

4 Rural Manufactures

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Introduction

In the 1970s and 1980s, the literature on proto-industrialization showed the importance of rural manufacturing in pre-industrial Europe. Proto-industry scholars were not primarily interested in women's work, even though rural industries had been part of the first studies of women's work by women scholars such as Alice Clark's *Working Life of Women in the Seventeenth Century*, published in 1919. Clark had devoted a whole chapter to textiles, arguing that women's work 'was absolutely indispensable to the textile industries, for in all ages and in all countries, spinning has been a monopoly of women . . . [and] spinning forms the greater part of the labour in the production of hand-made textile fabrics'.¹

Relying on contemporary sources, Clark identified two factors that explained why rural domestic production became women's work. First, the absence of institutional restrictions against women's work in the countryside, such as those imposed by the guilds in the towns: 'The work of men and women alike was carried on chiefly at home, and thus the employment of married women and children was unimpeded; nor are there any signs of industrial jealousy between men and women'. Second, women's much lower labour costs, as the manufacturer 'could pay lower wages to the women who worked at home than to those who left their families in order to work on his premises'.²

Though well-known from the early twentieth century – and highlighted in important subsequent work by Thirsk – the economic relevance of rural domestic industries was only fully recognized when proto-industrialization theory was developed.³ Beginning with Mendels's dissertation on the

¹ Alice Clark, *Working Life of Women in the Seventeenth Century* (London: Routledge & Kegan Paul, 1982 [1919]), 93.

² Clark, *Working Life*, 95, 100.

³ Joan Thirsk, 'Industries in the countryside', in F. J. Fisher (ed.), *Essays in the Economic and Social History of Tudor and Stuart England* (Cambridge: Cambridge University Press, 1961), 70–88.

Flemish linen industry, and then developed by Kriedte, Medick and Schlumbohm to explain the transition to capitalism, proto-industrialization was defined as the mass production of manufactures for export markets that took place in the European countryside.⁴ This rural manufacturing, it was argued, allowed cottager families to complement their income from agricultural labour and, consequently, to survive in larger numbers.

Decades of research have led to the conclusion that most proto-industrial regions did not evolve into industrial zones. Nor has the assumed positive impact of rural industry on population growth been found in all cases. But by arguing that there was an increase in labour supply, the proto-industrial model shifted historians' focus to labour, the neglected factor in traditional accounts of industrialization. 'Interpretations of industrialization have traditionally focused on technology, capital, and entrepreneurship, and the institutions that enabled them to be deployed. Labour ... was assigned a passive role, to be replaced progressively by machinery and capital.'⁵ And by focusing on the early modern economy, proto-industrial literature provided historians with new and valuable elements for understanding how 'work before the factory' was organized. Of particular importance for gender historians, this led to the development of a formal model of domestic production, in which household members were identified as workers – not merely producers of food and goods for household consumption.

Scholarship on proto-industry would eventually transform some of the paradigms of economic history.⁶ It provided a new vision of peasant households and of their varied sources of income, which paved the way for Jan de Vries's model of internal demand as the key to European economic growth before the industrialization process.

Although the literature on proto-industry largely ignored women, it allowed an alternative story of rural manufactures to be told, one grounded on empirical evidence. This evidence, amassed by local studies since the 1970s, showed that women were in fact the central labour force in the manufacturing sector.

⁴ Franklin Mendels, 'Proto-industrialization: The first phase of the industrialization process', *Journal of Economic History* 32 (1972), 241–61. Peter Kriedte, Hans Medick and Jürgen Schlumbohm, *Industrialization before Industrialization. Studies in Modern Capitalism* (Cambridge: Cambridge University Press, 1981).

⁵ Gareth Austin and Kaoru Sugihara, 'Introduction', in Gareth Austin and Kaoru Sugihara (eds.), *Labour-Intensive Industrialization in Global History* (London: Routledge, 2013), 1–19, 4.

⁶ Among other things, it undermined Labrousse's theory of 'the crisis of the old type', according to which famines not only profoundly damaged the agricultural sector but also severely injured manufactures, because increases in the price of bread reduced the global propensity to consume, while the demand for non-foodstuffs fell. 'In Mendels' model, by contrast, rural proto-industry is left untouched by this vicious circle because the final markets are distant from the production area and from any agricultural crisis it may experience', Carlo Marco Belfanti, 'Rural manufactures and rural protoindustries in the "Italy of the Cities" from the sixteenth through the eighteenth century', *Continuity and Change* 2 (1993), 253–80, especially 253.

The renewed interest in the story of European proto-industry is particularly timely, given the current focus on pre-industrial occupational structure. Recent literature on long-term growth has defined structural change more in terms of employment than in terms of output, which has meant that the percentage of non-agricultural occupations is taken as proxy for economic modernization.⁷

This chapter has three objectives. The first section describes how rural manufactures have been interpreted by economic historians and how the literature has moved from conceptualizing the household as a unit of production to discussing the gender division of labour within it. The second section explores the role of women according to empirical studies of rural industry in modern Europe and what this implies for the narrative of structural change, economic growth and participation rates. The third section explains why this literature is significant for historians of gender and work and also how the work of feminist economists and historians have changed the proto-industrial model.⁸ This, in turn, allows me to suggest the extent to which women's supply of labour spurred economic growth and structural change in pre-industrial Europe. I conclude with suggesting how these insights should shape the direction of future research.

This is not a call to 'add women and stir'. What I argue in this chapter is that the interpretation of proto-industrialization – and particularly of the surplus labour resources that made it possible – would benefit from a systematic examination of the widespread, institutionalized gender division of labour, since the gender division of labour may well have been a key factor in accounting for diverse paths and intensities of industrialization. Taking the gender division of labour into account means considering at least three elements: (1) the relative numbers of women and men workers in different regions and industries, (2) gender gaps in skill, productivity, and wages and (3) the institutional framework regulating women's access to skilled and paid work.

A brief mention of sources will be helpful. The first wave of interest in proto-industry mostly generated case studies – analyses of peasant communities, their household composition and their members' occupations, on the basis of baptism, marriage and burial records, as well as travellers' accounts and other local documents.

⁷ Leigh Shaw-Taylor, 'Diverse experiences: The geography of adult female employment in England and Wales and the 1851 census', in Nigel Goose (ed.), *Women's Work in Industrial England: Regional and Local Perspectives* (Hatfield: Local Population Studies, 2007), 29–50. And, more recently, the works by the European Network for the Comparative History of Population Geography and Occupational Structure (ENCHOS) led by the Cambridge Group for the History of Population and Social Structure.

