1 (2016): 17-38. *JSTOR [JSTOR]*. Web. 25 Oct. 2016. (p.20).

¹⁰ Horrell and Humphries, "The Transition to the Male-Breadwinner Family". (p.97).

¹¹ See for example Valenze, *Industrial Woman*, p.91 – a government report of 1833 showed that women working in factories earned, on average, 9s. 8 ¼d. a week, compared with 22s. 8 ½d. for men.

the consumer aspirations of the family'¹² led to a voluntary withdrawal of women from the labour force and a redeployment of their labour to the household 'to produce the labour-intensive triad of domestic comfort, nutrition, and health services.'¹³ However, recent evidence from Muldrew, Shaw-Taylor, and You suggests that FLFP rates were high in places where demand for female labour was high¹⁴ – hence suggesting that determinants of FLFP rates were in large part external. The chronology of de Vries' model also seems at odds with other, quantitative studies of women's work: Xuesheng You recently showed that the 1851-1881 national censuses suggest no evidence of a decline in female participation rates.¹⁵ As with many studies of women's work in the period of industrialization, de Vries' model too, suffers from a lack of reliable quantitative evidence.

Hence, whereas quantification and the framework provided by neoclassical economics may only allow an imperfect insight into women's work,¹⁶ other methods too have their limits, and a more fruitful avenue may be provided by a combination of qualitative evidence such as that provided by Valenze or Clark, and quantitative data, approached critically. We have also seen that part of the disagreement between various historians of women's work results from an amalgamation of studies that seek to uncover what tasks women actually performed on a daily basis, and studies that seek to investigate women's *regular* involvement in the *formal* economy through the *occupational designations* they were given. That the last approach will only provide a limited avenue into the history of women's daily lives is undeniable, but it is an approach that entirely fits the purpose of a dissertation aimed at uncovering evidence that will provide the basis for both a reassessment of narratives of women's work, *and a comparison* between male and female occupational data. Once this

¹² De Vries, Jan. *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present*. Cambridge: Cambridge UP, 2008. Print. (p.189).

¹³ *Ibid.* (p.199).

¹⁴ And alternatively, FLFP rates were low where demand for it was low. See Shaw-Taylor and You, "Patterns of female and male employment". (p.3).; and Muldrew, *Work and Material Culture in Agrarian England*. (p.244).

¹⁵ You, Xuesheng. "Women's Employment in England and Wales, 1851-1911." Unpublished thesis. University of Cambridge, 2014.

¹⁶ Joan Wallach Scott famously wrote that: 'some recent strands of economic history, especially that of quantification, have been distinctly inhospitable to women. The neo-classical frame of reference that informs the method of the so-called cliometricians has effectively submerged a gendered perspective.' See Joan Wallach Scott, quoted in Honeyman, Katrina. *Women, Gender and Industrialisation in England, 1700-1870*. London: Macmillan, 2000. Print. British Studies Ser. (p.10).

distinction has been made, it becomes possible to ask whether the early English censuses really ought to be dispensed with as valuable sources of data on women's work.

In 2007, Shaw-Taylor noted that, though the censuses were indeed imperfect sources, they remained 'the best and most comprehensive source we have on female employment', and advocated moving 'beyond the mere identification of problems... towards an evaluation, preferably quantitative, of the impact of the problems on the recorded data.'¹⁷ Analyses of the 1851 census in fact show that there is little to indicate that women's work – understood as occupational denomination, not as work actually performed throughout the day or within the home – was particularly under-recorded. Anderson, for example, found that, for childless married women under 40 across Lancashire and Cheshire, 85% of power loom weavers' wives, 92% of handloom weavers' wives, and 97% of the wives of unspecified weavers had recorded occupations, with further work on the Essex silk factories suggesting that Lancashire and Cheshire were not exceptions with regard to the enumeration of female occupations.¹⁸ In a 2016 article in response to criticisms of the use of the Victorian censuses as sources for the study of women's work, Edward Higgs and Amanda Wilkinson then noted the following: since women's work was to be recorded as an occupation only if they were regularly employed, and since censuses were usually taken in March or April, women's work in the primary sector was probably under-enumerated – but so would men's work have been. Higgs and Wilkinson compared schedules from the censuses with cross-matched data from asylum entry records for the main provincial towns of East Anglia within the three months following the census: the asylum records would most probably have been completed by the same person (head of household) who completed the census schedules, and the percentage of instances where the information matched was both high and increasing over time. A closer study of all women in four enumeration districts in London then suggested a high level of recording, with as many as 178 different job titles recorded between 1851 and 1901 in Bethnal Green alone, including highly seasonal jobs such as straw-hat maker and waterproof maker. Higgs and Wilkinson hence concluded that, though 'changes to the classification of women's occupations in the

¹⁷ Goose, Nigel, ed. *Women's Work in Industrial England: Regional and Local Perspectives*. Hatfield: Local Population Studies, 2007. Print. (p.33).

¹⁸ *Ibid.* (p.38).

Census Reports reflected ideological shifts in the understanding of women's role in society', based on their review of the census data, 'these ideological limitations do not necessarily affect the raw returns in the CEBs.'¹⁹

It therefore appears that the early English censuses, and especially those produced from 1851 onwards, once they are understood as 'culturally mediated texts which need to be interpreted in the same manner as any other historical source,'²⁰ can provide valuable insights into the history of women's work in the period of industrialization.

II.2 Assessing the reliability of the 1787 and 1851 censuses

The validity of the 1787 Westmorland 'census' now remains to be assessed. In order to do so, information from the census was cross-matched with data from alternative sources of occupational data for the period.

The census was first cross-matched with the 1787 Quarter Session records for Westmorland. Quarter session records have in the past been used by several historians as sources of occupational data for periods prior to the establishment of the early English censuses.²¹ The 1787 Quarter Sessions rolls for Westmorland were hence retrieved and digitized, and nominal linkage²² performed between

¹⁹ Higgs and Wilkinson. "Women, Occupations and Work in the Victorian Censuses Revisited." (p.20-34).

²⁰ Higgs, Edward. *Making Sense of the Census Revisited: Census Records for England and Wales 1801-1901, a Handbook for Historical Researchers*. London: London Institute of Historical Research and National Archives of the UK, 2005. Print. (p.154).

²¹ In an analysis of Quarter Sessions recognizances for Lancashire and Cheshire, Rudnicki compared the occupational data these provided with parish register data for the same place and date, concluding that 'the occupational information contained in Quarter Sessions recognizances... was representative enough of the male population' to allow estimates of the male occupational structure of the two counties at various points between the early 17th century and 1851.

See Rudnicki, Tim. "The Male Occupational Structure of Northwest England, circa 1600 to 1851." Unpublished thesis. Cambridge University, 2015. (p.13).

²² The nominal linkage was performed using standardized names in both sources to avoid a loss of information due to variations in spelling. Only matches that returned identical first and last names *and* parishes were considered 'successful' or 'valid' linkages.

the Quarter Sessions recognizances and the 1787 census.²³ It immediately became apparent that the Quarter Sessions relied almost exclusively on three occupational categories, ‘gentleman’, ‘yeoman’, and ‘husbandman’ – whereas the 1787 census provided a far more detailed picture of occupational structure.²⁴

The cross-matching exercise was therefore repeated with parish register data.²⁵ Baptism and marriage records for the years 1757 to 1787 were digitized for all parishes for which the 1787 census provided full male and female occupational data.²⁶ Only 19 out of 134 successful linkages for which both sources recorded occupational information returned mismatches in the occupational descriptor, with an additional 13 mismatches between ‘husbandman’ and ‘labourer’- two occupational descriptors which were particularly likely to be used interchangeably to describe a single individual across sources.²⁷ Given the very low proportion of mismatches between parish register occupational data and occupational data from the 1787 census, and given that the mismatches were generally between occupations in similar trades or suggested that the 1787 census was at times more precise than parish

²³ Westmorland Quarter Sessions Rolls. 1787. WQSR 472-477. Kendal Records Office. Kendal.

²⁴ 31 out of 42 successful linkages recorded individuals as ‘yeoman’ in the Quarter Sessions when the 1787 ‘census’ recorded these same individuals as having occupations as varied as miner, butcher, chapman, farmer, gentleman, shepherd, statesman, or weaver.

Data compiled from *Westmorland ‘Census’ of 1787*. (1787). Cambridge Group for the History of Population and Social Structure library collection, Cambridge. and Ashcroft, *Vital Statistics*.

²⁵ Names were once again standardized and linkages that returned identical names, parents’ names, and parishes were manually identified. This resulted in a total of 507 successful individual linkages, spread between 242 individual households. Of these, 134 linkages involved baptism or marriage records that recorded the father’s or husband’s occupation.

²⁶ Data compiled from: Appleby St Michael Parish Registers. 1757-1787. WDRC 6/3/5-6. Kendal Records Office, Kendal.; Askham Parish Registers. 1757-1787. WDRC 6/5/3-4. Kendal Records Office, Kendal.; Brough Parish Registers. 1757-1787. WDRC 6/11/5-8. Kendal Records Office. Kendal.; Kirkby Stephen Parish Registers. 1757-1787. WDRC 6/40/7-12. Kendal Records Office. Kendal.; Kirkby Thore Parish Registers. 1757-1787. WDRC 6/41/5-7. Kendal Records Office. Kendal.; Longmarton Parish Registers. 1757-1787. WDRC 6/44/5-7. Kendal Records Office, Kendal.; Lowther Parish Registers. 1757-1787. WDRC 6/46/7-10. Kendal Records Office, Kendal.; Newbiggin Parish Registers. 1757-1787. WDRC 6/58/ 3-5. Kendal Records Office. Kendal.; Warcop Parish Registers. 1757-1787. WDRC 6/75/7-10. Kendal Records Office. Kendal.

²⁷ Amongst the 19 other mismatches, some of which may be due to identical forename-surname combinations in a given parish in fact referring to two different individuals, we find one man recorded as a miner in parish registers but marked as a blacksmith in the 1787 census (though his adult son was recorded as a miner in the census); several individuals recorded as labourers or farmers in parish register entries prior to 1787, but recorded as working in coal mines in the census; and finally several individuals recorded as ‘householders’ in parish registers but given an alternative occupation in the census, generally ‘husbandman’ or ‘farmer’. Baptism records in fact suggested that it was not impossible for adult men’s occupations to ‘shift’ from one year to another, though the majority of changes occurred between synonyms – such as ‘shoemaker’ and ‘cordwainer’.

registers in recording occupations, it was concluded that the 1787 Westmorland census ought to be considered a reliable source of male occupational data.

Assessing the reliability of the census as a source of female occupational data was more complex, as no alternative sources of female occupational data that would allow for a cross-matching exercise exist for the period under study. Looking at the 1787 census itself, Erickson noted that there is only one midwife listed for the thirteen constablewicks that recorded female occupations. Noting that a single woman could not have served 853 adult women, she suggests that the 1787 census may have under-recorded, or inaccurately recorded, female occupations.²⁸ Nonetheless, it is also possible that professionally trained and/or full-time midwives were rare, with other women assisting births. Indeed, the parishes that recorded women's occupations were exclusively rural parishes (see chapter II.4), and it is at least plausible that full-time midwives would have been concentrated in urban areas with higher population densities.

There is, moreover, much else to indicate that women's occupations were not particularly under-enumerated. The Quarter Sessions directives gave no indication whatsoever as to how women's occupations ought to be recorded – or indeed as to whether they ought to be recorded at all – and in fact they were not recorded for most parishes. Hence, in the parishes where census enumerators made the deliberate decision to record female occupations, it is less likely that they would have under-recorded instances of female employment out of convention. This is further supported by the fact that all parishes where female occupations were recorded show instances of women being marked as 'housewife' and instances of women being recorded as having other, market-oriented occupations, with the proportion of 'housewives' being a minority. This suggests that census enumerators who

²⁸ Erickson, Amy. "Marital Status and Economic Activity: Interpreting Spinsters, Wives, and Widows in Pre-census Population Listings." *Cambridge Working Papers in Economic & Social History* (2012): n. pag. Web. 20 Oct. 2016. (p.16).

chose to record women's occupations did not ascribe 'housewife' as a standard, nor failed to recognize the possibility of female employment outside the home.²⁹

Another element which suggests that female occupations were accurately recorded is the ratio of male weavers to female spinners. The overall ratio was found to be of a little over 4 female spinners for each male weaver – a ratio that does not suggest that female spinners were under-recorded. Obtaining a truly accurate picture of female occupational structure for 1787 Westmorland, however, does require *interpreting* the raw data as accurately as possible. In the case of female spinners for example, arriving at the 4:1 ratio required distinguishing between uses of the term 'spinster' as an occupational descriptor, or a marital category.

II.3 Standardizing the censuses

According to Erickson, by the seventeenth century, the term 'spinster' had become the principal legal identifier for a never-married woman. Even then, however, the term did not entirely lose its older meaning, i.e. a woman who spun, and 'could retain that occupational sense until at least 1801.'³⁰ The 1787 Westmorland census recorded a significant number of women as 'spinsters', and in order to determine whether this should be considered an occupational denomination or a marital status descriptor, copies of the manuscript census were surveyed for scribal patterns that might help determine which usage of the word was prevalent.³¹ In some constablewicks where female occupations were recorded, enumerators used separate 'of what each family consists of' and 'occupation' columns – with several instances of 'spinster' being placed in the 'occupation' column. In constablewicks for which enumerators did not use separate columns, the descriptor 'spinster'

²⁹ A single constablewick recorded the quasi-totality of adult women as 'housewives' (Askham). Given that female labour force participation rates and sectoral distributions in this parish exhibited significantly abnormal patterns compared to all other constablewicks, Askham was excluded from the group of constablewicks with full male *and* female occupational data in subsequent analysis.

³⁰ Erickson. 'Marital Status and Economic Activity.' (p.4).

³¹ *Westmorland 'Census' of 1787*. (1787). Cambridge Group for the History of Population and Social Structure library collection, Cambridge.

sometimes appeared alongside the names of women also described as ‘wife’ or ‘widow’. In both these cases, it was assumed that ‘spinster’ referred to an occupation, and that census enumerators for that constablewick would have used the term in a consistent manner throughout the census report for the constablewick.³² As stated above, this approach resulted in a ratio of male weavers to female spinners and spinsters (where the term was used as an occupational category) of 1:4.08, which suggests that, once the dual meaning of the word ‘spinster’ is recognized, the 1787 census seems to provide reliable information on female employment in textiles.

Another descriptor which required further analysis was ‘housekeeper’. In the 1787 census, this could clearly refer to an occupation since there were several instances of maidservants or heads of households’ daughters or sisters being recorded as such. But ‘housekeeper’ and ‘housewife’ also seem to have been used by those census enumerators who chose to record female occupations in cases where heads of households’ wives did not have an alternative occupation: for indeed, in the constablewicks where female occupations were recorded, almost all adult married women without an alternative occupation were recorded as either ‘housekeeper’ or ‘housewife’ – with census enumerators rarely using both within a single constablewick, such that it remains unclear whether they were interchangeable or not. With reference to the 1851 census for Lancashire, Michael Anderson had argued that where a ‘housewife’ or ‘housekeeper’ was married to the head of household, this should be corrected on the grounds that these women were involved in productive, but not gainful (i.e. market-oriented), employment. Erickson argued against this, pointing out, as remarked above, that ‘housekeeper’ could be attributed as an occupational denomination to servants, daughters, and sisters as well as wives, and that it was likely, especially in a rural context, to include ‘all things pertaining to the management of the household, whether agricultural or “manufacturing” and whether for household use or for sale.’³³

³² The above method nonetheless suggested that the term could be and was used as both an occupational descriptor and a marital status category in 1787 Westmorland – and hence for constablewicks for which there was no indication in manuscripts records that allowed for a clear conclusion to be drawn, ‘spinster’ was not considered to be an occupational category. The latter only applied to a total of two women in parishes where female occupations were consistently recorded, and would hence not affect data analysis.

³³ Erickson. ‘Marital Status and Economic Activity.’ (p.10).

