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Chapter Three: Development

Och! mo bhean as mo chlann as mo thúirnín lín,
Mo chúpla punt go deo gan sníomh;
Tobac ar a bais as píopa len' ais,
'S is cuma san domhan ca ngabhann an cíos.

[Och! my wife and my family and my flax spinning-wheel,
My couple of pounds forever unspun;
Tobacco at her hand and a pipe at her side,
And no care in the world where the rent comes from.]

The anonymous song, 'An Túirnín Lín' [The Flax Spinning-Wheel] (Ní Ógáin 1921, p. 24) humorously depicts the plight of a man who thought he had married a choice woman when she brought six pounds of flax as a dowry, but then found she took three months to spin just one pound. From the middle of the 18th century in Ireland, there was a steady increase in the number of poor households that maintained a precarious grip on the land through their women's labor in spinning. While such households were subsistence-oriented, in the sense that their economy was one of "minimum consumption" (Scally 1995, p. 29), their fortunes were linked to the developing world-economy through their production of linen yarn, and their consumption of purchased goods, including the addictive stimulant tobacco. Large tracts of the poorest counties in west Ulster and north

Connacht were populated by spinning households, but similar districts formed pockets in the most prosperous counties touched by the linen industry.

I argued in Chapter 2 that a sustained increase in the territories and households specializing in flax cultivation and spinning was an essential feature of the Irish linen industry. There was a dynamic interplay between economic growth, population increase, and the incorporation of new districts to the capitalist world-economy.¹ This chapter examines this process of uneven development from about 1780, when both the economy and population of Ireland entered a period of rapid growth, to the years immediately preceding the crisis of the Great Famine that ravaged the country between 1845 and 1850. It does so through a dialogue with the theories of proto-industrialization, and their application to the Irish case.

The Dynamics of Proto-Industrialization

Two main variants of proto-industrialization theory may be distinguished: a set of hypotheses first proposed by Mendels (see Chapter 1), and the more elaborate demographic model subsequently developed by Medick (1976, 1981a and b). I will focus particularly on the second variant, since it adds theoretical richness to the first, and has greater affinities with sociological (rather than economic) models of social change and development.

At the heart of Medick's model is the notion of a dynamic interplay between the micro strategies of rural industrial families, and macro transformations within the broader socio-economic system. "It was a question of explaining the great developments encompassing the economy and population of whole regions and countries in terms of the

life-cycles and family strategies of individual persons and families” (Schlumbohm 1996a, p. 14). Medick argued that rural industrialization disrupted the demo-economic balance characteristic of the European peasant family, and led to the emergence of a new type of family economy, with its own internal logic and contradictions. Whereas in the peasant model, marriage and household formation were tied to the inheritance of land, or other economic resources, in the proto-industrial model this link was broken, because young couples could expect to support a family through their labor in cottage industry.² Moreover, they had a positive incentive to marry early, since their earning capacity was greatest when they themselves were young, and since children could contribute to household production from a relatively early age.

In addition to expanding the labor supply through population increase, the proto-industrial family economy contributed to macro-economic growth by enabling merchant capitalists to realize a “differential profit.” As long as proto-industrial households retained access to small plots of land, they could produce commodities at significantly lower cost than either urban artisans restricted by guild regulations, or capitalist manufacturers employing wage laborers. Rural industrial producers supplied some of their own means of subsistence, and in many cases raw materials and equipment as well. Because they worked as a family unit, and received payment for the finished product, rather than for labor time expended, women’s and children’s contribution to the total labor input was not proportionally remunerated. Finally, proto-industrial producers absorbed much of the risk associated with fluctuations in market demand.