⁸ Carmen Sarasúa, 'Becoming mainstream? Placing women's work in economic history', in Enrica Asquer, Anna Bellavitis and Isabelle Chabot (eds.), *Vingt-cinq ans après: les femmes au rendez-vous de l'Histoire* (Rome: Collection de l'École Française de Rome, n° 561, 2019), 371–83.

Fiscal and population records are the second major source. Books listing the occupations – and taxes on the income – of heads of households (at the parish level) allowed historians to move beyond local studies. Women were rarely listed as heads of households but, in some of these fiscal records and cadasters, householders did declare the occupations of all family members. In the second half of the eighteenth century, almost all European countries produced population censuses. Again, parish registers often failed to register women's occupations, but archival evidence is now being identified that includes them.

Finally, Enlightenment interest in mapping out 'useful productions' and promoting manufactures has provided historians with valuable collections of data on rural and urban manufactures – and women's involvement in them. The *Dictionnaire universel du commerce*, by Jacques Savary des Brûlons (Paris, 1723–30), the *Universal Dictionary of Trade and Commerce*, by Malachy Postlethwayt (London, 1751–55), *Dell'Agricoltura, dell'Arti e del comercio*, by Antonio Zanon (Venezia, 1765) and the 45 volumes of the *Memorias políticas y económicas sobre los frutos, comercio, fábricas y minas de España*, by Eugenio Larruga (Madrid, 1792), are examples of these rich resources, all of which identify women and children as the central labour force of the manufacturing sector.

Proto-industry and Industriousness: Rural Manufactures and the Role of Women's Work

Proto-industry was first defined as a stage in the process by which rural manufactures eventually gave way to an industrialization process. Terms like 'rural', 'cottage' and 'domestic industries' were more neutral, without implying a specific evolutionary path. Proto-industrial literature stressed the regional nature of the industrialization process and moved the focus from manufactures in urban centres, with guilds, to manufactures in the countryside, where there were no guilds. The starting point was the discovery of demographic growth through earlier marriages and increased fertility and the fact that such growth did not only occur in urban centres, but in the countryside as well.⁹

The central fact was what Kriedte called 'the promotion, by the merchant capitalists, of manufacturing in the countryside and the mobilization of the underemployed rural labour force for this purpose'.¹⁰ It is important to note

⁹ A further reason for this demographic growth, not sufficiently considered by the literature of the time, was that local demand for labour acted as a disincentive to move to the city, in other words, the lack of migratory flows. See Chapter 6 on migration.

¹⁰ Kriedte, Medick and Schlumbohm, *Industrialization before Industrialization*, 12. A further consequence of the model was to move the debate on modern economic growth outside the United Kingdom, laying the foundations for a comprehensive debate that considers and contrasts different regional developments.

that, in the first works on proto-industry, workers were usually presented as agricultural workers, who were seasonally unemployed. In economic terms, the incentive for these peasants to work in seasonal manufactures was their low or even zero opportunity cost during the off-season.¹¹ This vision of rural manufactures – peasant households combining their agricultural work with non-agricultural activities – is linked to the idea of the rural household as a unit. As described for the case of Poland, '[p]roduction was based upon the work of the families of weaver-farmers, who concentrated in their hands all the stages of the productive process'.¹²

However, as new research would show, the combination of agricultural work with manufacturing work – that is, the development of manufacturing as a seasonal activity complementary to farming – was only possible when the manufactured items were for household consumption or exchange in local markets. The intense commercial networks of the eighteenth century were in fact highly capitalized, managed by urban merchant associations, and served urban and colonial markets. They functioned year-round. They imposed an intense work rhythm, the specialization of labour, and an increasingly clear separation of farm and workshop.

Whatever the limitations of this early proto-industry model, it took some crucial first steps: defining the rural household as a productive unit, acknowledging that manufactures were for the market and not for household consumption and identifying women and children as workers. It transformed our vision of the rural economy in general and of peasant women in particular. As Engerman has observed, 'while adult male labor was predominant in agricultural work, the production of goods in the household provided greater opportunities for women and children to add to household income'.¹³

A more recent development in explanations of the pre-industrial economy has been the concept of an 'industrious revolution'. According to Jan de Vries, the eighteenth-century European economy went through consumer and industrious revolutions, in which growing demand for market goods (caused by rising per-capita income and changing individual preferences and tastes) motivated households to re-allocate time from leisure and household

¹¹ Joel Mokyr, 'Editor's Introduction: The new economic history and the industrial revolution', in Joel Mokyr (ed.), *The New Economic History and the Industrial Revolution* (Boulder: Westview Press, 1999), pp. 1–131, especially 47.

¹² Mariusz Kulczykowski, 'Le travail de manufacture dans les familles paysannes au XVIIIe siècle', in Annalisa Guarducci (ed.), *Forme ed evoluzione del lavoro in Europa: XIII–XVIII secc.*, Istituto Internazionale di Storia Economica F. Datini (Firenze: Le Monnier, 1991), 267–88, especially 273 (author's translation).

¹³ Stanley L. Engerman, 'Expanding protoindustrialization', *Journal of Family History* 17:2 (1992), 241–51, especially 244.

production to income-earning work.¹⁴ De Vries's microeconomic model focuses on the household, again defined as an economic unit. This approach follows Becker and Mincer's new household economics, as de Vries himself explained:

Developments in consumer theory and new approaches to the behavior of family members pioneered by Gary Becker and others have illuminated some corners of that notorious 'black box': the family, or household, as an economic unit. Through a focus on the allocation of time, this literature relates production and consumption decisions to each other in a fruitful way. Although some of these theoretical writings date from the 1960s, they have yet to be applied historically, or extended to accommodate historical change in household behavior.¹⁵

Since de Vries's initial work, this approach has indeed been 'applied historically'. By pushing households to shift their available time to paid work, Ogilvie argues, '[t]hese Consumer and Industrious Revolutions, it is believed, fueled the agricultural revolution, proto-industrialization, and factory industrialization – setting the stage for the Industrial Revolution and modern economic growth.'¹⁶

When de Vries shifted the focus to the early modern rural household, an obvious consequence was to find women and children working there – for the market, not just for household consumption.¹⁷ Here de Vries was following Mincer and Becker's microeconomic approach to the family – maximizing behaviour and achieving equilibrium – as well as making fundamental assumptions about household production and interdependent preferences.¹⁸

¹⁴ Jan de Vries, 'The industrial revolution and the industrious revolution', *Journal of Economic History* 54:2 (1994), 249–70; Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the present* (New York: Cambridge University Press, 2008); Jan de Vries, 'The industrious revolutions in East and West', in Gareth Austin and Kaoru Sugihara (eds.), *Labour-Intensive Industrialization in Global History* (London: Routledge, 2013), 65–84.