There is indeed much to be said in favour of the recognition of the productive nature of ‘housekeeping.’ In the context of analyses that will include comparisons of female and male occupations, however, including housewifery and housekeeping as occupational descriptors when they were performed by the wives of heads of households risks introducing an inconsistency in the data: both of these, when performed by wives, were unlikely to receive monetary remuneration,³⁴ and did not belong in any way to the same kind of market (wage market, labour force market...) as all other recorded male – or indeed female – occupations did. There is also a very plausible risk that the 1787 Westmorland ‘housewives/housekeepers’ were recorded as such not so much because it was intended as an occupational descriptor, but because census enumerators who chose to record occupations for all adults did not want to leave a ‘blank field’ in cases where wives did not have alternative occupations. Hence, in subsequent analysis, ‘housekeeper’ and ‘housewife’ were not counted as occupational denominators when they were ascribed to adult women married to the head of the household. When it was performed by other women – servants or female relatives – ‘housekeeper’ was included as an occupation: in such cases, the activity was at least in part interchangeable as these women would not have been under any ‘contractual’ obligation to perform housework as wives would have been at the time, and it is possible that a substantial proportion would have received monetary remuneration in exchange.³⁵ Further work on the question could attempt to gain a fuller picture of what ‘housekeeping’ represented for different categories of women in order to arrive at a more precise understanding of its relation to markets.

³⁴ While monetary remuneration is not the only criteria distinguishing an occupation from another activity, the absence of remuneration for work being performed will imply that the activity, and the person performing the activity, are not integrated within the economy in the same sense as workers receiving remuneration.

³⁵ The element of ‘choice’ enjoyed by women performing housework for a relative is likely to have been highly imperfect due to family pressure, social customs, or even monetary pressure – nonetheless it seems likely that these women must have received what they considered adequate compensation for their work, since, once they reached adulthood, they would at least have had *some* possibility to find employment elsewhere.

The 1851 census was more standardized even in its manuscript version, and census enumerators were given clear instructions as to what should be recorded and how – which makes interpreting the data more straightforward, though not entirely so.³⁶ Where the term ‘housekeeper’ occurred, the same method as that used for the 1787 census was applied. Similarly, although the 1851 census introduced a new category of domestics (‘farm servants, indoors’) to differentiate between domestic servants and indoor farm servants, and differentiated between coachmen, grooms, and gardeners, the question of how to interpret the denominator ‘servant’ remained for both the 1851 and 1787 censuses.

The case of male servants was more straightforwardly resolved. The 1787 census recorded 201 unspecific ‘servants’ – however, records from the 1780 tax on male servants enabled domestic servants in all parishes to be identified,³⁷ with the rest being counted as farm servants. Indeed, in 1851, it was found that the ratio of explicitly domestic male servants to explicitly agricultural male servants was of 1:29 – such that it became clear that the very large majority of male servants ought to be considered farm servants.³⁸

The question of female servants was more ambiguous. The 1787 census described 30 women as ‘maidservants’, adding, for over half, an additional descriptor such as ‘housekeeping’, ‘housewifery’ or, less frequently, ‘knitting’ or ‘nursing’. Of 16 further women described simply as ‘servants’, 3 were also further described as ‘housekeeping’, 5 as ‘spinning’ and 2 as ‘drudgery.’ The 1787 census also recorded 51 dairymaids – with only 2 of these being described as servants, and the rest being female

³⁶ On census night, each head of household would be left with a household schedule, asking, for each household, the address where its members lived, and for each person within it, name, marital status, relationship to the household head, age, sex, ‘Rank, profession or occupation’, parish and county of birth, and description of medical disabilities.³⁶ In 1851, parents were asked to record their children as scholars if they were above five years of age and were ‘daily attending school, or receiving regular tuition under a master or governess at home.’ Enumerators then copied the schedules into their enumerators’ books, and books were reviewed at the Census Office to sort out any problems or ambiguities.

See Higgs, Edward. *Making Sense of the Census*. (p.17).

³⁷ Newton, Gill. *1780 Servants Tax*. [Data file]. Cambridge : CAMPOP, 2014.

³⁸ The 1851 census presented an additional 80 unspecified male ‘servants’. Given the 1:29 ratio between male domestic servants and male farm servants, and given that only a handful of these unspecified male ‘servants’ lived in households that were not headed by a male agricultural worker, all 80 male ‘servants’ were allocated to the primary sector.

family members. While we cannot assume that it is correct to interpret all ‘maidservants’ as domestic servants, the additional details furnished by the census in some parishes suggest that this would have been the case for over half of them. If ‘maidservants’ and ‘servants’ are allocated to domestic service, the 1787 census then suggests that it was rare for Westmorland families to employ female domestics to work in agriculture – with this form of work being performed by female relatives instead. This appeared unlikely, and was tested using the 1851 census.

The 1851 census identified large numbers of women as ‘house servants’, distinguishing these from ‘farm servants’ and ‘dairymaids’. House servants were at first assumed to refer to domestic servants. It was found that, in the rural parishes,³⁹ there were 1053 households headed by male agricultural workers, a total of 206 of which had female domestic servants⁴⁰, and only 17 had female agricultural servants. A further 646 households were headed by males *not* working in agriculture, of which 113 had female domestic servants, and none had female agricultural servants. Corresponding numbers for the highly urban parishes were 225 and 17 for agricultural households; and 136 and 4 for non-agricultural households. If ‘house servants’ are interpreted as referring to domestic servants, the 1851 census would therefore show a pattern close to that identified in 1787 on the basis of ‘housemaids’ being domestic servants. In both cases, it would appear justified to allocate additional, unspecific female ‘servants’ to domestic service, given the low proportion of households employing female farm servants. The true meaning of female servant descriptors nonetheless remains ambiguous in both censuses, as it seems unlikely that a pastoral region such as Westmorland would have employed so few female servants.⁴¹ Because any re-allocation would have been arbitrary at this stage, however, and given that the method described above allows for a consistent treatment of female servants at both dates, it was decided to allocate all non-specifically agricultural female servants to

³⁹ See section II.4 for a discussion of the urban-rural pattern observable in Westmorland at the time. The three highly urban parishes considered separately in the above discussion are: Kendal or Kirkby Kendal, Kirkby Thore Temple Sowerby, and Lowther.

⁴⁰ Identified as ‘house servant’, ‘house maid’, ‘cook maid’ or servants working as ‘nurses’.

⁴¹ Although it is difficult to tell precisely since the Westmorland data used for this dissertation is not for the full county, it does appear that the census office reallocated a large proportion of female servants to the primary sector at the publication of the 1851 census tables. It will therefore be recognized that, at this stage, the above method may under-estimate the proportion of the female workforce in the primary sector.

domestic service. Further tests suggested that an alternative allocation of half of all female servants (all categories included)⁴² to agriculture would not significantly modify the main patterns observed throughout this dissertation, though further work ought to pursue broader analysis of the use of these descriptors in the wider Westmorland area in order to develop a more accurate method.

The 1851 census exhibited an additional difficulty: that of interpreting the ‘wife, daughter or son of’ category. A significant number of women, and some men, were indeed recorded as ‘farmers’ wife’, ‘grocers’ wife’, ‘farmers’ son’, etc... - and for a far larger and more varied number of occupations than specified in the directives. Already just from looking at the raw data, however, it was clear that this was not always meant as an occupational denomination: several infants were marked as such, just as it was not uncommon to find ‘clerk’s wives’, or wives and daughters of men with other such occupations that would in all likelihood never, or only rarely, have been shared by women. A number of these women were also given an additional occupation – such as ‘farmers’ wife charwoman’ or ‘farmer’s daughter dressmaker.’⁴³ Because the 1787 ‘census’ did not use any comparable category – and because it was clear from the data that it did *not* mark the wives or daughters of farmers, butchers, etc... as farmers or butchers – comparison between the two censuses required discarding the category. The category does, however, constitute an additional source of information, and one that could in part ‘correct’ any under-enumeration of female occupations. Initially, analysis was therefore carried out twice for all 1851 data, once discounting the ‘wife, daughter, son of’ category, and once including it as an occupational descriptor.⁴⁴

⁴² The tests thereby accounted even for the possibility that ‘house servant’ may not have been intended to signify ‘domestic servant’.

See chapters IV.1 and IV.3, including footnotes, for full details of the tests.

⁴³ Data extracted from Schurer, K., Higgs, E. *Integrated Census Microdata (I-CeM), 1851-1911*. UK Data Service, 2014. <http://doi.org/10.5255/UKDA-SN-7481-1>. SN: 7481.

⁴⁴ Only for those of age to work (i.e. 15 and above) and only for the wives, daughters and sons of shoemakers, tailors, bakers, brewers, butchers, carpet weavers, cloth makers, basket makers, beershop keepers, shopkeepers, innkeepers, dealers, glovers, hatters, hawkers, spinners, farm servants, and farmers (i.e. occupations that were more plausibly shared by wives and children).

When labour force participation rates were tabulated by marital category, however, (see table 1.2), it became clear that the ‘wife, daughter, son of’ category could not be used indiscriminately as occupational denominations. Without taking this category into account, labour force participation rates for married women in 1851 ranged from 0% to 16%. But once the category was included, rates ranged from 0% to 94%. The size of the variation introduced by the ‘wife, daughter, son of’ category suggests massive inconsistencies in the way census enumerators applied the category: some enumerators in fact never used them at all, whereas some will have used this category for every single woman without her own occupation.⁴⁵ It would therefore be necessary to undertake a disaggregated analysis of the raw data by census enumerator to determine where this category can be considered to give reliable insight into the work women – or children – were performing. For the purposes of this dissertation, and given constraints of time and space, the category was simply not included in analyses. This includes farmers’ family members who were recorded simply as ‘farmer’s daughter’ or ‘farmer’s brother’ etc... although an exception was made for those farmers’ relatives more explicitly marked as employed on the farm.⁴⁶

An attempt was also made to gain insights into the question of by-employments by cross-matching the 1787 census with land tax assessments for 1790.⁴⁷ While successful linkages were returned, establishing which tax payments were evidence of farm land would have required further analysis in order to determine a ‘cut-off’ value, as would establishing how many workers would have

⁴⁵ Indeed, one of the main organising concepts underlying the collection and arrangement of occupational data in the mid-Victorian censuses was the nature of the materials being worked upon, for this was assumed to be linked to the mortality regimes of particular trades. Hence, prior to 1881, a number of women are likely to have been placed under the same occupational categories as their male relatives, not because they took part in the same trade, but because the census data was to be used for purposes of public health analysis. See Higgs, Edward. *Making Sense of the Census* (p.156).

⁴⁶ As remarked above, although the 1787 census was drawn up according to a different set of concerns, this method is unlikely to have led to a different treatment of the data for wives and daughters between 1787 and 1851: the above method led to no significant change in farmers’ wives and daughters’ labour force participation rates – though it seems likely instead that both censuses under-recorded female occupation in agriculture, most probably because the censuses sought to record ‘regular’ employment only. In future work, a time-ratio could be tested in order to account for the fact that these women were likely to have been working in their male relative’s trade at least part-time – but at this stage in the research, and given the available evidence, the category was not used in further analyses given the visible, and very large, discrepancies in its use in the different parishes.

⁴⁷ Data compiled from Westmorland West Ward Land Tax Assessments. 1773. WQ/R/LT West Ward. Kendal Records Office, Kendal. and Westmorland East Ward Land Tax Assessments. 1790. WQ/R/LT East Ward. Kendal Records Office, Kendal.

been needed to work that piece of land. Both the 1787 and 1851 census did, however, include instances of individuals stating multiple occupations, and given time constraints it was decided that at this stage, and although it would only give a partial picture of the reality of by-employment, this may be a more reliable avenue into the question of by-employment.⁴⁸

Finally, for the purposes of analysis, all occupations were coded according to the PST scheme as developed by Wrigley.⁴⁹ The PST scheme was designed to categorise occupations in a way which ‘relates it closely to the structure of demand rather than the process of production.’⁵⁰ The scheme was thought to be particularly appropriate for the kind of analysis required for the purposes of this dissertation: the system provides a particularly powerful tool for analyses of sectoral distributions; results in analyses that directly correlate to macro-economic trends; and allows for comparison between datasets with different levels of disaggregation or detail.⁵¹

⁴⁸ When estimating sectoral distributions, distinct occupations were each weighed equally as a fraction of 1, so that multiple occupations could be acknowledged without individuals being counted multiple times. Equal weight was given to each occupation as it was unclear how time would have been divided between these.

⁴⁹ The coding was completed using information drawn from : Wrigley, E.A. *PST Dictionary*. [Excel file]. CAMPOP, 2010. Web. Nov. 2016. <<http://www.campop.geog.cam.ac.uk/research/projects/occupations/britain19c/pst.html>>. ; Wrigley, E.A. *PST Lookup Table*. [Excel file]. CAMPOP, 2010. Web. Nov. 2016. <<http://www.campop.geog.cam.ac.uk/research/projects/occupations/britain19c/pst.html>>. ; and Wrigley, E.A. *PST Definitions*. [Excel file]. CAMPOP, 2010. Web. Nov. 2016. <<http://www.campop.geog.cam.ac.uk/research/projects/occupations/britain19c/pst.html>>. modified as necessary.

⁵⁰ Wrigley, E. A.. *Poverty, Progress, and Population*. Cambridge University Press, 2004. (p.135).

⁵¹ PST codes include four digits, and group occupations first according to sector – primary, secondary, tertiary (dealers), tertiary (sellers), tertiary (services and professions), tertiary (transport and communications). The second and third digits enable analysis at varying levels of aggregation (e.g. the whole of the textile sector), while the fourth digit distinguishes between labourers, clerks and those in direction and supervision. Because the PST system was initially designed for analysis for male occupational data, new codes had to be added for occupations such as seamstress, dairymaid, milkmaid, housekeeper, housewife or barmaid.

II.4 Establishing comparable units

Having standardized the 1787 and 1851 census data, it was then necessary to set up comparable geographical units for analysis, and hence to determine how the 1787 and 1851 census units were related. A first test was made using an 1851 census GIS from CAMPOP and a Westmorland GIS produced by the Hearth Tax Project on the basis of historical parish boundaries.⁵² A first comparison showed that the ‘places’ in the 1851 GIS very closely matched the historical boundaries that formed the basis of the 1787 census units – with shapefiles for individual places showing that boundaries had rarely shifted at all.⁵³ The most significant change was that the 1787 constablewicks were, by 1851, incorporated into bigger parishes. This was not, however, an issue for analysis, as the 1851 census in fact continued to be recorded along the lines of these ‘places’ for most parishes. Hence, for most census units, a direct comparison could be made between the 1787 and 1851 data. For others, several 1787 census sub-units had to be aggregated to be comparable with a single 1851 census unit.⁵⁴

It was however noticed that aggregating 1787 units did not always constitute a full 1851 unit. Ordnance survey maps were therefore used to survey the ‘missing’ areas.⁵⁵ In most cases, the missing areas were entirely or largely uninhabited. Crosby Ravensworth Fells, Sleagill, or Fawcett Forest (part

⁵² Satchell, A.E.M., Kitson, P.M.K., Newton, G.H., Shaw-Taylor, L., Wrigley E.A., 1851 England and Wales census parishes, townships and places. [computer map]. Cambridge: Cambridge Group for the History of Population and Social Structure, 2013. Using ArcGIS [GIS software].; and Shand, Mike. Westmorland Historical GIS. [computer map]. Wealth and Poverty Maps. University of Roehampton: Centre for Hearth Tax Research, 2013. Using ArcGIS [GIS software].

Note that the Satchell *et al.* dataset is an enhanced version of Burton, N, Westwood J., and Carter P., GIS of the ancient parishes of England and Wales, 1500-1850. Colchester, Essex: UK Data Archive (May 2004), SN 4828, which is a GIS version of Kain, R.J.P., and Oliver, R.R., Historic parishes of England and Wales: An electronic map of boundaries before 1850 with a gazetteer and metadata. Colchester, Essex: UK Data Archive, May, 2001. SN 4348.

⁵³ A few areas had changed name but not boundaries, and a part of Crosby Ravensworth had become part of Orton but was too small of an area to add any significant error to analysis.

⁵⁴ Milburn and Milburn Grange (1787) were aggregated to be comparable with Kirkby Thore, Milbourne (1851); Brampton, Knock and Longmarton were aggregated to be comparable with Longmarton ; Hackthorpe and Whale, Lowther and Melkinthorpe compared with Lowther ; Crosby Ravensworth, Maulds Meaburn and Reagill compared with Crosby Ravensworth ; and Hardendale, Keld, Thornship, Talebert and Racet, Rosgill and Sleddale, and Shap were compared with Shap.