¹⁵ de Vries, *Industrious Revolution*, 8. In the introduction, de Vries writes: 'Several modern developments in history and economics have guided my thinking about the household economy and consumer demand as historical phenomena.' He mentions four: the revolt of the early modernists, the revisionist macroeconomics of the British Industrial Revolution, the western European marriage pattern, and new household economics. No mention is made of women's history or feminist economics, two developments that have profoundly changed the social sciences, precisely by focusing on the economic workings of households and on women's work.

¹⁶ Sheilagh Ogilvie, 'Consumption, social capital, and the "industrious revolution" in early modern Germany', *Journal of Economic History* 70:2 (2010), 287–325.

¹⁷ Carmen Sarasúa, 'The economy of work', in Deborah Simonton and Anne Montenach (eds.), *A Cultural History of Work in the Age of Enlightenment* (London: Bloomsbury Academic, 2018), 19–37.

¹⁸ By 'interdependent preferences', I mean preferences that represent different points of view about the relative desirability of alternatives or that are based on multiple criteria that impinge on the decisions. For critiques of Becker's neoclassical model of the household and the family, particularly on the assumption that households, as units, maximize utility, see Bina Agarwal,

The extent to which rural women were employed in agriculture – and whether their labour supply for the manufacturing sector was seasonal – depended on several factors.¹⁹ First, demand for agricultural labour varied greatly with the kind of agriculture. In labour-intensive agriculture, demand was higher and year-round. In contrast, the dry farming of Mediterranean agriculture accounted for a heavily seasonal labour demand, with short peak seasons for grain harvest or grape or olive collection, followed by long periods of unemployment or under-employment. Peasants filled these downtimes with seasonal migration, transportation or construction activities (in the case of men), and domestic manufactures (in the case of women). In other cases, agricultural work was the first stage of a manufacturing productive process. Silk reelers, for example, grew and collected mulberry leaves, while linen spinners grew and bleached linen plants. Secondly, agricultural employment opportunities for women depended on technology. For England, demand for women's work in agriculture seems to have been great in the sixteenth and seventeenth centuries, but much less so in the eighteenth and nineteenth centuries, when agriculture became much more mechanized.²⁰

On the supply side, women's patterns of manufacturing engagement depended on their roles within the family and on their families' situations. Wives of farmers tended to engage in proto-industrial activities with flexible work rhythms in order to maintain their involvement in farm work, while women in landless households tended to engage in activities providing full-time employment.²¹

A further development came with Ogilvie's study of the German region of Württemberg and the question of whether institutional restrictions shaped women's supply of labour. Ogilvie stressed that 'in most early modern European economies women faced a huge array of institutional constraints on their work and consumption choices' and asked whether 'these widely varying restrictions on women [had] no impact on the Consumer and Industrious Revolutions?'²² It was a pertinent question, as institutional

'Bargaining and gender relations: Within and beyond the household', *Feminist Economics* 3:1 (1997), 1–51; Barbara Bergmann, 'Becker's theory of the family: Preposterous conclusions', *Feminist Economics* 1 (1995), 141–45; Marianne Ferber, 'A feminist critique of the neoclassical theory of the family', in Karine S. Moe (ed.), *Women, Family, and Work: Writings on the Economics of Gender* (Malden: Blackwell, 2003), 9–23.

¹⁹ For a discussion of women's work in the agricultural sector, see Chapter 3, on agriculture.

²⁰ Jane Whittle and Mark Hailwood, 'The gender division of labour in early modern England', *Economic History Review* 73:1 (2020), 3–32, especially 16.

²¹ Ulrike Pfister, 'Proto-industrialization in Switzerland', in Sheilagh Ogilvie and Marcus Cerman (eds.), *European Proto-Industrialization* (Cambridge: Cambridge University Press, 1996), 137–54.

²² Sheilagh Ogilvie, 'Consumption, social capital'.

restrictions could be a factor accounting for the gender segregation of labour markets and in particular for the segregation of labour demand.

Institutions could also function to incentivize or even force women to engage in new, more intensive forms of work. European states played a central role in organizing labour markets in the eighteenth century. They owned and promoted royal or privileged factories and served as the main clients for certain goods. The biggest client of the knitting industry in the Swedish region of southern Halland was the army; the expansion of the industry during the eighteenth century was directly linked to the state's demand for military stockings for soldiers. During the Pomeranian War (1759–62), approximately 20,000 to 25,000 pairs of stockings per year were delivered to the military. A few decades into the nineteenth century, the knitting industry's production capacity had grown to 40,000–50,000 pairs of stockings and sweaters. Similarly, knitting was a widespread rural industry in England, as Thirsk vividly documented.²³

In northern Spain's royal factory La Cavada, where cannons and various kinds of iron goods (mostly for the navy) were manufactured in the eighteenth century, some 200 women have been identified as workers, based on new archival evidence. They comprised only 10 per cent of the workforce during the 60 years covered by the research, but the finding was unexpected in an industrial sector that has traditionally been portrayed as all-male. As with most iron establishments, the factory at La Cavada was located in an area with abundant wood and water, distant from urban centres, where local people had been involved in the manufacturing of iron goods for centuries.²⁴

Across Europe, royal factories, often established in rural settings, became the main employers of women, who usually worked in their homes, for instance, as spinners for textile factories. Whereas most theoretical models, following the neoclassical school, account for this work in terms of an increasing supply of labour, evidence shows that change came from the demand side. Increasing demand for labour – and, in particular, for cheap labour – accounts for the rising participation of women and children. More labour was required to capture the potential profits that growing markets, both urban and colonial, were creating. The growing demand for manufactures also

²³ Per Göran Johansson, *Gods, kvinnor och stickning. Tidig industriell verksamhet i Höks härad i södra Halland ca 1750-1870* (Lund: Studia Historica Lundensia, 2001), 225. Joan Thirsk, 'The fantastical folly of fashion: The English stocking knitting industry, 1500–1700', in N. B. Harte and K. G. Ponting (eds.), *Textile History and Economic History: Essays in Honour of Miss Julia de Lacy Mann* (Manchester: Manchester University Press, 1973), 50–73.

²⁴ Luis Bartolomé and Pilar Díaz, *Chicas de hierro. El trabajo de las mujeres en las Reales Fábricas de Artillería de Liérganes y La Cavada (Cantabria): 1759–1837* (Santander: Publicaciones de la Universidad de Cantabria, 2017).

accounts for the dismantling of institutional restrictions, particularly guild privileges, that prevented women's access to paid jobs.

Changing the Narrative of Structural Change, Economic Growth, and Participation Rates

Textiles were not the only manufactures in which rural women were extensively employed. Scholars have described women working in metallurgy, brick-making, pottery and porcelain, food preservation (salting, smoking, fruit-drying), and almost every other form of manufacture in rural workshops and cottages. As a capital-intensive and technologically-advanced sector, the iron industry was of particular importance, and women's work in it has been well documented. The sector included a series of related activities, such as charcoal-making, mining and transportation, as well as furnace and forge work itself. In countries like Sweden, where the main organizational strategy of the mining sector was based on the *bergsman* household, women's work was led by the male householder, who formed his own crew and sent its members into the mine. In the first half of the nineteenth century, women and children made up as much as 40 per cent of the workforce in some mines in the Nora and Linde area.²⁵ The same occurred with furnace work. A *bergsman*'s household was responsible for auxiliary tasks at the blast furnace, for transporting goods to and from the furnace and for making charcoal and breaking ore. These tasks were undertaken by all household members, with wives and daughters deployed in transport. Widows also took over the household's business when there was no male heir, meaning that women played a significant part in the industry.²⁶

Textiles, however, remained by and large the main type of manufactured goods that was produced and consumed throughout pre-industrial Europe. (Textiles, it should be noted, were both consumer and investment goods.)²⁷

²⁵ A Swedish *bergsman* was a member of a peasant estate who supplemented agriculture with small-scale iron production. This iron production was intended for exchange for agricultural goods. The iron produced by *bergsman* was less refined and purchasers had to process it further to turn it into bar iron. Maria Sjöberg with Anton Tomilov, 'Iron-making in peasant communities', in Maria Ågren (ed.), *Iron-Making Societies. Early Industrial Development in Sweden and Russia, 1600–1900* (Providence: Berghahn Books, 1998), 33–60, 35; Anders Florén and Göran Rydén with Ludmila Dashkevich, D. V. Gavrilov and Sergei Ustiantsev, 'The Social organisation of work in mines, furnaces and forges', in Maria Ågren (ed.), *Iron-Making Societies. Early Industrial Development in Sweden and Russia, 1600–1900* (Providence: Berghahn Books, 1998), 61–138, 72.

²⁶ Florén et al., 'Social organisation of work', 89.

²⁷ If we accept that increasing demand was the cause of the rise of industrial output, then the reasons for the increasing demand in textile goods would be a combination of declining prices of agricultural goods due to agricultural growth, expansion of foreign demand and population growth, plus a change in tastes and rising income of consumers. See Joel Mokyr, 'Demand vs.

One of the first pieces of research to quantify the occupational distribution of men and women in eighteenth-century Europe was Gay Gullickson's study of the French village of Auffay, which was a proto-industrial region where 82 per cent of the total adult population was occupied in non-agricultural activities in 1796.²⁸ Its intense dedication to textile manufactures, mostly the production of cotton yarn, did not mean that there were no differences between women's work and men's work. The gender division of labour appeared here – as in other cases where poor agriculture led to manufactures becoming the main productive activity – in the form of *division of tasks within the same economic sector*. Men weaved; women and children spun. Even in this case, women outnumbered men in manufacturing: 92 per cent of women, but just 69 per cent of men, were occupied in textile manufacture. Similar patterns are found throughout Europe. Female Labour Force Participation Rates [LFPRs], in response to local demand for female labour, were particularly high in textile and pottery manufacturing districts, as well as where domestic industry provided plentiful opportunities for women's employment. In agricultural and mining areas, by contrast, female LFPRs were considerably lower.²⁹

A common element in studies of rural manufactures is the apparent tension with urban production under guilds. The rural context afforded greater flexibility for workers than was allowed by urban corporate controls.³⁰ For some scholars, the reason why manufactures 'moved' to the countryside was the institutional barriers imposed by guilds. Here, one of the most relevant barriers was guilds' opposition to women's work.³¹ Studying the province of Saxony, Quataert described the conflict between guildsmen and Prussian officials over women's manufacturing work in the seventeenth century as rural households expanded manufacturing for export and became competitive enterprises. In an attempt to shore up gender hierarchies, urban textile guilds in some parts of Central Europe restricted production for exchange to guildsmen alone. By the mid-seventeenth century, household production was clearly associated with women's work by guildsmen who felt under threat.³² Empirical evidence for

supply in the industrial revolution', *Journal of Economic History* 37:4 (1977), 981–1008, 982; de Vries, *Industrious Revolution*.

²⁸ Gay Gullickson, *Spinners and Weavers of Auffay: Rural Industry and the Sexual Division of Labor in a French Village* (Cambridge: Cambridge University Press, 1986), 127.

²⁹ Xuesheng You, 'Women's labour force participation in nineteenth-century England and Wales: Evidence from the 1881 Census Enumerators' Books', *Economic History Review* 73:1 (2020), 106–33.

³⁰ Hermann Kellenbenz, 'Industries rurales en Occident: De la fin du Moyen Age au XVIIIe siècle', *Annales. Histoire, Science Sociales* 18:5 (1963), 833–82, 839 (own translation).

³¹ Sheilagh Ogilvie, *A Bitter Living: Women, Markets and Social Capital in Early Modern Germany* (Oxford: Oxford University Press, 2003).

³² Jane Quataert, 'The shaping of women's work in manufacturing: Guilds, households and the state in Central Europe, 1648–1870', *American Historical Review* 90:5 (1985), 1122–48, especially 1124.

the period from 1500 to 1700 corroborates this. Referring to England, Whittle and Hailwood conclude that '[w]omen clustered into those activities that were not regulated by apprenticeship, such as spinning, stocking knitting, and lace making.'³³

The relationship between guilds and women workers was, however, complex, and changed over time. Furthermore, it was different within different European regions and countries. Growing demand for rural women's labour could affect the working lives of urban women and in some cases the increasing deployment of rural labour in textiles could have a disastrous impact on urban women's livelihoods. The 40 women who broke into a Council meeting in Barcelona in 1628 protested that they had been forced into poverty because the Council had allowed wool to be spun and carded outside the city.³⁴

Most guilds could be described as associations of workers trying to maintain their privileged status as they competed with non-guild workers. Despite repeated admonitions, the Guild of Silk Cord-makers in Valencia made the Spanish government furious in 1779 with its resistance to girls being taught silk-reeling techniques.