⁵⁵ Ordnance Survey Map [map]. 1:63,360. One-inch Revised new series, England and Wales, 1892-1908. National Library of Scotland. Web. Dec. 2016. <<http://maps.nls.uk/os/one-inch-rev-new-series/info1.html>>.

of Shap), were fells and empty fields. In the case of Appleby St Lawrence, the ‘missing’ area was the town of Appleby – hence the 1787 units that were part of Appleby St Lawrence in 1851 were not grouped for comparison but rather compared separately with their corresponding 1851 sub-parish census unit.

A few units had to be discarded entirely. The 1787 census recorded data for Birkbeck Fells, which had at the time been part of Crosby Ravensworth but had become part of Orton parish by 1851. The 1851 census data was not, however, disaggregated enough to allow the data belonging to Birkbeck Fells to be isolated, and a comparison with the entire parish did not seem sensible because, of all the sub-units that constituted Orton parish in 1851, the Fells appeared on the ordnance survey maps to be relatively uninhabited compared to the rest – for which there was no available data in 1787. Similarly, 1787 census data for Warcop was missing Warcop town and the most densely populated areas of the parish, but the 1851 data was again not disaggregated enough to allow for a more targeted comparison: Warcop was hence removed from the analysis entirely.

An additional check was made using population sizes from the 1801 to 1851 censuses.⁵⁶ It immediately appeared that 1787 data for Barton was not for the full parish, and Yanwath and Earmouth and Low Winder were hence removed from the analysis. It also became clear that 1787 data for Stricklandgate did not correspond to the 1851 areas of Strickland Kettle and Strickland Roger. Because it was impossible to determine what 1851 unit the 1787 unit ‘Stricklandgate’ corresponded to from GIS data or population data, setting up a comparable unit for Stricklandgate was initially delayed until an urban-rural analysis had been performed on the full dataset.

Indeed, because the urban-rural distinction is a significant determinant of occupational structure and employment opportunities, the data was analysed to separate urban areas from rural areas. A method to distinguish between urban and rural areas was developed using 1813-20 occupational and

⁵⁶ Newton, Gill. *1801-1851 Census Population Data*. [Data file]. Cambridge : CAMPOP, 2014.

town data collected by CAMPOP.⁵⁷ Starting with Cambridgeshire and Suffolk as these were areas for which the urban and rural parishes were known already, and subsequently testing the method for the whole of England and Wales, it was concluded that areas meeting two or more of the following criteria could be considered urban:

1. Having less than 70% of the working population employed in agriculture
2. Having more than 20% of the working population employed in the secondary sector
3. Having more than 10% of the working population employed in the tertiary sector
4. Having some employed workers in urban marker occupations⁵⁸
5. Having some employed workers in the top 20 occupations found amongst the top 200 largest employers in market towns, but not amongst the top 200 largest employers in non-market parishes⁵⁹
6. Being listed as having a market at least once in Owens' eighteenth century lists
7. Appearing at least once in Law and Robson's nineteenth century lists⁶⁰

The above method was applied to the 1787 and 1851 dataset, using male data alone as this allowed comparison across all sub-units and as the method had been developed using male data only. The method turned up far too many units as urban for all dates – 1787, c.1817, and 1851 – and hence the criteria were reviewed such that, in order to be considered urban, a unit had to meet at least one of the 'sectoral' criteria, have at least one urban marker occupation, and meet more than two criteria overall.

⁵⁷ CAMPOP. *1813-1820 England and Wales Occupational Database*. [Data file]. Cambridge : CAMPOP, 2014.; and CAMPOP. *1813-1820 England and Wales Towns Database*. [Data file]. Cambridge : CAMPOP, 2014.

⁵⁸ The 'urban marker' occupations were 8 occupations that were identified as occurring almost exclusively in known towns: cabinet maker, book binder, hairdresser, porter, mariner, printer, solicitor, and saddler.

⁵⁹ The top 20 occupations amongst the top 200 largest employers in market parishes, but *not* amongst the top 200 largest employers in non-market parishes (abbreviated as Top20), were used as a separate criteria to distinguish between towns with an urban *function*, and towns with urban *occupational structure*. Indeed, the urban marker occupations occurred almost exclusively in towns – and hence their presence is likely to indicate that a parish had an urban *function*. The Top20 occupations, by contrast, whilst more common in urban areas than in rural areas, were not found *exclusively* in towns – and hence their presence is likely to indicate that the population of a parish had an urban *occupational structure*, but does not prove, on its own, that the parish had an urban function. Such parishes could have contained some form of commuting villages rather than towns, for example.

⁶⁰ Law and Robson's lists recorded settlements with populations above 2,500.

A second distinction was then introduced, such that parishes that had no urban marker occupations but met more than two criteria overall were recognized to be parishes with urban *occupational structures*.

For 1787 parishes with incomplete data, and where the result of the 1787 test differed from the 1813-20 test, the 1813-20 result was prioritised and a number of parishes identified as urban when applying the method to 1787 were ‘corrected’ as non-urban based on the c.1817 data. Even after correction, however, there remained patterns of change over time: Appleby St Michael, Murton, went from having an urban occupational structure in 1787 to rural in 1851 as the percentage of workers in agriculture increased and that in the secondary and tertiary sector decreased – which could not have been due to under-enumeration and hence was not corrected since Murton recorded occupations for all in 1787. Another notable change was Crosby Ravensworth, which went from rural in 1787 to exhibiting evidence of an urban function in 1851 as the percentage of workers in agriculture decreased, that in the secondary and tertiary sectors increased, and urban marker occupations appeared. Upon analysis, it was also found that Stricklandgate fit all the ‘urban’ criteria without exception, such that it became clear that Stricklandgate was in fact a 1787 division of Kendal Town – as this was the only area in 1851 which exhibited such clear urban criteria. The 1801 census, however, recorded the population of Kendal Town as 7171,⁶¹ whereas the 1787 census for Stricklandgate only recorded 2103 individuals. Because this nonetheless represented about 30% of the population of Kendal Town as a whole, and because later analysis showed no abnormal patterns of change for the Kendal data, for the purposes of comparison with 1851 census data for Kendal Town, Stricklandgate was considered a representative sample of Kendal Town in 1787.⁶²

⁶¹ Newton, Gill. *1801-1851 Census Population Data*. [Data file]. Cambridge : CAMPOP, 2014.

⁶² This comparison is recognized as imperfect and requiring further development, as towns could present areas with very different structures and occupational patterns. Stricklandgate was nevertheless be identified as a central area of Kendal Town, representing over 30% of its population, with all subsequent analyses showing patterns consistent with both the 1787 and 1851 sample being highly urbanized. The Stricklandgate/Kendal Town data was kept in subsequent analyses, as it provides extremely valuable data for making sense of patterns visible in other parts of the region.

III. Labour force participation rates

III.1 Male and female labour force participation rates across time

In order to calculate labour force participation rates, all men and women in work were counted, first as a proportion of the total male or female population, and then as a proportion of the total male or female workforce. Those counted as in work included all those with a stated occupation except those with PST codes corresponding to pensioners, students, prisoners, householders, lodgers, proprietors,¹ the royal family, the retired, wives marked as taking care of household duties, and those with no occupation or an unclear occupation given. In order to determine the total potential workforce (i.e. those with the ability to work), an attempt was then made to distinguish between those who were not given an occupation because they were not of age to be working or capable of working, and those who were capable of working but did not have an occupation. For the 1851 data, this was found simply by removing all those marked as ‘retired’ or ‘infirm’, and all non-occupied children or scholars under 15 from the set. The 1787 census, however, did not record ages, and hence the same method could not be followed.

An attempt was made to reconstruct the age structure of the 1787 households using baptism records and nominal linkage. The exercise returned a total of 507 successful linkages in the constablewicks for which the census recorded full male and female occupational data. However, the successful linkages were concentrated in 242 households such that either the ages of no-one in a household, or the ages of multiple individuals in the same household could be determined. Both this and the fact that many young children but very few older children or women could be identified with any degree of certainty made it impossible to extrapolate a general age structure for the census.

¹ The descriptor ‘proprietor’ has often been found to be used extremely inconsistently over time and between census enumerators – as well as implying a different form of involvement with the market than other descriptors – hence why it was excluded.

Another method therefore had to be devised to establish those who were capable of working in the 1787 data. Using the manuscript records for the constablewicks that contained a descriptor of individuals' role or place within the family as well as an occupational descriptor, and combining this descriptor with occupational data and the age data obtained from nominal linkage, scribal patterns were identified in a number of parishes that suggested clear age categories.² Some of the constablewicks did not use such descriptors, or even if they did, did not contain enough additional information for scribal patterns to be inferred. Looking at the constablewicks where an age structure could be inferred, and looking at the 1851 dataset, it was found that the average population of constablewicks 'able to work' i.e. the constablewicks' average potential workforce corresponded to 70% of a constablewicks' population in 1787, and 67% in 1851. Hence, for the 1787 constablewicks for which no age structure could be inferred from the manuscripts, all calculations based on the total workforce used 70% of the constablewicks' population as an estimate of that constablewicks' potential workforce.³

² In Hilton, for example, the descriptors 'infant', 'child', 'boy', 'girl' and 'scholar' were clearly reserved for children, a priori up to 10 or 12 years of age – since the nominal linkages showed no child above 12 years of age described as such, though age data could not be recovered for all of the individuals so described. In Brampton, 'infant' appeared to be used for children up to 12. In Newbiggin, 'child' was used for children up to 10, 'scholar' for children up to 15.

³ This was later found to be likely to be an inaccurate measure – see page 39.

We also note that the method used to calculate the size of a constablewicks' workforce will have artificially diminished male participation rates, as men were far more likely to be proprietors and hence to have been excluded from the number of those 'in work' but nonetheless counted as part of the potential workforce (i.e. as capable of working because they were neither too young or too old to be working, nor incapacitated.)

Table 1.1: Male and female labour force participation rates across time								
	Women				Men			
	Percentage of total population with a stated occupation (%)		Percentage of total potential workers with a stated occupation (%)		Percentage of total population with a stated occupation (%)		Percentage of total potential workers with a stated occupation (%)	
	1787	1851	1787	1851	1787	1851	1787	1851
APPLEBY ST MICHAEL OR BONGATE, HILTON**	48,8 (40)	16,5 (22)	60,6	31,9	57,3 (43)	62,2 (89)	97,7	98,9
APPLEBY ST MICHAEL OR BONGATE, MURTON**	74,6 (47)	13,9 (15)	90,4	23,8	81,4 (48)	63,5 (66)	96,0	95,7
BROUGH, STAINMORE**	53,4 (140)	19,3 (53)	68,6	29,8	63,1 (149)	60,1 (164)	94,9	80,4
KIRKBY STEPHEN, KABER**	46,6 (34)	15,3 (15)	57,6	28,3	63,9 (53)	49,5 (54)	98,1	74,0
KIRKBY THORE, MILBOURNE**	35,8 (49)	21,7 (34)	59,8	35,4	56,8 (75)	51,2 (83)	91,5	77,6
LONG MARTON**	49,7 (71)	17,2 (63)	71,0	26,1	65,9 (137)	52,3 (207)	91,3	77,5
NEWBIGGIN**	34,3 (24)	26,9 (14)	49,0	35,9	61,4 (43)	66,1 (41)	95,6	87,2
Average	49,0 (405)	18,2 (216)	66,2	29,2	63,5 (548)	56,4 (704)	94,1	82,2
APPLEBY ST LAWRENCE, COLBY*		19,5		34,8	69,4	52,3	89,5	82,9
ASKHAM*		23,9		36,4	52,8	53,5	85,4	79,8
ASKHAM, HELTON*		20,6		29,9	43,3	56,1	61,9	79,3
BAMPTON*		24,4		37,0	45,3	54,9	64,7	74,2
BARTON, HIGH BARTON*		20,7		30,6	44,0	56,0	62,8	87,5
BARTON, MARTINDALE*		15,2		25,0	53,2	56,0	75,9	87,1
BARTON, PATTERDALE WITH HARTSOP*		20,1		31,1	40,6	70,0	58,0	93,4
BARTON, SOCKBRIDGE AND TIRRL*		26,0		34,4	55,2	53,2	78,8	71,9
BROUGHAM*		39,1		51,9	64,3	79,6	90,0	92,5
CLIBURN*		14,3		21,7	56,8	53,8	81,1	81,6
CLIFTON*		24,1		33,0	53,1	56,6	75,8	84,3
CROSBY RAVENSWORTH*		24,3		36,0	47,4	58,7	67,7	86,0
DUFTON*		13,0		20,0	49,5	59,9	70,7	86,3
KENDAL OR KIRKBY KENDAL*		28,9		43,5	46,6	61,3	66,6	94,3
KIRKBY THORE, TEMPLE SOWERBY*		26,3		34,8	51,4	57,7	73,4	85,5
LOWTHER*		29,2		40,8	48,3	56,4	69,0	87,3
MORLAND*		19,7		28,0	53,2	58,6	96,7	88,2
MORLAND, BOLTON*		21,4		33,1	44,4	50,5	63,5	84,3
MORLAND, GREAT STRICKLAND*		18,8		31,9	44,9	42,7	64,1	74,5
MORLAND, KINGS MEABURN*		23,8		38,1	63,9	63,5	94,6	91,3
MORLAND, NEWBY*		27,9		41,9	45,0	58,7	64,2	86,3
MORLAND, THIRIMBY*		20,0		28,6	41,4	63,2	59,1	88,9
Average		26,4		39,4	48,6	59,8	70,1	90,0
MORLAND, LITTLE STRICKLAND ^Δ		15,9		27,0	38,2	43,1	54,5	64,6
SHAP ^Δ		18,1		27,8	39,2	55,1	56,0	81,7
KENDAL , OR KIRKBY KENDAL, WHINFELL ^Δ		27,1		39,7	30,2	55,2	43,1	73,6
Average		19,1		29,4	37,3	53,9	53,3	78,7

** Sub-units with full male and female occupational data for 1787

* Sub-units with full male occupational data for 1787

^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING

GREEN

BLUE

Rural sub-unit

Sub-unit with urban occupational structure

Sub-unit with urban occupational structure and urban function

Figure 1.1:

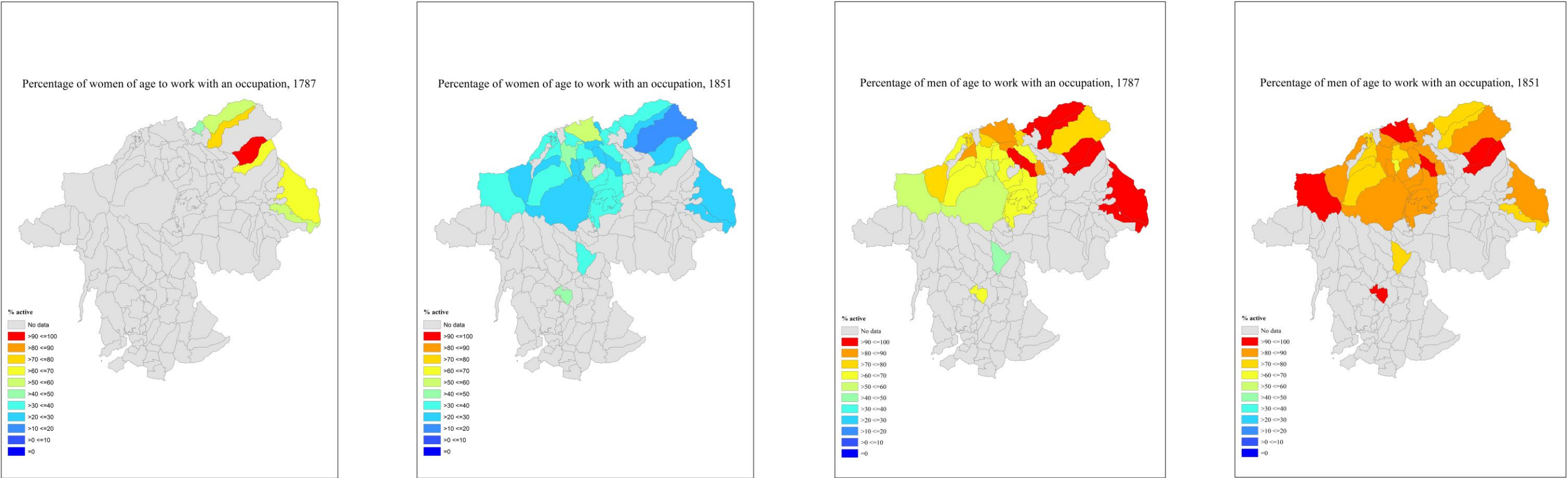


Table 1.1¹ summarizes the findings. We note evidence of a significant fall in female labour force participation rates between 1787 and 1851, while male labour force participation rates remained at a constant high despite some changes. Looking at parishes with full male and female data in 1787, we note that, in 1787, an average of 49% of the total female population, and 66% of potential female workers had a stated occupation,² compared with an average of 18% of the total female population and 29% of potential female workers in 1851. By contrast, an average of 64% of the total male population and 94% of potential male workers had a stated occupation in 1787, compared with 56% of the total male population and 82% of potential male workers in 1851 – still for parishes with full male and female occupational data in 1787.