My Council, having noticed how harmful it was for the promotion of industry . . . the exclusions of women established by some of their Ordinances from the works which are more proper and suitable to their sex than to men, who for their robustness and strength seemed more appropriately applicable to agriculture, the armies and navy; and taking into account the fact that the Guild of Silk Cord-makers, Passementerie and Button Makers of the City of Valencia has attempted to prevent a School to teach the Girls all relative to the industry of cord-making be established . . . We order: that with no pretext you prevent, obstruct, or by the guilds or other people be prevented or hindered, the teaching to women and girls of all those works and artefacts that are proper for their sex, and that they can freely sell, by themselves or on their own account, the manufactures they make.³⁵

Yet other guilds eventually evolved into powerful associations of merchants, with close connections to political power, and would become financial and commercial institutions. These guilds were fundamental in the expansion of manufacturing activity throughout the countryside, precisely because they sought reduced labour costs that would make their goods more competitive. In Spain, the largest and most powerful merchant corporation, the Confederación

³³ Whittle and Hailwood, 'Gender division of labour', 26. ³⁴ See Chapter 5.

³⁵ 'Real Cédula of 12 of January, 1779, by which is ordered that with no pretext be prohibited or obstructed, by the Guilds of these Kingdoms or other persons, the teaching to women and girls of all those works and artefacts that are proper of their sex, despite the regulations that in their Ordinances may the Masters of the respective Guilds have'. (En Madrid: en la Imprenta de Pedro Marín, 1779), my translation. Guilds' continued obstruction to women's admittance in several trades was one of the main reasons for their dissolution by European governments beginning in the last decades of the eighteenth century.

de los Cinco Gremios Mayores de Madrid [Confederation of the Five Major Guilds of Madrid], to whom the crown was conspicuously indebted, was granted the management of the royal cloth factories of Guadalajara and Brihuega (including their branches), the royal silk factory of Talavera de la Reina, and the royal cloth factory of Cuenca. These large enterprises actively sought out carders and spinners to supply yarn to the factory premises where weaving and subsequent finishing were carried out. This could only be done by increasing the labour supply of women and children in smaller units of production, known as *escualas de hilazas*. Introducing spinning lathes for higher productivity, the Confederación created a new network of lathe-spinners over which it held a monopoly, undercutting local fabricantes' command of local networks of women spinners.³⁶

A similar case of complementarity, rather than competition, between urban guilds and rural manufactures has been described for the Greek region of Thessaly, where, in the second half of the eighteenth century, urban industries dominated by the guild system were declining, while rural industries in mountainous towns and villages were expanding. Rural industries

were not innovating, either in products and techniques, or in opening new markets, but they responded positively, on the one hand, to the growing strains of the guild system and the worsening entrepreneurial climate in the urban industrial centres, and on the other hand, to the continuous growth of effective demand for dyed cotton yarn in Central Europe and for textiles in the Empire whose population was expanding.³⁷

Once historians had discovered great numbers of women in rural manufactures, particularly in the textile sector, new questions arose. Were there characteristics of rural manufactures that made them more favourable to women's paid work? Did the absence, or limited impact, of institutional restrictions, such as those of powerful urban guilds, act as an incentive for women's employment? Was demand for rural women's labour the consequence of escaping guild pressures or rather a cause of the widespread development of rural industries? Or both?

In any case, it is clear that proto-industry contributed to higher participation rates, particularly for women and children. Saito found high labour-participation rates for women in England in the 1780s, especially for married women. In Cardington, women's participation rate was 82 per cent. In at least

³⁶ José A. Nieto Sánchez and Victoria López Barahona, 'Women's work and proto-industrialisation: Madrid and New Castile (1750–1850)', in Bruno Blondé, Michele Galand and Eric Vanhaute (eds.), *Labour and Labour Markets between Town and Countryside (Middle Ages–19th century)*, CORN Publication Series, 6 (Turnhout: Brepols, 2001), 254–65.

³⁷ Socrates Petmetzas, 'Patterns of proto-industrialization in the Ottoman Empire: The case of Eastern Thessaly, ca.1750–1860', *Journal of European Economic History* 19:3 (1991), 575–604, especially 583.

some localities, women's eighteenth-century participation rates were higher than rates in the 1850s and even higher than current rates. Those high rates were the result of the 'combined effect of poverty and opportunity provided by the cottage industry'.³⁸ 'In proto-industrial societies, like Risorgimento Italy, women are expected to have a lower agricultural and higher industrial labour share than men.'³⁹ Despite its contributions, the explanatory potential of the proto-industrialization model has been questioned, since many proto-industrial regions failed to industrialize in the nineteenth century, while their population growth and economic growth were often uneven. Still, the old proto-industry literature has attracted renewed interest because its findings are consistent with recent scholarship on long-term changes in occupational structure.⁴⁰ This research shows, first, the widespread importance of non-agricultural occupations, particularly in textile industries (but also in shoe, food and metallurgy industries) and services (domestic service, commerce and transportation) at least a century before industrialization; secondly, the importance of women and children's work, who were more concentrated in non-agricultural occupations than were men;⁴¹ and thirdly, the link between demand for labour (coming from regional economic structures) and women's LFPR.⁴²

Table 4.1 shows the two main occupations declared by men and women, from a sample of inland towns in mid-eighteenth-century Spain. The pattern is consistent – men's main occupations were in the primary sector (farmer, day labourer, shepherd), except in the city of Guadalajara, where there was a royal factory; in two small towns where most people were occupied making footwear from esparto grass; and in the village of Villaviciosa, with just 194 people and a large monastery with many monks. Women's main occupations were either unpaid domestic work (in *su casa*, her home) or some kind of textile manufacture, including lacemaking, wool and flax spinning, clothes manufacturing and stocking making.

Increasing returns from agricultural production were not the only factor accounting for the higher incomes of European households prior to industrialization, households' higher levels of consumption or the expansion of

³⁸ Osamu Saito, 'Who worked when: Lifetime profiles of labour force participation in Cardington and Corfe Castle in the late eighteenth and early nineteenth centuries', *Local Population Studies* 22 (1979), 14–29, especially 27.

³⁹ David Chilosí and Carlo Ciccarelli, 'Evolving gaps: Occupational structure in southern and northern Italy, 1400–1861', *Economic History Review* 75 (2022), 1349–78, 1356.

⁴⁰ Leigh Shaw-Taylor and E. A. Wrigley, 'Occupational structure and population change', in Roderick Floud, Jane Humphries and Paul Johnson (eds.), *The Cambridge Economic History of Modern Britain*, vol. 1: 1700–1870, 4th ed. (Cambridge: Cambridge University Press, 2014), 53–88.

⁴¹ Carmen Sarasúa, 'Women's work and structural change: Occupational structure in eighteenth-century Spain', *Economic History Review* 72:2 (2019), 481–509.

⁴² Shaw-Taylor, 'Diverse experiences', 29–50.

Table 4.1. *First- and second-most declared occupations by men and women, inland Spain, 1750s*

Town	Men		Women				
	Men	Women	Men	Women			
Alcaraz	16.0	farmer	12.0	wool spinner	27.3	housework	22.7
Villarrobledo	24.0	farmer	13.5	housework	43.5	wool spinner	15.2
Albaladejo	20.0	farmer	13.3	wool spinner	19.9	housemaid	8.3
Alcolea de Calatrava	21.6	farmer	20.8	clothing manufact	47.6	lace maker	19.6
Almagro	26.8	farmer	7.9	lace maker	33.3	housemaid	30.5
Bolaños	29.6	farmer	22.8	lace maker	49.4	sewing school	19.5
Campo de Criptana	28.9	servant in husbandry	10.5	housework	43.4	wool spinner	22.2
Las Casas	31.2	forestry labourer	22.1	stocking maker	60.4	lace maker	28.3
Pedro Muñoz	32.3	farmer	20.5	housemaid	22.2	housework	16.7
Puebla del Príncipe	27.1	farmer	17.9	housework	47.5	sewing school	23.0
Terrinches	27.1	farmer	15.7	housework	39.7	flax spinner	34.7
Torre de Juan Abad	26.6	farmer	19.9	housemaid	20.3	baker	17.4
Valenzuela de Calatrava	42.1	farmer	12.4	lace maker	58.2	wool spinner	17.4
Brihuega	16.8	wool weaver	8.4	wool spinner	38.1	housework	16.4
Guadalajara	13.1	monks in convents	13.0	housemaid	43.6	housemaid	24.2
Villamanrique	37.5	farmer	35.4	esparto product maker	87.0	nuns in convents	21.8
Villarejo de Salvánés	15.5	farmer	12.5	esparto product maker	41.8	housemaid	4.3
Villaviciosa	32.9	farmer	26.3	housework	25.0	farmer	18.9
Ajofrín	26.4	wool weaver	15.8	housemaid	35.5	wool spinner	20.8
Alanchete	26.7	farmer	25.3	wool spinner	32.1	housemaid	26.9
El Carpio	17.9	sheep husbandry	17.5	housework	27.1	housemaid	32.1
Quintanar	23.8	mule driver	13.2	housework	37.9	wool spinner	22.0
							26.2

Source: Sarasúa, 'Women's work'

internal markets for manufactured goods. A second economic motor, probably even more decisive, was the intensification of work through new work opportunities – Jan de Vries’s industrious revolution – in which rural domestic manufactures and women’s work played central roles.

However, the literature following de Vries has largely focused on urban production and markets and on changes in consumption patterns and much less on rural manufactures. Furthermore, it has largely left untouched the traditional narrative of economic modernization as characterized by structural change in GDP and employment. This is now being challenged by researchers across Europe, who argue that putting women into the narrative changes our understanding of economic modernization. Since the 1980s, scholarship on proto-industry has documented that rural manufactures were central to pre-modern European economies, yet standard interpretations of economic modernization still assign the vast majority of workers before industrialization to the primary sector. Data to support the mainstream account come from sources that focus almost exclusively on the occupations of men. The majority of women, and particularly married women, are regarded as non-workers and thus disappear from economic history.

In eastern Thessaly, women were the main labour force in rural industry, in this case silk and cotton manufactures, a development that would be invisible if only men’s occupations were considered. Women undertook silkworm breeding and the production of raw silk and women and children spun raw cotton and reeled silk thread for the weaving that was produced by men, without any system of guild regulation.⁴³ The growing evidence of women’s extensive participation in rural manufactures forces us to acknowledge that if we only consider changes in men’s occupational structure, we will continue to get an inaccurate picture of when, where, why and how structural change happened. Conversely, by studying rural manufactures in pre-industrial Europe, we gain a more accurate picture of how economic modernization occurred. Inevitably, this points to the central role that women’s work played in the transformation.

Labour-Intensive Industrialization: Skill, Productivity and Low Wages in Cottage Industries

In addition to its profound influence on participation rates and structural change, the proto-industrial economy is now given a central explanatory role in two key developments of the initial stages of economic modernization. First, widespread employment in manufactures reflects labour-intensive

⁴³ Petmetzas, ‘Patterns’, 589.

industrialization, a stage preceding capital-intensive industrialization (or capital-led growth).⁴⁴ In rural manufactures, it was labour – not yet capital – that provided the main input to production processes. Second, given that productive processes before mechanization required a larger labour force and given that many proto-industrial regions did not industrialize, it is safe to assume that the percentage of workers in the secondary sector was higher in eighteenth-century Europe than in the fully industrial nineteenth century. In England and Wales, a sharp decrease in the total labour force (women and men) in the textile sector has been described after the mechanization of spinning. It is likely that something similar occurred in many other places.⁴⁵

As has been noted, most proto-industrial literature did not focus on the gender division of labour or the role of women and children's work in rural domestic manufactures. By focusing, instead, on the 'household' or the 'family', these accounts effectively buried the fact of women and children's toil within such 'productive units'. Things have changed since the 're-discovery' of spinning, following Muldrew's path-breaking article.⁴⁶ Recent works have identified wool, and then cotton, spinning as the most labour-intensive occupation before its mechanization in the late-eighteenth century. In England, demand for spinners provided employment for around 19 per cent of working women in 1700, compared to 12.5 per cent in the late-sixteenth century. Antonio Zanon estimated that, in northern Friuli alone in Italy there were some 100,000 peasant women spinning, 'a craft that they start doing as young girls, and continue until they are very old', which they did without abandoning their agricultural and domestic duties. These women worked with linen, hemp, silk, cotton and wool and the most skilled could spin 40 pounds each year (the average was 30 pounds per year), which amounted to three million pounds of spun material each year, just from the countryside.⁴⁷ Wool, linen and hemp spinning were also part of domestic industry in central and northern Italy, as were the initial stages of all raw materials for textile production, including silk. '[T]his was the kingdom of the female labour force.'⁴⁸ In 1726, the cloth

⁴⁴ Austin and Sugihara (eds.), *Labour-Intensive Industrialization*.

⁴⁵ www.campop.geog.cam.ac.uk/research/occupations/overview (last accessed 11 January 2023). Same results for Spain, Sarasúa, 'Women's work'.

⁴⁶ Craig Muldrew, "'Th'ancient distaff" and "whirling spindle": Measuring the contribution of spinning to household earnings and the national economy in England, 1550–1770', *Economic History Review* 65:2 (2012), 498–526.