The observed fall in male labour force participation rates noticeable in a number of parishes could be due to a combination of several factors. First, the percentages shown include an inevitable margin of error. Second, the fall is found to be sharper when looking at labour force participation rates as a percentage of potential workers than as a percentage of the total male population. This suggests that the scribal patterns and ‘70% rule’ used to estimate the size of the workforce in 1787 may not have been entirely accurate. Finally, as shown in table 3.1 later, parishes exhibiting falling male labour force participation rates were more likely to be textile-heavy parishes in which the textile industry disappeared by 1851. It therefore seems possible that parishes exhibiting falling male labour force participation rates experienced high levels of out-migration for work as employment opportunities

¹ Data compiled from: Schurer, K., Higgs, E. *Integrated Census Microdata (I-CeM), 1851-1911*. UK Data Service, 2014. <http://doi.org/10.5255/UKDA-SN-7481-1>. SN: 7481.; *Westmorland 'Census' of 1787*. (1787). Cambridge Group for the History of Population and Social Structure library collection, Cambridge. (manuscript source); and Ashcroft, Loraine, ed. *Vital Statistics: The Westmorland 'Census' of 1787*. N.p.: Curwen Archives Texts, 1992. Print. – own coding.

Note that the table and accompanying maps alert us to the need to exercise caution when interpreting the results for parishes that did not record full occupational data for both men and women in 1787: in 1787, these parishes tended to return lower percentages of men with a stated occupation than parishes recorded full occupational data for men and women, and than in 1851.

² All stated averages are weighted averages.

waned, in which case modified age structures may in part explain falling labour force participation rates.³

At any rate, the data strongly suggest that female labour force participation rates tended to be both be lower and present higher variability than male labour force participation rates; and that female labour force participation rates diminished dramatically between 1787 and 1851. Although the percentage of the total potential female workforce with a recorded occupation ranged between 49% and 90% in 1787, by 1851 it ranged between 24% and 51%, with a clear concentration in the lower-end of the scale. Highly urbanized areas presented rates in the higher end of the scale, though no clear urban-rural pattern could be inferred. This would tend to support the hypothesis of historians including Honeyman, Shaw-Taylor, Wrigley, You, and Saito, whilst standing in stark contrast with the chronology of de Vries' hypothesis: female labour force participation rates in Westmorland were high in 1787 at a time when cottage industry was common (see section III.1), but had decreased radically by the mid-nineteenth century.

III.2 The marital factor

Having noted a significant fall in female labour force participation rates between 1787 and 1851, the significance of the marital factor to women's employment rates was investigated. A few 1787 constablewicks did not use any descriptors for wives – hence in constablewicks such as Colby and Bolton, the status 'married' was attributed through analysis of household structures: women whose name was mentioned right after a male head of household and before others marked as children were assumed to be married to the head of household. The data for married women were then extracted for both 1787 and 1851, and the number of married women in work calculated as a percentage of the total number of married women. The same method was used for widows.

³ Analysis showed no evidence of the 1787 census over-stating male labour force participation rates compared to the 1851 census. We also note that the low labour force participation rates in 1787 for Morland Little Strickland, Shap, and Whinfell are an anomaly of the data due to the fact that these constablewicks only recorded the occupations of heads of households for that year.

The process for unmarried adult women involved further steps: for the 1851 data, married women were removed from the sample, followed by all those under 18. 18 was chosen as the ‘cut-off’ age as a survey of the 1757-1787 marriage records for 11 constablewicks had shown that this was the lowest age at first marriage for women in Westmorland, with only a few very rare cases of 17 year old girls having been married over the thirty year period. For the 1787 data, once the married women were removed from the sample, and because there was little age data available, all the women identified as not being of age to work following the method explained in chapter III were removed. We hence note that, for the 1787 data, the number of unmarried women will also include a few girls under 18 if these young girls were given an occupation and it proved impossible to infer their age either from scribal patterns in the manuscripts or from nominal linkage with parish registers. This will only have involved a small number of women, however, and given that comparison will be made between married women in work *as a percentage of married women* and unmarried adult women in work *as a percentage of unmarried women*, should not affect analysis significantly.

Table 1.2: Adult female labour force participation rates according to marital status

	Single			Married			Widow	
	1787 (%)	1851 (%)	1851 incl. 'wife, daughter of' (%)	1787 (%)	1851 (%)	1851 incl. 'wife, daughter of' (%)	1787 (%)	1851 (%)
APPLEBY ST MICHAEL OR BONGATE, HILTON**	100	67	67	4	3	9	50	25
APPLEBY ST MICHAEL OR BONGATE, MURTON**	100	45	45	79	0	3	0	33
BROUGH, STAINMORE**	100	56	65	18	2	51	0	53
KIRKBY STEPHEN, KABER**	100	41	53	7	4	80	0	67
KIRKBY THORE, MILBOURNE**	100	56	84	55	8	70	100	53
LONG MARTON**	100	51	53	62	2	4	100	24
NEWBIGGIN**	100	73	73	0	0	0	0	40
Average	100	54	61	33	3	29	53	38
APPLEBY ST LAWRENCE, COLBY*		40	60		5	5		67
ASKHAM*		63	71		10	40		45
ASKHAM, HELTON*		60	76		4	37		22
BAMPTON*		61	80		6	57		65
BARTON, HIGH BARTON*		58	58		0	0		43
BARTON, MARTINDALE*		75	75		6	6		22
BARTON, PATERDALE WITH HARTSOP*		65	65		3	4		39
BARTON, SOCKBRIDGE AND TIRRI*		62	73		5	61		50
BROUGHAM*		75	93		16	37		50
CLIBURN*		40	73		4	84		14
CLIFTON*		62	66		4	52		31
CROSBY RAVENSWORTH*		53	59		2	16		46
DUFTON*		27	40		2	5		47
KENDAL OR KIRKBY KENDAL*		65	66		13	27		54
KIRKBY THORE, TEMPLE SOWERBY*		47	47		5	7		55
LOWTHER*		67	80		8	51		43
MORLAND*		42	74		9	39		42
MORLAND, BOLTON*		75	78		5	5		38
MORLAND, GREAT STRICKLAND*		44	49		14	14		30
MORLAND, KINGS MEABURN*		50	50		0	0		40
MORLAND, NEWBY*		77	77		0	6		67
MORLAND, THIRIMBY*		38	75		0	0		67
Average		61	66		9	27		51
MORLAND, LITTLE STRICKLAND ^Δ		50	88		9	9		67
SHAP ^Δ		55	70		7	26	26	31
KENDAL, OR KIRKBY KENDAL, WHINFELL ^Δ		64	91		4	96		67
Average		55	72		7	24		34

** Sub-units with full male and female occupational data for 1787
 * Sub-units with full male occupational data for 1787
^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING Rural sub-unit
 GREEN Sub-unit with urban occupational structure
 BLUE Sub-unit with urban occupational structure and urban function

From table 1.2,⁴ we note that women's marital status appeared to be a very significant determinant of their labour force participation rates both in 1787 and 1851 – although labour force participation rates were significantly lower overall in each marital category in 1851. Whereas an average of 33% of married women and 100% of unmarried adult women were ascribed an occupation in the 1787 census, the corresponding average figures for 1851 only add up to 3% of married women and 54% of unmarried adult women. While the gap visible between married and unmarried women in 1787 in could in part be due to certain constablewicks ascribing wives the occupation 'housewife' as a

⁴ See note 1 for table 1.1 on page 39.

convention rather than as a reflection of reality, previous chapters have shown that this was unlikely to be the case for constablewicks where full male and female occupational data were recorded.

The ‘marital factor’ also tells us something very interesting about the value of the ‘wife of’, ‘daughter of’ – and, by extension, ‘son of’ – categories in the 1851 census, as noted earlier: without taking these descriptors into account as valid occupational descriptors, the labour force participation rates for married women in 1851 range between 0% and 16%. But once included, variations rise dramatically with rates ranging from 0% to 94%. This suggests a massive inconsistency in the way census enumerators used these categories⁵ – and the category was therefore dispensed with in subsequent analysis.⁶

Because marital categories on their own can only provide a limited insight into the ‘supply-side’ factors that may have limited women’s entry into the labour force, an attempt was made to add to the analysis by considering the influence of a woman’s number of children on their likelihood to have a recorded occupation. It was found that, in 1787, married women with a recorded occupation had 2.95 children on average (median 2), and married women without occupations had 3.22 children on average (median 3). In 1851, married women with a recorded occupation had 2.92 children on average (median 2), and married women without occupations had 3.22 children on average (median 3). That the figures were near identical for both years suggested that having a third child could be an important factor in determining whether married women would stay in work or not, but at this stage evidence was too scarce for any conclusion to be drawn. The percentages of women with a stated occupation were hence broken down by number of children to see if any clear pattern emerged in the distribution. In 1787, the step to the third child saw a fall in labour force participation rates from around 40% (for women with

⁵ In an analysis of the 1881 census, Xuesheng You similarly concluded that the category was used inconsistently across census enumerators, districts, and years, noting that, in the household schedules of any census year between 1851 and 1911, there were no specific instructions given as to how the category should be used. See You, Xuesheng. ‘Women’s Employment.’ (pp.66-67).

⁶ As explained in chapter II.3, this will not affect the comparison between the 1787 data and 1851 data – as the absence of any comparable category in 1787 required the 1851 ‘wife, daughter, son of’ to be dispensed with in any case. With further work to identify patterns in its use, the category could, however, provide an additional source of information.

only 1 or 2 children) to around 30%. The pattern was, however, unequal, as participation rates rose again with the 8th child – which may be due to the sample size being too small (only 3 women), or could signify that an older daughter was now old enough to look after younger siblings as the mother returned to paid employment. In 1851, the differences in participation rates of married women according to their number of children was almost insignificant. Still in 1851, households with large numbers of children and a working mother did not seem any more likely than households with large numbers of children and a non-working mother to have an unoccupied daughter above 12-15 years of age who could have been taking care of the children while the mother was working. More generally, number of children is correlated with age, which may have been an alternative drive of declining participation – a hypothesis which would require further testing.

It was nonetheless noted that, in 1787, the most common occupations for married women with children *and* a recorded occupation were textile-sector occupations (spinner, knitter) that had almost disappeared by 1851 (see chapter IV.2) such that, by 1851, the most frequent occupations for married women with children and a recorded occupation were now dressmaker and laundry work. Although further analysis of other factors would be required to draw any definitive conclusions, such evidence is consistent with a decline in FLFP being linked to a collapse of employment opportunities in textiles. This would be further supported by Saito's data,⁷ and by the fact that the fall in FLFP in Westmorland between 1787 and 1851 was far larger for married women than unmarried women, at a time when (as shown in chapter IV.1) employment in the textile sector collapsed for women. Though other factors including the mother's age, children's ages, or husband's occupation would have to be taken into account, plausible explanations for this pattern would have to involve something about the nature of the work – e.g. work being done at home no longer being a option for women with children. Hence the evidence presented appears suggestive of, and highly consistent with, a link between the collapse of textile cottage industry and that of married women's labour force participation rates.

⁷ As stated previously, Saito found that female labour force participation rates declined significantly in Corfe Castle, where spinning and knitting disappeared, but remained higher in Cardington where lace making counter-balanced the effect, such that cottage industry was found to have a significant effect in increasing or maintaining female employment.

IV. Sectoral distributions and their evolution

The PST system of classification allows primary, secondary and tertiary sector occupations to be easily isolated – but a number of occupations in both the 1787 and 1851 census were sectorally unspecific. The most significant of these was ‘labourer’ – which simply refers to waged, manual labour that could be performed in any number of trades. In a 2016 working-paper, Sebastiaan Keibek used multivariate regression analysis to allocate labourers to sectors. Keibek assumed a positive relationship between the average number of agricultural workers per farm and the mean farm surface, taking into account factors such as type of farming, terrain, climate, elevation, agricultural land quality, latitude; and further assumed a roughly linear relationship between the number of labourers and the number of non-labourers in the same line of work in the secondary and tertiary sectors.¹ Such a detailed method is impossible to replicate within the constraints of this dissertation – and would not, in fact, be desirable for the kind of analysis being performed as it allocates labourers in terms of time-use rather than as individual workers. This dissertation seeks to compare male and female occupational data, and the question of time-use is a particularly significant – and largely unsolved – aspect of women’s work in the early modern period. Using a time-use method to allocate labourers when the entire analysis chooses to focus on denominational occupations for this and other reasons explained in previous chapters would therefore introduce an inconsistency in the analysis.

Keibek’s method nonetheless suggested that the method developed by Saito and Shaw-Taylor to allocate labourers was reasonably accurate, despite some shortcomings.² This method involved calculating ratios between labourers and non-labourers in the secondary and tertiary sectors in censuses from 1841 onwards, in which labourers were allocated with ‘varying but increasing precision’

¹ Keibek, Sebastian. "Allocating Labourers to Occupational Sectors Using Regression Techniques." Working paper (2016): Web. <<http://www.campop.geog.cam.ac.uk/research/projects/occupations/abstracts/paper28.pdf>>. (pp.4-7).

² *Ibid.* (p.16).

to occupational groups, and applying these ratios backwards, allocating all remaining labourers to the primary sector.³

A similar approach was attempted with the 1787 and 1851 data. In the 1851 data, there were a total of 746 agricultural labourers, 8 coal labourers, 8 factory labourers, 9 mason's labourers, 44 railway labourers, and 279 sectorally unspecific 'labourers'. After a first attempt to calculate the proportion of the primary, secondary and tertiary sectors accounted for by labourers belonging to that sector, and having obtained a near-equal distribution of labourers across the three sectors, it became obvious that the results were being skewed by the fact that a very large proportion of the 1851 dataset came from Kendal town, one of the most industrialized areas of the entire county⁴. Because it made little sense to allocate labourers on the basis of a ratio that was calculated using un-weighted data, the exercise was therefore repeated in a differentiated manner for each sub-unit, and averages calculated subsequently.

It was found that labourers in the secondary and tertiary sectors were a very rare occurrence, and concentrated in a very small number of (urbanised) areas. It was therefore thought reasonable to allocate all remaining 'labourers' in the 1851 census, and all 'labourers' in the 1787 census, to the primary sector. The latter was thought especially sensible given that the few labourers that did appear in the secondary and tertiary sectors in 1851 were concentrated in the coal industry, factories, masonry and railway work – which would have provided far less employment, if at all, in 1787.

³ Keibek. 'Allocating Labourers.' (p.2).

⁴ And was hence likely to have a significantly different occupational structure from the other units.

Male and female sectoral distributions were then calculated, using only the primary, secondary, tertiary subdivision initially. This was decided in order to allow comparison by sub-unit and avoid the ‘small numbers problem.’⁵

⁵ Comparison by sub-unit was prioritized over averages alone because, given that the nature of the available data for 1787 differed significantly between sub-units, calculating averages would inevitably involve excluding a large portion of the data whereas prioritising a comparison by sub-unit could reveal particularly interesting trends, related to the urban-rural division for example. In chapter IV.4, analysis will focus exclusively on a comparison between the parishes with full female and male occupational data for both 1787 and 1851 – and hence, because averages were possible, the analysis in that chapter was performed at a higher level of disaggregation within sectors.

IV.1 Male and female sectoral distributions across time

As shown in table 2.1,¹ in 1787, working women were highly concentrated in the secondary sector and, to a lesser extent, the tertiary sector. For the units recording full male and female occupational data in 1787, an average of 16% of women were employed in the primary sector in 1787, 61% in the secondary sector, and 23% in the tertiary sector. Milbourne presented an unusual pattern, with 62% of women being employed in the primary sector, usually as dairymaids. However both the male and female occupational structures of Milbourne and the urban-rural test performed on the data as a whole suggest that Milbourne was a highly agricultural unit. Nor was it the case that women in Milbourne were automatically, ascribed an agricultural occupational descriptor by the 1787 census enumerator - which suggests that this is unlikely to be a statistical artefact.

By 1851, still for the parishes with full male and female occupational data in 1787, an average of 13% of working women were employed in the primary sector; only 12% in the secondary sector; and 77% in the tertiary sector – a pattern paralleled across all 1851 census units. The disaggregated data suggest that some women would have reverted to the primary sector, while others moved en masse to the tertiary sector as secondary sector employment fell dramatically in all areas, with the exception of highly urbanized sub-units such as Kendal town. Here we note that, due to the difficulty of allocating ‘servants’ to the correct sector, it is possible that female employment in agriculture was under-estimated at both dates. However, an alternative servant allocation would affect only the magnitude, and not the existence, of the main patterns identified. If all of female servants² at both dates were allocated to the primary sector, for 1787, the secondary sector would retain the largest share of female employment by far (61%), followed by the primary sector (now inflated from 16% to

¹ See note 1 for table 1.1 on page 39.

Note also that even after standardization and analysis, a few cases of sectorally unspecific occupations remained in both censuses (mostly unspecified ‘apprentices’ whose sector could not be determined with any certainty on the basis of the head of household’s occupation) – hence the few units where the sum of percentages adds up to just under 100. Given the extremely low frequency of these sectorally unspecific occupations, and given that they would not affect any patterns observed, it was decided against adding an extra column for these, in an effort to preserve clarity.

² All categories included.

25%) and the tertiary (down from 23% to 14%). For 1851, the primary sector and tertiary sector would now employ equal shares of female workers (44.5%) with the secondary sector remaining at 12%. The growth of the tertiary sector as a share of female employment observed above would remain, though its magnitude would be diminished (going from 14% in 1787 to 44% in 1851, rather than from 23% to 77%).

Figure 2.1:

Table 2.1: Female sectoral distribution across time

	Primary sector		Secondary sector		Tertiary sector	
	1787	1851	1787	1851	1787	1851
	(%)	(%)	(%)	(%)	(%)	(%)
APPLEBY ST MICHAEL OR BONGATE, HILTON**	11,3 (4)	4,5 (1)	47,5 (19)	18,2 (4)	41,3 (16)	77,3 (17)
APPLEBY ST MICHAEL OR BONGATE, MURTON**	42,6 (20)	6,7 (1)	40,4 (19)	0,0 (0)	17,0 (8)	80,0 (14)
BROUGH, STAINMORE**	0,7 (1)	13,2 (7)	77,1 (108)	15,1 (8)	22,1 (31)	71,7 (38)
KIRKBY STEPHEN, KABER**	0,0 (0)	26,7 (4)	85,3 (29)	0,0 (0)	14,7 (5)	73,3 (11)
KIRKBY THORE, MILBOURNE**	62,2 (30)	17,6 (6)	2,0 (1)	14,7 (5)	35,7 (17)	67,6 (23)
LONG MARTON**	11,3 (8)	9,5 (6)	80,3 (57)	12,7 (8)	8,5 (6)	77,8 (49)
NEWBIGGIN**	4,2 (1)	21,4 (3)	54,2 (13)	0,0 (0)	41,7 (10)	78,6 (11)
Average	16,1 (43)	13,2 (28)	60,7 (233)	11,7 (25)	23,2 (83)	76,5 (152)
APPLEBY ST LAWRENCE, COLBY*		25,0		0,0		75,0
ASKHAM*		1,7		18,3		78,3
ASKHAM, HELTON*		10,0		10,0		75,0
BAMPTON*		24,6		9,0		65,7
BARTON, HIGH BARTON*		10,0		6,7		83,3
BARTON, MARTINDALE*		13,3		13,3		73,3
BARTON, PATERDALE WITH HARTSOP*		5,3		10,5		83,3
BARTON, SOCKBRIDGE AND TIRIL*		12,5		9,4		78,1
BROUGHAM*		18,5		7,4		74,1
CLIBURN*		0,0		22,2		77,8
CLIFTON*		3,0		24,2		72,7
CROSBY RAVENSWORTH*		5,5		13,8		80,3
DUFTON*		18,8		25,0		54,7
KENDAL OR KIRKBY KENDAL*		1,2		36,4		61,6
KIRKBY THORE, TEMPLE SOWERBY*		14,5		18,2		65,5
LOWTHER*		15,9		13,0		71,0
MORLAND*		7,5		12,5		78,8
MORLAND, BOLTON*		10,3		15,4		73,1
MORLAND, GREAT STRICKLAND*		16,7		13,3		70,0
MORLAND, KINGS MEABURN*		0,0		0,0		100,0
MORLAND, NEWBY*		8,3		11,1		80,6
MORLAND, THRIMBY*		25,0		0,0		66,7
Average		4,6		28,5		66,8
MORLAND, LITTLE STRICKLAND ^Δ		20,0		30,0		50,0
SHAP ^Δ		13,1		8,0		79,0
KENDAL , OR KIRKBY KENDAL, WHINFELL ^Δ		0,0		8,7		87,0
Average		14,1		10,4		77,6

** Sub-units with full male and female occupational data for 1787

* Sub-units with full male occupational data for 1787

^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING

Rural sub-unit

GREEN

Sub-unit with urban occupational structure

BLUE

Sub-unit with urban occupational structure and urban function

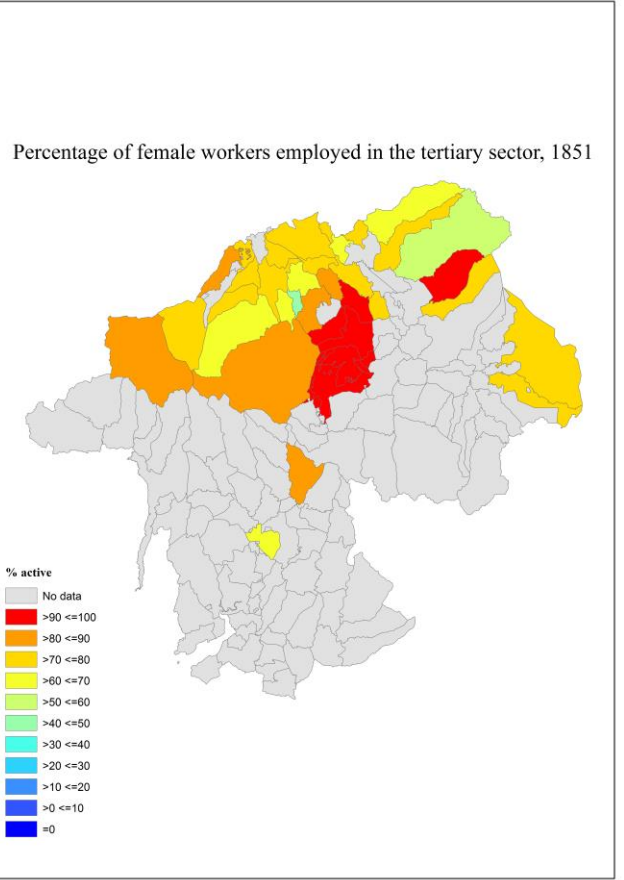
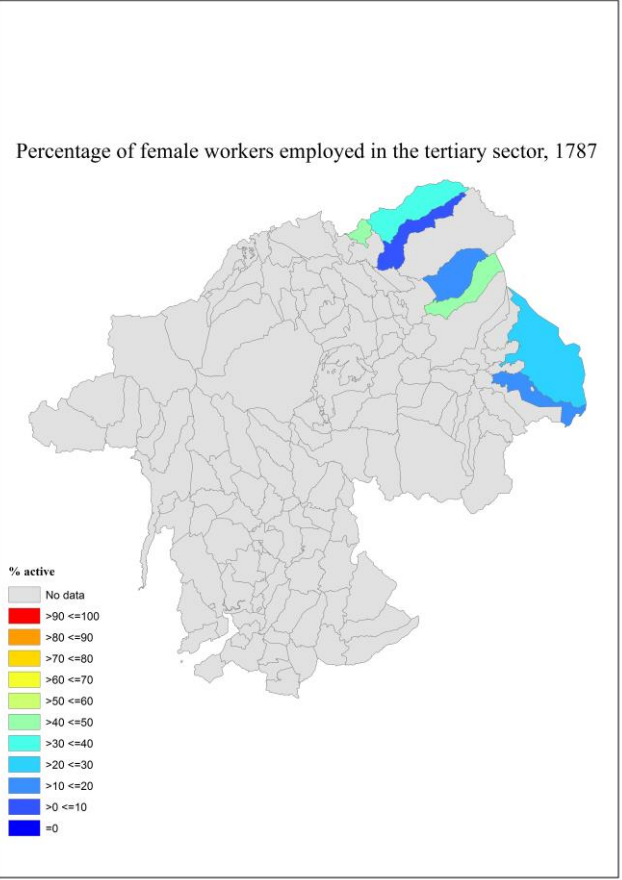
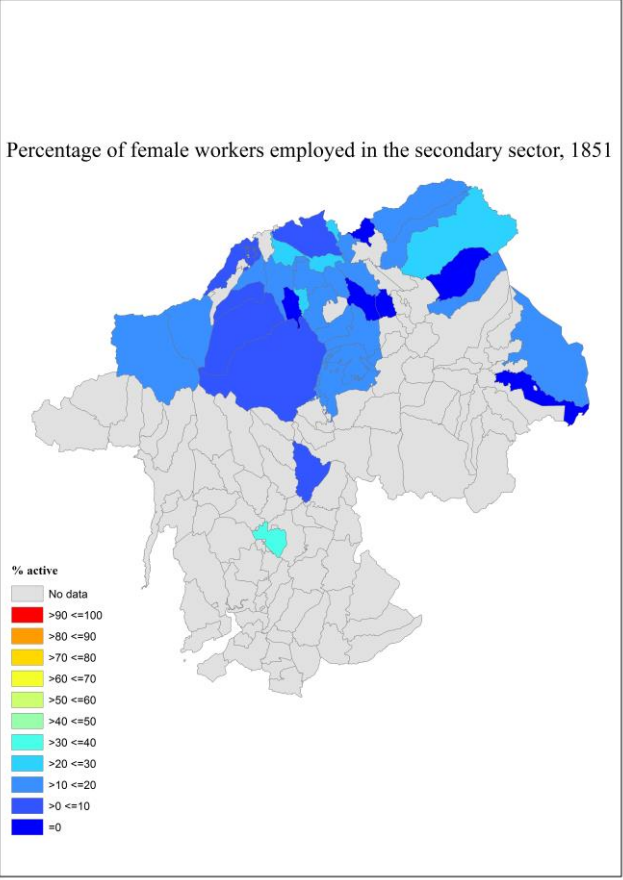
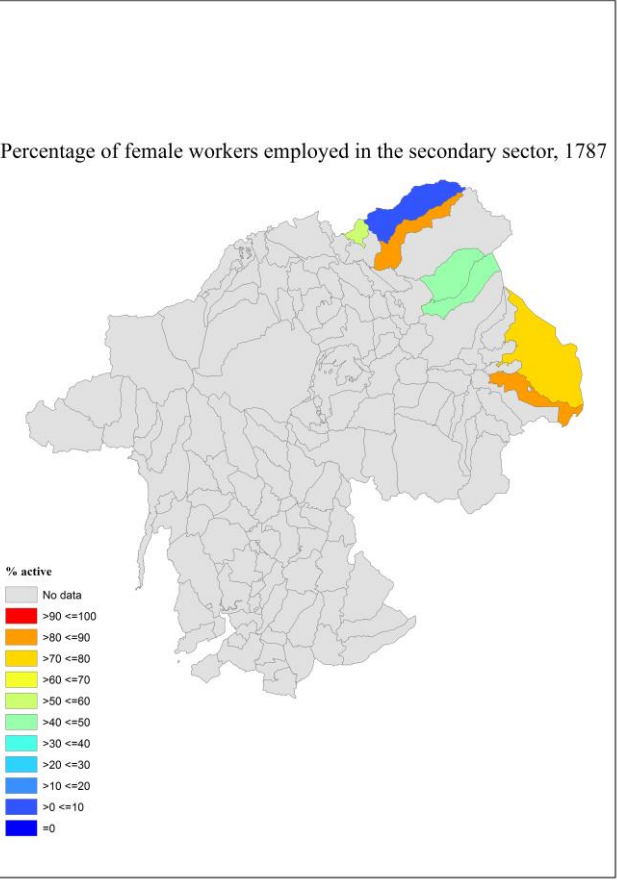
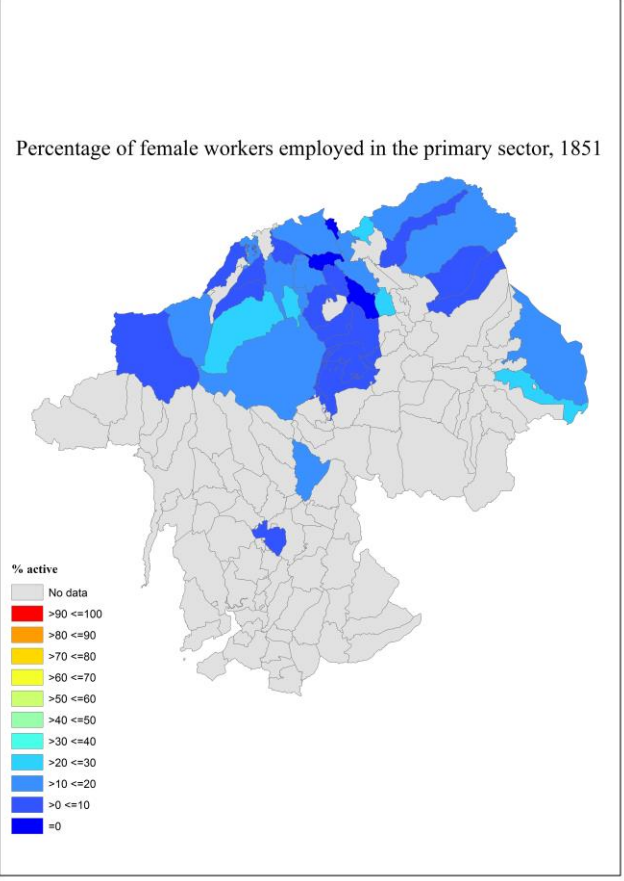
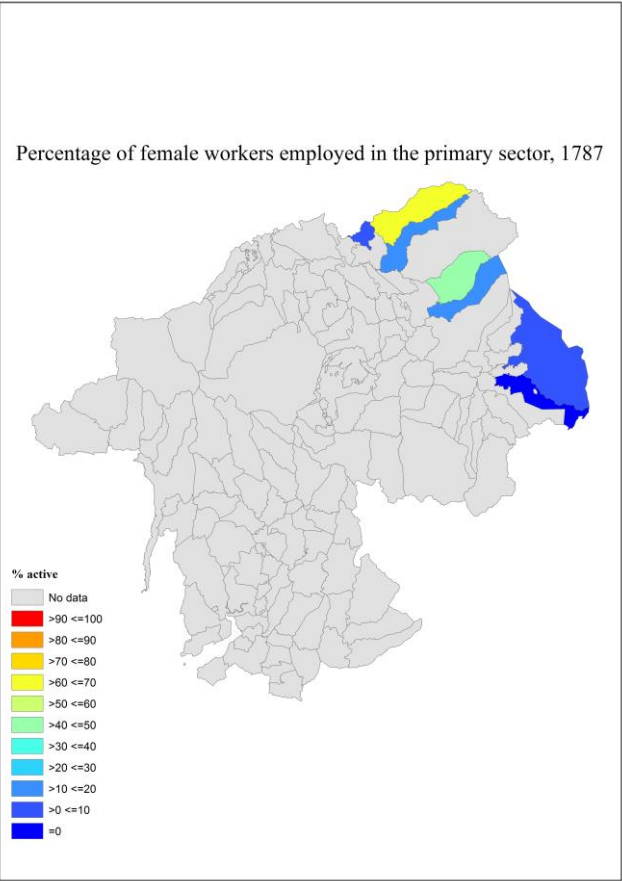