⁴⁷ Antonio Zanon, *Dell'Agricoltura, dell'Arti e del commercio, in quanto unite contribuiscono allá felicità degli Stati . . .* (Venezia: Appresso Modesto Fenzo, 1765), 185–86.

⁴⁸ Walter Panciera, 'Emarginazione femminile tra politica salariale e modelli di organizzazione del lavoro nell'industria tessile veneta nel XVIII secolo', in Simonetta Cavaciocchi (ed.), *La donna nell'economia (secco. XIII–XVIII)*, Atti della Ventunesima Settimana di Studi, Istituto Internazionale di Storia Economica F. Datini (Firenze, Le Monnier, 1990), 585–96, especially 587.

factory of Linussio employed about 4,600 spinners dispersed by the Carnia in Friuli. In the second half of the eighteenth century, the wool factories of the high Vicentino region employed 6,000 women, who worked at home.

In economic terms, this could occur because rural manufacturing had an abundant input, labour, with a low cost. So economic historians have been forced to address the question of whether that input's 'low price' accorded with the expected low skills and low productivity of low-wage workers. Women's work in rural industries has traditionally been defined as low-skill.⁴⁹ This has fulfilled two functions: naturalizing the gender division of labour, and 'explaining' the gender wage gap. However, the idea that women's work was cheaper because it was less skilled is contradicted by the fact that many of the manufactured goods produced in those cottages required great skills and went to luxury markets. Bobbin lace, gold and silver thread embroidery and silk ribbon making – all luxury goods with growing demand in urban and colonial markets throughout the eighteenth century – are good examples of products that required high levels of skill.⁵⁰

Whether women's low wages in rural manufactures reflected their low marginal productivity⁵¹ – or a cultural devaluation of whatever work they did, no matter how highly skilled – takes us to a key issue in the debate: the role of labour costs as incentives or disincentives to industrialization. Technological innovation would be more likely to occur where labour costs are high, whereas an abundance of cheap labour acts as a disincentive to capital investment and technological change.⁵²

⁴⁹ 'In the cottage industries women performed mostly low-skill jobs, left most of the skilled work to men, and were excluded from apprenticeship'. Mokyr, 'Editor's introduction', 61.

⁵⁰ Daryl M. Hafer, *European Women and Preindustrial Craft* (Bloomington: Indiana University Press, 1995).

⁵¹ Proto-industry would have increased rural workers' overall productivity – particularly women's – by avoiding seasons of under-employment and unemployment. As noted by Engerman, '[p]rotoindustry is seen as important in providing the opportunity for a longer work year to women', 'Expanding protoindustrialization', 248.

⁵² According to Robert Allen's 'High Wage Economy' (HWE) thesis, the Industrial Revolution first occurred in Britain because the high costs of labour relative to capital and fuel motivated the development and adoption of labour-saving techniques, which included the spinning jenny. Allen's HWE thesis has been contested in Jane Humphries and Benjamin Schneider, 'Wages at the wheel: Were spinners part of the high wage economy?', Oxford Economic History Working Papers, 174 (Oxford: Oxford University, 2019) and Jane Humphries and Jacob Wiesdorf, 'The wages of women in England 1260–1850', *Journal of Economic History* 75:2 (2015), 405–47, which provide new evidence that hand-spinning was a low-income, low-productivity occupation. Humphries has argued that 'mechanisation, especially the development of the factory, was motivated by the desire to use cheaper child and female labour in a way that ensured discipline and quality control', Humphries and Schneider, 'Wages at the wheel', 4. Other authors argue that industrialization occurred faster and earlier in low-wage economies. For Mokyr, 'the linen industry in Flanders generated a pool of low-wage labour that provided the technologically innovative cotton industry with a "quasi-rent", facilitating continuous reinvestment in the

Directions for Further Research

A better understanding of how rural manufactures were organized in pre-industrial Europe is key to understanding how economic modernization, GDP growth and structural change took place. More empirical evidence is needed about the manufacturing regions, gender segregation and the numbers of workers and their individual characteristics (age, civil status, skills). We need to know more about how much women were paid, a difficult issue since the majority of domestic manufacturing workers were paid by the piece. A start has been made for England with Humphries and Schneider's research on the wages of hand spinners and Humphries and Weisdorf's wage indices for women workers in both casual and annual employment.⁵³

In particular, women's specialization in rural manufactures in eighteenth-century Europe is connected to five major research topics. First, it relates to increases in household income, improvement in living standards and poverty reduction. Describing the economy of rural Auffay, Gullickson concluded, '[w]ithout women's earnings in cottage industry, either the number of families living in absolute poverty would have been much higher or the population of the region would have been smaller'.⁵⁴ The impact of women's earnings on household economies has been described similarly for the Swedish region of Halland in the eighteenth century. Johansson concluded that '[d]uring the period covered in this study, a great number of rural households in southern Halland produced knitted wool products. The female labour force had an essential role in early industrial textile production, although children and some men could also knit . . . their income from knitting was low, but still significant for the support of a family'.⁵⁵

Paid work is key to the improvement of women's living conditions, in that it provided higher negotiating capacity within the family, voice and social recognition. Although earning a wage cannot be interpreted as having control of one's own resources, paid work did allow married women to contribute to household income and to their children's needs, while allowing unmarried women to save for their dowries and widows to support themselves.⁵⁶

modern industrial sector, during the "growing up" period when traditional, or proto-industrial manufacturing coexisted with modernizing industry', as summarized in Jane Gray, 'The Irish, Scottish and Flemish linen industries during the long eighteenth century', in Brenda Collins and Philip Ollerenshaw (eds.), *The European Linen Industry in Historical Perspective*, Pasold Studies in Textile History, 13 (Oxford: Oxford University Press, 2003), 159–68.

⁵³ Humphries and Schneider, 'Wages at the wheel'; Humphries and Wiesdorf, 'Wages of women'.

⁵⁴ Gullickson, *Spinners and Weavers*, 82. ⁵⁵ Johansson, *Gods, kvinnor och stickning*, 225.