Table 2.2: Male sectoral distribution across time

	Primary sector		Secondary sector		Tertiary sector	
	1787 (%)	1851 (%)	1787 (%)	1851 (%)	1787 (%)	1851 (%)
APPLEBY ST MICHAEL OR BONGATE, HILTON**	74,4 (32)	72,5 (64)	25,6 (11)	20,2 (18)	0,0 (0)	7,3 (6)
APPLEBY ST MICHAEL OR BONGATE, MURTON**	56,3 (27)	79,5 (52)	28,1 (13)	17,4 (11)	15,6 (7)	3,0 (2)
BROUGH, STAINMORE**	81,9 (122)	89,0 (138)	12,1 (18)	3,4 (5)	4,7 (7)	6,7 (11)
KIRKBY STEPHEN, KABER**	79,2 (42)	86,1 (44)	13,2 (7)	5,9 (3)	7,5 (4)	5,6 (3)
KIRKBY THORE, MILBOURNE**	73,3 (55)	77,7 (64)	17,3 (13)	15,1 (12)	4,0 (3)	3,0 (2)
LONG MARTON**	78,1 (107)	74,9 (154)	17,5 (24)	13,3 (27)	4,4 (6)	11,6 (24)
NEWBIGGIN**	39,5 (17)	56,1 (23)	55,8 (24)	31,7 (13)	4,7 (2)	13,0 (5)
Average	73,4 (402)	78,4 (539)	20,2 (110)	12,9 (89)	5,4 (29)	7,7 (80)
APPLEBY ST LAWRENCE, COLBY*	79,4	85,3	11,8	11,8	8,8	2,9
ASKHAM*	55,3	47,5	36,8	31,3	5,3	16,7
ASKHAM, HELTON*	100,0	76,1	0,0	18,5	0,0	3,3
BAMPTON*	79,9	75,9	14,8	18,1	4,0	5,3
BARTON, HIGH BARTON*	66,7	61,7	19,6	24,5	11,8	13,3
BARTON, MARTINDALE*	78,6	72,1	19,0	22,1	2,4	5,7
BARTON, PATTERDALE WITH HARTSOP*	79,1	64,2	10,4	28,2	9,7	6,0
BARTON, SOCKBRIDGE AND TIRRI*	66,7	65,7	27,1	19,3	2,1	12,2
BROUGHAM*	87,0	95,9	5,6	1,4	1,9	2,7
CLIBURN*	54,8	73,2	31,0	18,3	11,9	8,5
CLIFTON*	59,6	69,2	34,0	20,2	2,1	10,3
CROSBY RAVENSWORTH*	77,8	69,3	13,7	21,9	2,0	6,5
DUFTON*	76,1	70,0	14,1	22,8	5,4	6,2
KENDAL OR KIRKBY KENDAL*	16,6	13,5	59,1	61,1	14,8	22,6
KIRKBY THORE, TEMPLE SOWERBY*	26,0	52,7	51,4	36,2	13,0	10,6
LOWTHER*	39,5	74,1	23,7	14,8	36,0	11,4
MORLAND*	50,8	61,5	32,2	20,4	15,3	16,8
MORLAND, BOLTON*	71,9	72,5	23,4	20,1	4,7	5,9
MORLAND, GREAT STRICKLAND*	54,5	63,9	27,3	23,4	11,4	12,7
MORLAND, KINGS MEABURN*	83,0	79,5	13,2	18,5	1,9	2,1
MORLAND, NEWBY*	71,4	80,1	24,5	13,1	4,1	5,7
MORLAND, THRIMBY*	66,7	75,0	33,3	4,2	0,0	16,7
Average	54,6	37,3	30,7	44,1	9,9	16,6
MORLAND, LITTLE STRICKLAND ^Δ	57,1	74,2	28,6	14,5	11,9	9,7
SHAP ^Δ	57,0	63,5	29,6	15,4	12,7	19,6
KENDAL , OR KIRKBY KENDAL, WHINFELL ^Δ	90,6	79,6	9,4	13,0	0,0	1,9
Average	62,6	66,7	26,2	15,0	10,5	16,2

** Sub-units with full male and female occupational data for 1787

* Sub-units with full male occupational data for 1787

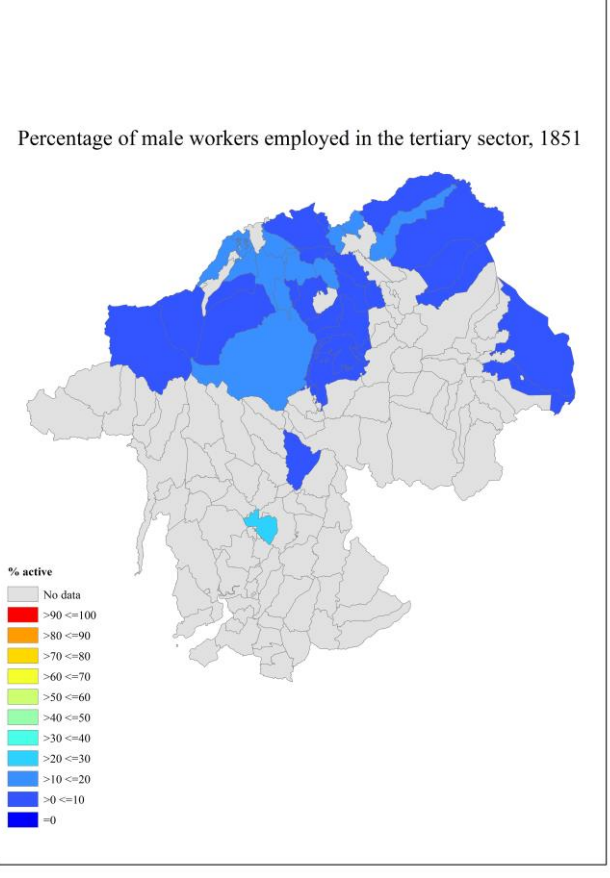
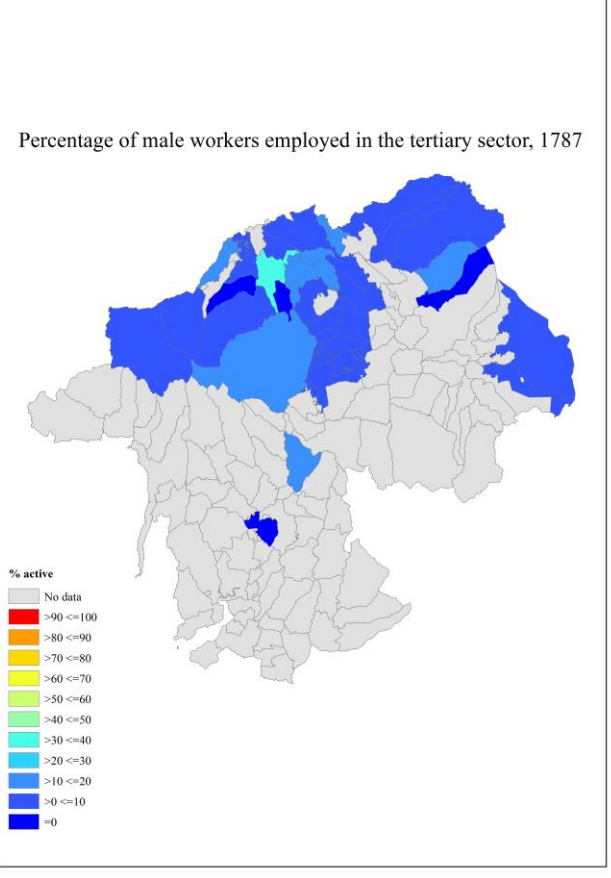
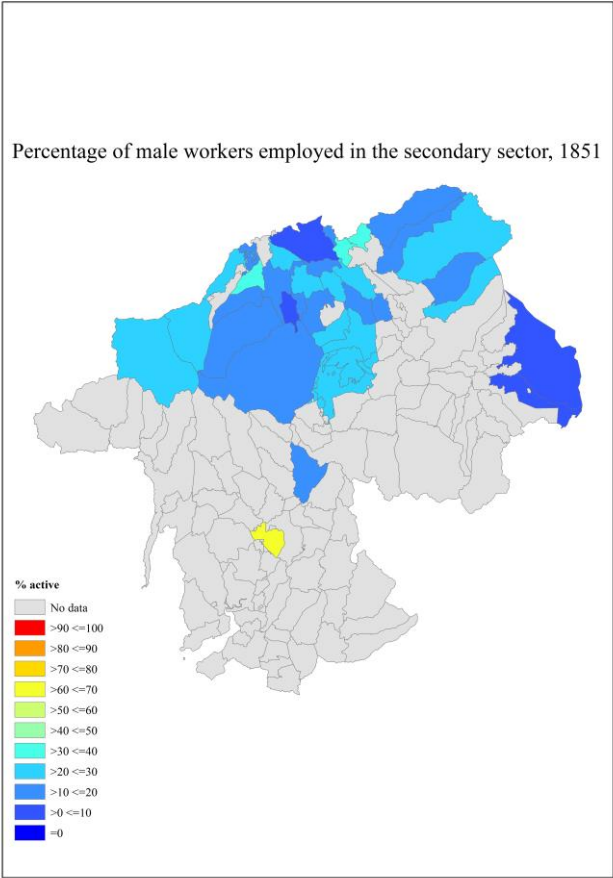
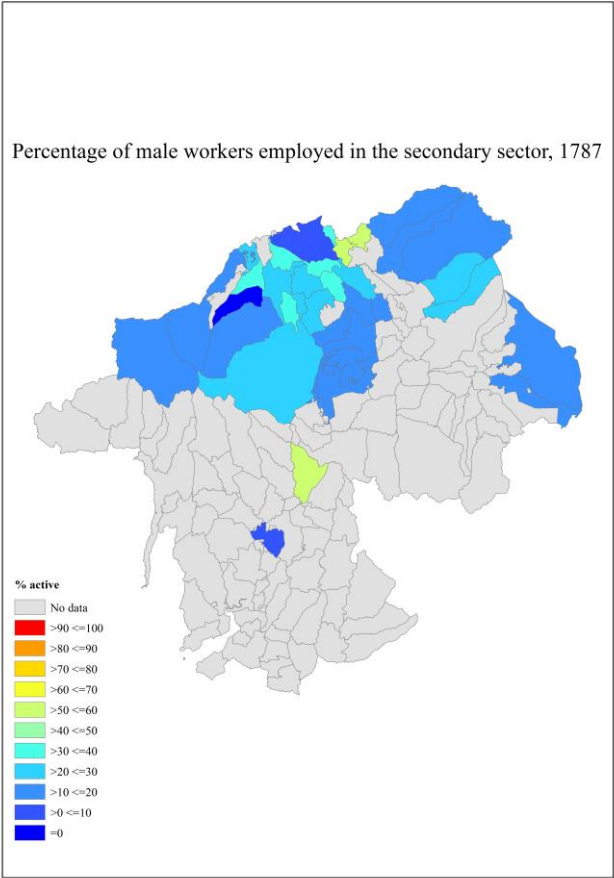
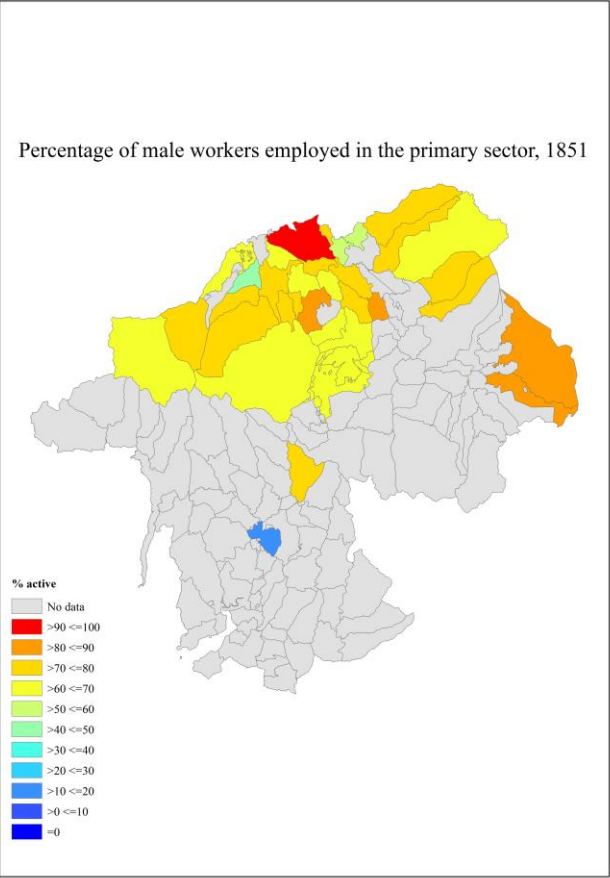
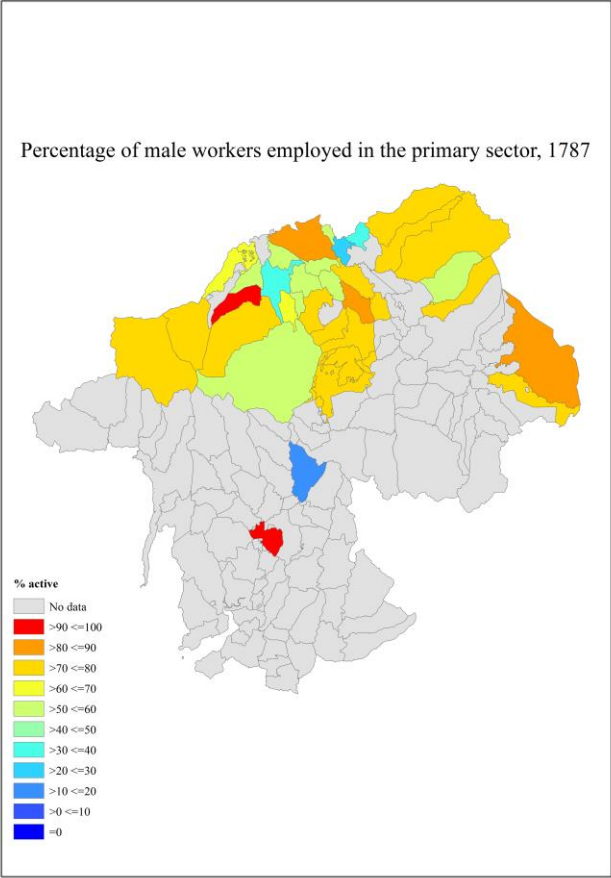
^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING Rural sub-unit

GREEN Sub-unit with urban occupational structure

BLUE Sub-unit with urban occupational structure and urban function

Figure 2.2:



The male occupational structure of Westmorland between 1787 and 1851, shown in table 2.2,¹ was far more stable, though some patterns of change emerge here too. Men tended to be concentrated in the primary sector in 1787, with the exception of highly urbanized areas such as Kendal town. Always for parishes with full male and female data in 1787, an average of 73% of male workers worked in the primary sector; 20% in the secondary sector, and 5% in the tertiary. The corresponding figures for 1851 reveal the primary sector experiencing a regrowth (78% of male workers on average), the secondary sector diminishing (13%) and the tertiary sector augmenting (8%).

This pattern of partial de-industrialization could at first appear to be a statistical artefact. Yet those marked as farmers' relatives in 1851 were *not* counted as part of the primary sector,² when these would have inflated the total number of workers in the primary sector by about 20% (both male and female workers taken together). There is, moreover, additional evidence to suggest that de-industrialization was a genuine pattern. The pattern observed for males is very closely similar to that noted by Jones and Shaw-Taylor in Northamptonshire between 1777 and 1851. Amanda Jones' and Leigh Shaw-Taylor's 2014 analysis of data collected from a 1777 militia ballot list, Anglican parish registers for the period 1813-20, and published census tables for 1841 and 1851 for Northamptonshire suggested that the period witnessed partial de-industrialization in the form of an increase of the primary sector before its subsequent re-contraction; the decline and partial recovery of the secondary sector before expansion to new levels in the second half of the nineteenth century; and rapid growth within the tertiary sector across the whole period. Jones and Shaw-Taylor found that the primary sector had accounted for only about half of male employment in 1777, but rapidly increased by 1813-20. At the same time, the secondary sector share of male employment declined from 43% to 33%, a decline largely driven by a dramatic collapse of the wool textile industry from 11% of the adult male workers to a mere 1% by c.1817. This was later partially reversed by the rise of the shoemaking

¹ See note 1 for table 1.1 on page 39.

² Unless additional information made it clear that they were indeed employed on the farm.

industry.³ Jones and Shaw-Taylor further noted that the geographies of the collapse of weaving and the rise in agricultural labour force were strikingly similar.⁴

A near-identical pattern can be observed in the 1787-1851 Westmorland data. As will be shown in the subsequent chapter (chapter IV.2), the period saw the collapse of the textile industry in all areas but major towns – a collapse whose geographical pattern resembles that of the regrowth of the primary sector. Moreover, as occupations such as weaving or spinning became less common, the importance of shoemaking as a share of adult male employment rose significantly. Finally, in a 2016 study, Keibek found that although agriculture moderately declined at the national level over the 1761-1817 period, it was in fact the sector with the largest labour share growth in a third of all counties in England, with the agricultural labour share being higher in 1817 than in 1701 in 16 out of 41 counties, suggesting that de-industrialisation was a common pattern.⁵ It therefore appears that the pattern of de-industrialization observed is neither a sign that the 1787 or 1851 census data are inaccurate, nor a statistical artefact, but rather a genuine phenomenon.

A closer look at changes in prevalent occupations for men and women can provide indications as to the causes of changes in occupational structure. In 1787, the most common secondary sector occupation for women was knitter (131 women), followed by spinster (91) and spinner (22). By 1851, the most common secondary sector occupation for women was now dressmaker (281 women), followed by winder⁶ (a mere 50 women), factory worker (47), and baker (46). This immediately suggests that women's roles within the textile industry had changed significantly, as women were now concentrated in supporting roles. In the tertiary sector, the most common occupation for women in 1787 was servant (246) and remained so in 1851 (691).

³ Shaw-Taylor, Leigh, and Amanda Jones. "Male Occupational Structure in Northamptonshire 1777-1851: A Case of Partial De-Industrialization." Working paper (2014). (pp.2-3).

⁴ *Ibid.* (p.7).

⁵ Keibek, Sebastiaan. 'The Male Occupational Structure of England and Wales, 1600-1850.' Unpublished thesis. Cambridge University, 2016. (p.188).

⁶ Worker winding thread onto spindles for weaving.

With respect to male occupations, the most common secondary sector occupation in 1787 was, by far, weaver (163 men) followed by tailor (75). By 1851, the most common secondary sector occupation was now tailor (190), followed by shoemaker (132), which had now displaced handloom weavers (160). Whereas the most common tertiary sector occupation had been innkeeper (30) in 1787, by 1851 it was land proprietor (109), followed by grocer (98). While we must be careful to note that part of these changes may be due to the 1851 census providing a more disaggregated picture of occupational structure than the 1787 data, it is nonetheless clear that two major areas of change can be isolated - namely the textile industry, and domestic service.

IV.2 The textile industry

Table 3.1: Percentage of labour force in textile industry across time

	Women		Men	
	1787 (%)	1851 (%)	1787 (%)	1851 (%)
APPLEBY ST MICHAEL OR BONGATE, HILTON**	32,5 (13)	0,0 (0)	2,3 (1)	0,0 (0)
APPLEBY ST MICHAEL OR BONGATE, MURTON**	27,7 (13)	0,0 (0)	11,5 (6)	0,0 (0)
BROUGH, STAINMORE**	5,0 (7)	0,0 (0)	3,4 (4)	0,0 (0)
KIRKBY STEPHEN, KABER**	10,3 (4)	0,0 (0)	0,0 (0)	0,0 (0)
KIRKBY THORE, MILBOURNE**	0,0 (0)	0,0 (0)	3,3 (3)	0,0 (0)
LONG MARTON**	78,9 (57)	0,0 (0)	8,5 (9)	0,0 (0)
NEWBIGGIN**	45,8 (10)	0,0 (0)	4,7 (2)	0,0 (0)
Average	37,5 (104)	0,0 (0)	5,0 (25)	0,0 (0)
APPLEBY ST LAWRENCE, COLBY*		0,0	2,9	0,0
ASKHAM*		0,0	2,6	0,0
ASKHAM, HELTON*		0,0	0,0	2,2
BAMPTON*		0,0	2,7	0,0
BARTON, HIGH BARTON*	0,0		3,9	0,0
BARTON, MARTINDALE*	0,0		4,8	0,0
BARTON, PATERDALE WITH HARTSOP*	0,0		0,0	0,0
BARTON, SOCKBRIDGE AND TIRRIL*	0,0		6,3	1,2
BROUGHAM*	0,0		0,0	0,0
CLIBURN*	0,0		11,9	1,4
CLIFTON*	0,0		0,0	0,0
CROSBY RAVENSWORTH*	1,1		1,3	1,1
DUFTON*	0,0		0,0	0,0
KENDAL OR KIRKBY KENDAL*	9,5		31,7	18,6
KIRKBY THORE, TEMPLE SOWERBY*	0,0		1,4	1,1
LOWTHER*	0,0		1,8	0,0
MORLAND*	0,0		1,7	0,9
MORLAND, BOLTON*	0,0		3,1	0,0
MORLAND, GREAT STRICKLAND*	0,0		9,1	0,0
MORLAND, KINGS MEABURN*	0,0		7,5	0,0
MORLAND, NEWBY*	0,0		6,1	1,1
MORLAND, THRIMBY*	0,0		8,3	0,0
Average	0,0		9,8	10,9
MORLAND, LITTLE STRICKLAND ^Δ	0,0		0,0	0,0
SHAP ^Δ	0,0		3,5	0,4
KENDAL , OR KIRKBY KENDAL, WHINFELL ^Δ	0,0		3,1	0,0
Average	0,0		3,1	0,3

** Sub-units with full male and female occupational data for 1787

* Sub-units with full male occupational data for 1787

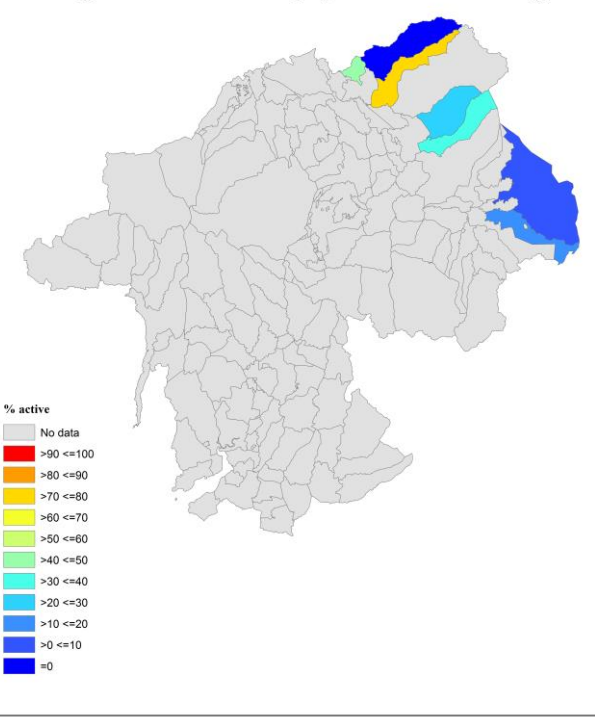
^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING Rural sub-unit

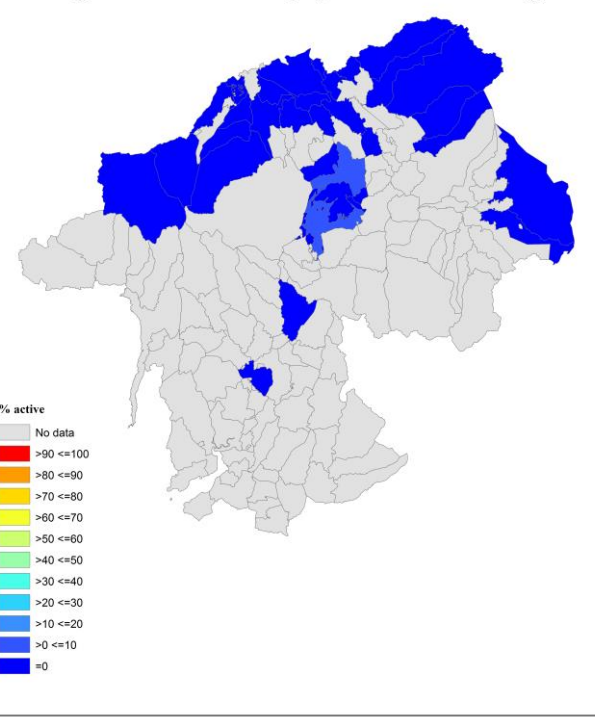
GREEN Sub-unit with urban occupational structure

BLUE Sub-unit with urban occupational structure and urban function

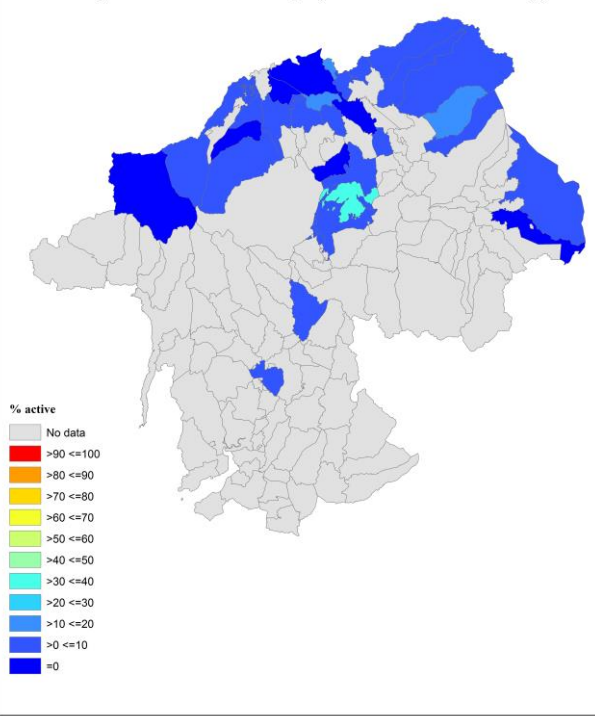
Percentage of female workers employed in the textile industry, 1787



Percentage of female workers employed in the textile industry, 1851



Percentage of male workers employed in the textile industry, 1787



Percentage of male workers employed in the textile industry, 1851

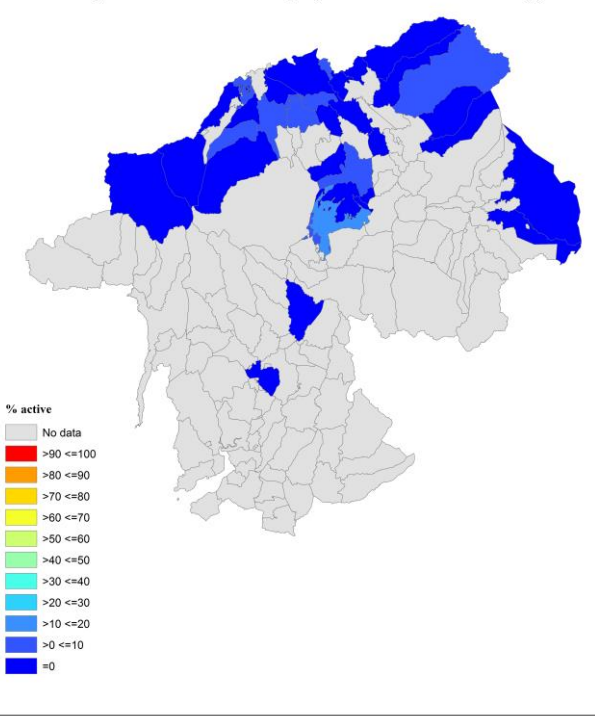


Figure 3.1:

Table 3.1¹ shows that, by 1851, the Westmorland textile industry had become entirely concentrated in major urban centres such as Kendal town. Whereas, in 1787, the textile industry had employed women in nearly all parishes – sometimes as much as 79% of female workers – by 1851 it employed 1% of female workers in Crosby Ravensworth, 9.5% of female workers in Kendal town, and no female workers elsewhere. In Kendal town, the main area where the textile sector continued to provide employment, however, it now employed a significantly higher number – and proportion – of men. Whereas the textile industry employed 17% (104) of all potential female workers in 1787, by 1851, it employed none in corresponding parishes.² By contrast, whereas, in 1787, for all parishes taken together, the textile sector employed 6% (213) of potential male workers, by 1851, it employed 8% (569).

This pattern may in part explain the partial de-industrialization witnessed in a number of Westmorland units between 1787 and 1851. Since the textile industry was the major secondary sector industry of the county, the pattern observed may represent a form of intra-regional specialization better described as ‘de-*proto-industrialization*’, involving the collapse of cottage industry in some areas and the rise of factory production in others.

The rise of factory production also appears linked to a significant masculinization of the industry, and suggests the importance of demand as an influence on women’s employment. As shown before, the textile sector was the largest single employer of female workers in 1787 – as well as the largest employer of married women with children. The collapse of textile *proto-industry* in most areas of Westmorland and the rise of factory production in Kendal Town, one of the parishes with the highest FLFP in 1851, suggest that changes in textile production – i.e. the mechanization of spinning – were central factors in changing FLFP. Studies of Belgian and Irish occupational structures during industrialization further support the link between industrialization, mechanization, and falling female employment opportunities. Though the Belgian and Irish textile industries mechanized later than the

¹ See note 1 for table 1.1 on page 39.

² For all parishes taken together in 1851, the textile sector employed a mere 2% of potential female workers, representing a total of 151 women.

British, patterns of female employment as both mechanized in the late 1830s closely parallel the pattern observed in this dissertation. In Belgium, the share of women working in industry had been about 10% higher than in Britain in c.1840. When mechanized flax spinning started to outcompete traditional hand spinning at around that time, however, the female labour force in textiles decreased significantly, to the point where the Belgian secondary sector share fell substantially below the English.³ In Ireland, where flax spinning had been the principal source of employment for women and children in many districts,⁴ mechanization in the late 1830s-early 1840s was accompanied by a decline in the proportion of the female labour force in manufacturing from 60% in 1841 to just 32% in 1871.⁵

The evidence presented hence also goes against de Vries' suggestion that women's removal from the labour force in the late nineteenth century was largely voluntary. Because the evidence suggests a strong link both between the mechanization of the textile industry and its masculinization, and between dramatically reduced employment opportunities for women in textiles and falling FLFP rates, the evidence suggests that the removal of women from the labour force would have occurred as early as c.1800, alongside mechanization, rather than at the mid-nineteenth century as suggested by de Vries, and that it was correlated to changes in the *demand* for female labour rather than in the *supply* of female labour.

³ Shaw-Taylor, Leigh, and Erik Buyst. "An Anglo-Belgian Comparison of Occupational Structures during Industrialization." Unpublished paper. (2015).

⁴ Bielenberg, Andy. *Ireland and the Industrial Revolution: The Impact of the Industrial Revolution on Irish Industry, 1801-1922*. London: Routledge, 2009. Print. (p.27).

⁵ Clarkson, L.A., Paul Ell, and Liam Kennedy, eds. *Mapping the Great Irish Famine: An Atlas of the Famine Years*. London: Four Courts, 1999. Print. (p.147, pp.156-157).