⁵⁶ Beatrice Moring and Richard Wall, *Widows in European Economy and Society, 1600–1920* (Woodbridge: Boydell Press, 2017). For a qualification of paid work as guaranteeing women with an improved social and economic position, see Jane Humphries and Carmen Sarasúa, 'The

Secondly, women's work in rural manufactures is linked to the increasing connection of local economies to distant markets. Women's jobs in cottage industry were less diversified than men's and more dependent on external employers and markets. While 'the vast majority of goods produced by artisans and merchants in such villages such as Auffay was consumed locally [. . .] [w]ithout the spinning industry, or some other large female employer, the economic structure of the entire region would have been vastly different.'⁵⁷ There is increasing evidence that women's manufacturing work was particularly export-oriented, precisely because it was cheaper. For example, in Scotland, although wool had been exported to the Netherlands, France and the Baltic from the late-sixteenth century, the real boom in demand was associated with the brief colonization of Brazil by the Dutch West India Company from the 1630s to the 1660s when Scottish woollens were shipped from Aberdeen, via Holland (where they were finished), to Brazilian sugar plantations and used as slave blankets and marketed to local populations. In such cases, 'it was not so much urban work, as manufacturing work carried out in the countryside and villages for the urban market, or rather a type of production chain that has been defined as "proto-industrial" and where female work had a central role'.⁵⁸

Thirdly, rural manufacturing can be linked with technological innovations, product innovations and distribution and organizational innovations (such as the flexible networks developed in the countryside to replace the functions and structures of urban guilds). As shown by Maxine Berg, the impact of rural women's employment in non-agricultural jobs was not only about their numbers but also their concentration in the trades that introduced more innovations.⁵⁹ Here, the question of 'skill intensity' must be considered: 'The concept of skill intensity is considerably more important than the capital-or-labour question for a better understanding of the ways in which the "improvement of the quality of labour" took place as a vital element in global diffusion of industrialization.'⁶⁰ We need to investigate how skills were gained, whether young workers had access to formal systems of apprenticeship and to what extent discipline, punctuality and willingness to respond to various incentive

feminization of the labor force and five associated myths', in Günseli Berik and Ebru Kongar (eds.), *The Routledge Handbook of Feminist Economics* (London: Routledge, 2021), 167–76.

⁵⁷ Gullickson, *Spinners and Weavers*, 82.

⁵⁸ Anna Bellavitis, *Women's Work and Rights in Early Modern Urban Europe* (London: Palgrave Macmillan, 2018), 61.

⁵⁹ Maxine Berg, 'What difference did women's work make to the industrial revolution?', *History Workshop Journal* 35:1 (1993), 22–44; Maxine Berg, *The Age of Manufactures, 1700–1820: Industry, Innovation and Work in Britain*, 2nd ed. (New York: Routledge, 1994).

⁶⁰ Osamu Saito, 'Proto-industrialization and labour-intensive industrialization: Reflections on Smithian growth and the role of skill intensity', in Gareth Austin and Kaoru Sugihara (eds.), *Labour-Intensive Industrialization in Global History* (London: Routledge, 2013), 85–106, 101.

schemes were critical to the success of the factory system – and, of course, differences between women and men workers in each of these areas.

Fourthly, the scope and structure of rural manufacturing can inform debates on population growth, demography and the modernization of the family system. The recent attention attracted by the ‘European Marriage Pattern’ (EMP), characterized by late female marriage, high female celibacy, low fertility and small and simple nuclear-family households, has renewed interest in the connections between demographic patterns and women’s paid work.⁶¹ Indeed, women’s celibacy rates and marriage age increased during the early modern period, as male emigration soared. Low sex ratios and high female celibacy should have created generous labour market opportunities for women. Higher female celibacy rates were possible only when opportunities for paid employment outside of the farm developed, as occurred in manufacturing areas. As Gullickson noted, ‘[s]pinning allowed some single and widowed women to support themselves without the assistance of an adult male wage earner . . . Throughout the second half of the eighteenth century, between 10 and 15 percent of the households in Auffay were headed by women, a fairly high percentage for an eighteenth-century village.’⁶²

Pamela Sharpe’s study of Colyton confirmed the connection between the availability of employment for women and their possibility of living outside marriage, something that the original proto-industrial model, with its focus on the household as economic unit, had not foreseen. This effect of women’s employment contradicts an original hypothesis of the proto-industrial literature, namely that rural industry explained population growth. Women’s employment may instead ‘have had a more general braking effect on population growth before the mid eighteenth century’.⁶³ More recently, de Moor and van Zanden have argued that women who spent time as servants delayed marriage and reduced fertility. The resulting ‘Northern European Marriage Pattern’ (NEMP), identified initially by Hajnal in 1965, raised incomes and promoted further growth.⁶⁴ Evidence on the connection between women’s employment and age at marriage is, however, inconclusive. Humphries and Weisdorf did not find that women on annual contracts (young unmarried servants) shared in the post-plague boom, but Horrell, Humphries and Weisdorf recently concluded that early modern women did marry later if their

⁶¹ Tine de Moor and Jan Luiten van Zanden, ‘Girl power: The European Marriage Pattern and labour markets in the North Sea region in the late medieval and early modern period’, *Economic History Review* 63:1 (2009), 1–33.

⁶² Gullickson, *Spinners and Weavers*, 78.

⁶³ Pamela Sharpe, ‘Literally spinsters: A new interpretation of local economy and demography in Colyton in the seventeenth and eighteenth centuries’, *Economic History Review* 44:1 (1991), 46–65, especially 63.

⁶⁴ De Moor and van Zanden, ‘Girl power’.

own wages increased.⁶⁵ Even if men's wages rose, women's often rose too, which put a brake on early marriage and so on fertility.

The fifth, and final, research topic to which this chapter relates is pre-industrial manufactures, women's work and the gender segregation of labour markets after the eighteenth century. The key role of demand factors in accounting for women's supply of labour⁶⁶ has recently been confirmed in the occupational structure of women in England and Wales in the second half of the nineteenth century:

The spatial patterns of female LFPRs show an unmistakable link between the demand for female labour and female LFPRs. Higher levels of female labour force participation were to be found in areas with industries that generated greater demand for female labour. Supply-side conditions such as life stage, number of children, and other household members' employment had clear effects on female LFPRs as well. However, these effects were limited by the demand-side conditions.⁶⁷

Rural manufactures before the industrialization era generated an exceptionally high demand for women's labour, leading to participation rates that were possibly higher than modern ones.⁶⁸ We need to know more about the economic, social and institutional context that accounted for this high demand – and about the workers and the impact they had on economic growth and the improvement of living standards.

⁶⁵ Humphries and Weisdorf, 'Wages of women'; Sara Horrell, Jane Humphries and Jacob Weisdorf, 'Malthus's missing women and children: Demography and wages in historical perspective, England 1280–1850', *European Economic Review* 129 (2020), 1–23.

⁶⁶ Jane Humphries and Carmen Sarasúa, 'Off the record: Reconstructing women's labor force participation in the European past', *Feminist Economics* 18:4 (2012), 39–67.

⁶⁷ You, 'Women's labour force participation', 131.

⁶⁸ Humphries and Sarasúa, 'Feminization of the labor force'.