IV.3 Domestic service

Table 4.1: Percentage of labour force in domestic service industry across time

	Women		Men	
	1787 (%)	1851 (%)	1787 (%)	1851 (%)
APPLEBY ST MICHAEL OR BONGATE, HILTON**	12,5 (4)	72,7 (16)	0,0 (0)	0,0 (0)
APPLEBY ST MICHAEL OR BONGATE, MURTON**	6,4 (2)	84,6 (11)	0,0 (0)	0,0 (0)
BROUGH, STAINMORE**	21,4 (35)	64,2 (34)	0,0 (0)	0,0 (0)
KIRKBY STEPHEN, KABER**	14,7 (7)	66,7 (10)	0,0 (0)	0,0 (0)
KIRKBY THORE, MILBOURNE**	29,6 (15)	58,8 (20)	0,0 (0)	0,0 (0)
LONG MARTON**	7,0 (5)	59,7 (37)	0,0 (0)	1,0 (2)
NEWBIGGIN**	33,3 (10)	78,6 (11)	0,0 (0)	4,9 (2)
Average	19,3 (78)	65,3 (139)	0,0 (0)	0,6 (4)
APPLEBY ST LAWRENCE, COLBY*		62,5	0,0	0,0
ASKHAM*		53,3	1,3	1,1
ASKHAM, HELTON*		55,0	0,0	0,0
BAMPTON*		58,2	0,7	0,0
BARTON, HIGH BARTON*		73,3	0,0	2,0
BARTON, MARTINDALE*		73,3	0,0	0,0
BARTON, PATERDALE WITH HARTSOP*		73,7	0,0	0,0
BARTON, SOCKBRIDGE AND TIRRIL*		71,9	0,0	1,2
BROUGHAM*		74,1	0,0	0,0
CLIBURN*		61,1	0,0	1,4
CLIFTON*		72,7	0,0	0,0
CROSBY RAVENSWORTH*		68,4	0,0	0,0
DUFTON*		50,0	0,0	0,0
KENDAL OR KIRKBY KENDAL*		44,3	0,7	0,3
KIRKBY THORE, TEMPLE SOWERBY*		58,2	1,4	0,0
LOWTHER*		62,3	8,8	1,4
MORLAND*		64,1	0,0	0,0
MORLAND, BOLTON*		66,7	0,0	0,0
MORLAND, GREAT STRICKLAND*		63,3	0,0	1,3
MORLAND, KINGS MEABURN*		100,0	0,0	0,0
MORLAND, NEWBY*		72,2	0,0	0,0
MORLAND, THIRIMBY*		66,7	0,0	0,0
Average		51,3	0,9	0,3
MORLAND, LITTLE STRICKLAND ^Δ		50,0	0,0	0,0
SHAP ^Δ		68,6	0,0	0,0
KENDAL , OR KIRKBY KENDAL, WHINFELL ^Δ		71,4	0,0	0,0
Average		67,5	0,0	0,0

** Sub-units with full male and female occupational data for 1787

* Sub-units with full male occupational data for 1787

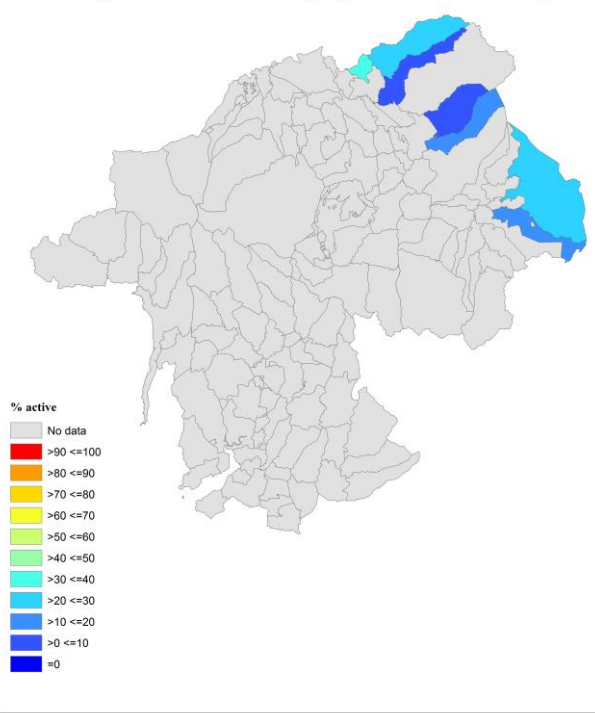
^Δ Sub-units with occupational data for male heads of households in 1787

NO HIGHLIGHTING Rural sub-unit

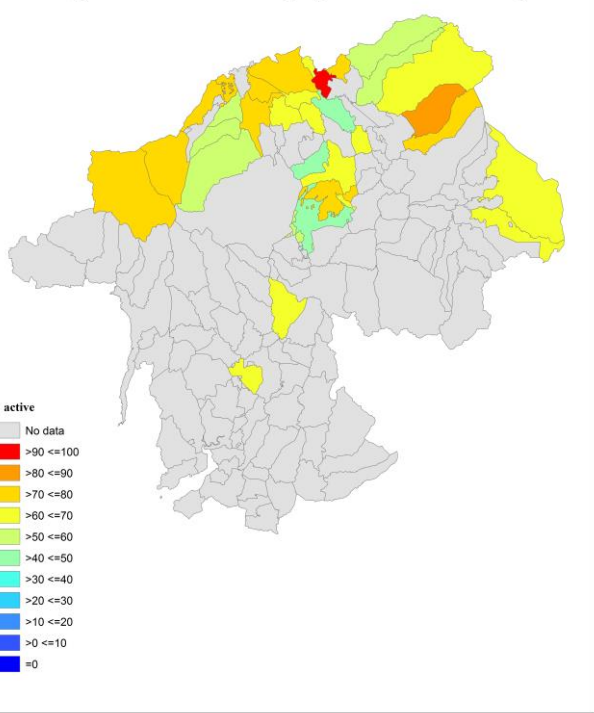
GREEN Sub-unit with urban occupational structure

BLUE Sub-unit with urban occupational structure and urban function

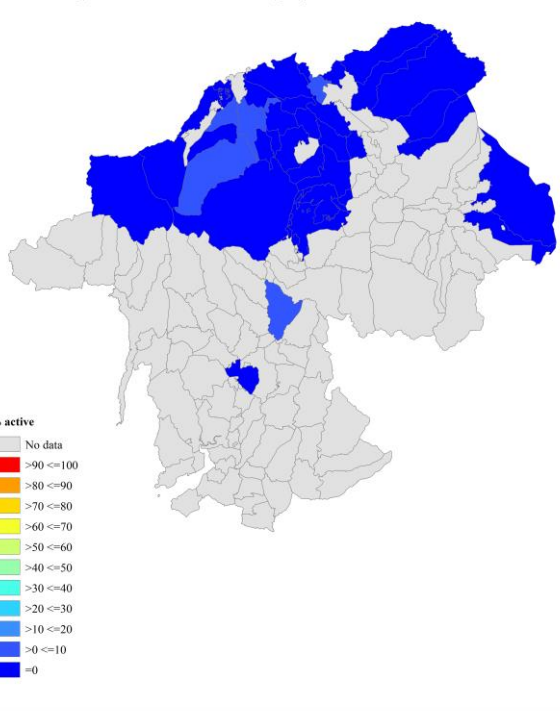
Percentage of female workers employed in domestic service, 1787



Percentage of female workers employed in domestic service, 1851



Percentage of male workers employed in domestic service, 1787



Percentage of male workers employed in domestic service, 1851

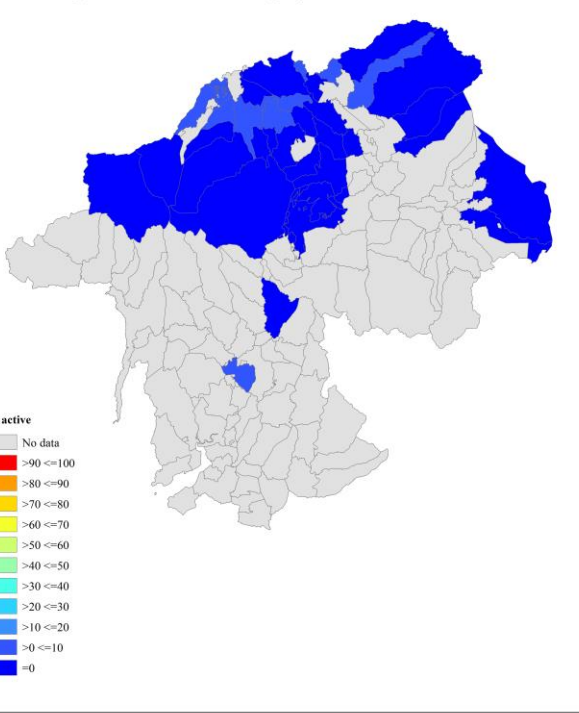


Figure 4.1:

Domestic service is the second industry in which we notice the most significant change in female occupational structure. As shown in table 4.1¹ above, the period 1787 to 1851 witnessed a significant increase in the percentage of the workforce it represented for women, with domestic service becoming the main female employer in all units without exception by 1851. This proportional increase was in large part due to the fall of female employment in other areas of the economy, but did also present real growth: in 1787, for parishes with full data, 13% of potential female workers were in domestic service. For the same parishes in 1851, 19% were.² By contrast, the percentage of the male workforce employed in domestic service fluctuated between 0% and 0,6% on average.

¹ See note 1 for table 1.1 on page 39.

² When a test was performed to address the potential ambiguity of the various ‘servant’ denominator for women at both dates, it was found that, if half of all female servants at both dates were treated as farm servants and allocated to the primary sector, the growth of domestic service as a share of female employment observed above would remain, though its magnitude would be diminished. The percentage of female workers in domestic service in 1787 would now range from 2% to 15%; whereas the figures for the corresponding parishes in 1851 would range from 30% to 42% (see table 4.1 to compare figures).

IV.4 The significance of women's work – comparing male and female sectoral distributions and their evolution

Table 5.1: Comparison average sectoral distributions across time according to population sample

	1787			1851		
	Women (%)	Men (%)	Full data (%)	Women (%)	Men (%)	Full data (%)
Primary sector	16,17	73,35	49,06	13,15	78,41	63,25
Secondary sector	60,74	20,07	37,36	11,74	12,93	12,65
Food and drink	0,00	3,56	2,05	0,23	1,28	1,04
Clothing	35,19	4,11	17,31	11,50	0,92	3,38
Textile industry	25,56	5,11	13,80	0,00	0,00	0,00
Metal trades and tools	0,00	1,28	0,73	0,00	4,55	3,49
Building	0,00	4,84	2,78	0,00	4,33	3,33
Other	0,00	1,19	0,68	0,00	1,85	1,42
Tertiary sector	23,33	5,29	12,96	76,53	7,72	23,70
Dealers and sellers	0,25	1,00	0,68	2,82	1,42	1,74
Services and professions	5,43	2,19	3,57	8,45	4,38	5,33
Domestic service	17,41	0,91	7,92	65,26	0,57	15,60
Transport and communications	0,00	1,37	0,79	0,00	1,35	1,04
Other	0,25	0,00	0,10	0,00	0,00	0,00

As shown in table 5.1,³ including female data in sectoral analyses significantly inflates the share of the secondary sector, and doubles that of the tertiary sector in 1787. By 1851, however, including female occupational data has little effect on the share of the secondary sector, and now almost triples the tertiary sector, an effect largely due to the concentration of the female labour force in domestic service. These patterns suggest the importance of female labour to cottage industry, as noted by Saito,⁴ and strongly support Shaw-Taylor and You's suggestion that adding female employment data to analyses of male sectoral distributions during the Industrial Revolution would reveal the need for a reassessment of the idea that a structural shift in employment towards the secondary sector was a defining feature of the Industrial Revolution, 1750-1850.⁵

³ See note 1 for table 1.1 on page 39.

Note that the table only includes data for parishes with full male and female data for both 1787 and 1851 to allow for comparison. All averages are weighted.

⁴ See Saito, 'Who Worked When.'

⁵ See Shaw-Taylor and You, 'Patterns of female and male employment.'

Conclusion

Recovering reliable evidence of women's employment during the Industrial Revolution that enables a large-scale reconstruction of patterns can prove an elusive exercise, both because sources are scarce, and because those that have survived require much interpretation before they can enable any satisfying reconstruction. Yet, the evidence presented in this dissertation demonstrates without a doubt that including women's work in histories of the Industrial Revolution would prompt a significant reassessment of long-standing assumptions about women's past roles as economic agents – including the significance of their work to the formal economy – as well as of current understandings of the main characteristics of the Industrial Revolution itself.

Earlier quantitative research on women's work during the Industrial Revolution – that produced by Earle and later Erickson for London, or Saito for Cardington and Corfe Castle – suggested that the period witnessed a decline in female labour force participation rates. However, the size of the phenomenon differed from study to study, while the representativeness of London or Corfe Castle, with its disappearing cottage industry, remained unclear. The data presented in this dissertation provide further direct evidence on women's work in the period that supports much of the hypotheses advanced by Earle, Erickson, and Saito, and is highly consistent with a number of other recent studies on industrialization, such that it provides a strong basis of support for studies arguing for a characterization of the period as one of massively declining employment opportunities for women. Moreover, it develops this by suggesting that the phenomenon had a very distinct geography linked to the mechanization of spinning.

The catastrophic decline in female labour force participation rates observed in all units with full data is highly consistent with that observed by Saito in Corfe Castle, as is the link between falling female labour force participation and patterns of de-*proto*-industrialization, evident in most of the thirty-two areas under study. According to recent research by Keibek, de-*proto*-industrialization and

textile industry concentration were common patterns throughout England in the eighteenth century,¹ suggesting that the evidence presented in this study is likely to be representative of a significant portion of the country. The data therefore strongly support Saito's hypothesis that cottage industries had a unique and highly significant effect on women's labour force participation rates. This study further relates this effect to women's marital status, emphasizing the significance of the *nature* of employments to women's ability to take advantage of them. Moreover, where Shaw-Taylor and Wrigley set out the reasons why the mechanization of spinning might be expected to have led to a radical decline in female employment in textiles, they lacked direct evidence of the employment impact aside from the single case of Corfe Castle. This study provides direct evidence of the causal link between the mechanisation of spinning and falling FLFP rates, a link that had already been established for Belgium² and Ireland.³ This dissertation therefore emphatically rejects the chronology of falling female labour force participation suggested by de Vries, as well as his proposal that women's retreat from the labour force was voluntary: by suggesting a link between falling FLFP rates and the masculinisation of spinning as they mechanized, the evidence suggests instead that changing FLFP rates ought to be related to the changing *demand* for female labour rather than to its supply.

The data also provide additional evidence supporting some of the assumptions and estimates used by Shaw-Taylor, Wrigley and You to estimate female sectoral distributions prior to 1850, and could hence allow patterns of women's work to be estimated with improved accuracy for the rest of the country. Where Shaw-Taylor and You estimated that the full-time equivalent ratio⁴ of women to

¹ Keibek found that textiles had become highly concentrated in a few regions by c.1817, with Lancashire, Cheshire, and the West-Riding increasing their share of the total male labour force from just over 10% in 1601 to almost 75% in the early decades of the nineteenth century. He also found that the agricultural labour share of 16 out of 41 counties was higher in 1817 than in 1701.

See Keibek, 'The Male Occupational Structure of England and Wales, 1600-1850.' (p.188, p.195).

² Shaw-Taylor and Buyst. "An Anglo-Belgian Comparison of Occupational Structures during Industrialization." See chapter IV.2 for details.

³ Clarkson, et al. *Mapping the Great Irish Famine*. (p.147, pp.156-157). See chapter IV.2 for details. See also Bielenberg, *Ireland and the Industrial Revolution* (p.27).

⁴ Because single adult women's productivity in textiles were found to be 2.4 times higher than that of married women, FTE ratios were derived from workers' ratios by assuming that single women and widows worked full time and that 2.4 married women in textiles equate to a one single woman (or a single FTE count). See Shaw-Taylor and You. "Patterns of female and male employment in England and Wales 1700-1911." (p.5).

men in textiles in 1770 was of 3.64:1,⁵ the data presented here show an equivalent FTE ratio of 3:1. Knowing that the Shaw-Taylor and You ratio would include textiles worsted where female-male ratios were substantially higher than in woollens, the data provides a highly encouraging empirical confirmation of the Shaw-Taylor and You estimate.

Furthermore, applying the 3:1 ratio to Keibek's 2016 estimates of male occupational structure for England and Wales suggests that, on a conservative estimate,⁶ about 24% of the female workforce would have been employed in textiles in 1781.⁷ This would in turn strongly support calls for a reassessment of the chronology and nature of the Industrial Revolution, by suggesting that any labour 'shift' to the secondary sector was complete by the 1780s, if not earlier, and took place over a protracted period of time.

The evidence presented in this dissertation therefore shifts understandings of female employment in the Industrial Revolution towards a story of catastrophic decline in employment opportunities induced by the mechanization of cottage industries, and provides further direct evidence for future national estimates of patterns of women's work prior to 1850. Finally, it strongly supports the need for a review of current understandings of industrialization and its processes and chronology, both holistically, and as *gendered* processes.

⁵ *Ibid.* (p.8).

⁶ Given that the 3:1 ratio does not include textiles with higher ratios, such as worsted.

⁷ Keibek, 'The Male Occupational Structure of England and Wales, 1600-1850.' (p.152).

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