The logic of this model depends on the assumption that rural industrial households were oriented primarily towards achieving customary levels of subsistence,

rather than towards accumulating surplus. “The family functioned objectively as an internal engine of growth precisely because subjectively it remained tied to the norms and rules of behavior of the traditional familial subsistence economy” (Medick 1981a, P. 52). This characteristic also proved to be the Achilles heel of proto-industrialization. When demand increased rapidly and prices rose, rural industrial producers *reduced* their labor input, diverting free time and additional income to leisure consumption. In the short run, merchants could overcome this problem by extending their activities into more remote rural districts, but this increased transaction costs. In the long run the contradiction could only be overcome by investment in mechanization and the employment of wage laborers (Medick 1981a, p. 54).

The proto-industrialization model developed by Medick implies a trend towards social homogenization (rather than class differentiation) within rural industrial communities. Because the prosperity of household production units no longer depended entirely on access to land, the size of holdings tended to diminish over time, either through land subdivision, or as income from cottage industry enabled landless and land-poor groups to purchase or rent small farms (Medick 1981a, pp. 47-50). Another strand of research on proto-industrialization has explored the extent to which the diminution of land-holdings contributed to the “pauperization” of rural industrial communities, especially after the onset of de-industrialization (Levine 1976, 1977). The logic of the proto-industrial family economy meant that, just as household members tended to withdraw their labor when times were good, they were also willing to continuously increase their labor input when times were bad in an effort to achieve their subsistence target, often to a point that would be unsustainable in a profit-oriented enterprise.

Especially where their tiny plots made it impossible to revert to agriculture for their survival, rural industrial producers continued to manufacture products under conditions of extreme poverty in competition with mechanized systems, contributing thus to the protracted and uneven nature of European industrialization (Kriedte, 1981b, pp.135-160).

Since the publication of *Industrialization before Industrialization*, proto-industrialization hypotheses have encountered sustained criticism on the grounds that many rural industrial regions did not follow the path predicted by the model. The evidence has been well summarized in Kriedte, Medick and Schlumbohm (1993), and in Ogilvie and Cerman (1996). Some scholars have responded to the ambivalent balance sheet on proto-industrialization by calling for a simple rejection of the theory (Coleman 1983; Vandembroeke 1996), or its replacement by another (De Vries 1993), while others have sought to identify specific local factors that might explain why the theory did not apply in a given region. Some candidates include:

- (1) Differences in forms of agriculture and traditions of landholding. This builds on an earlier body of scholarship that found rural industries to be more prevalent in areas characterized by less fertile soil, where waste land was available for reclamation, and where restrictions on in-migration and land subdivision were limited (Thirsk 1961; Jones 1968). Hudson (1981) showed how differences in forms of landholding and the quality of land were linked to differences in organization, finance and entrepreneurship in the Yorkshire woolen and worsted industries.
- (2) The relative significance of agriculture for making a living. A number of studies have suggested that where proto-industrialization occurred in regions

characterized by commercial farming, the predictions of the theory do not seem to have been borne out (Gullickson 1983; Hendrickxx 1993; Mastboom 1993). More recently, Hendricxx (2003, p. 66) argued that wherever “a tie to agriculture was a natural and encouraged way of securing an additional income (whether in kind or in money), there was no existential need for early marriages and large numbers of children per family.” He thus implied that the relative significance of agriculture in rural household strategies was governed by social and cultural, as well as purely economic factors.

- (3) The extent to which families operated as production units. Medick’s model of the proto-industrial family economy assumes that all the members of a household were engaged in a cooperative enterprise to manufacture a given commodity and meet the subsistence requirements of the family – in other words, that they operated as a work unit. However, this was not always the case. Gullickson (1986) found, in her study of the Pays de Caux, that in many households women were engaged in spinning linen yarn, while their menfolk found employment as agricultural laborers. In some proto-industrial regions, family members worked side by side producing separate commodities for different outputters (Pfister 1995).
- (4) The particular characteristics of the industry that developed in a given region. In a trenchant critique, Mager (1993) argued that the focus on the linen industry in the classic studies of proto-industrialization distorted the overall picture. Linen was unique insofar as smallholders were able to supply their own raw material, and thus the “laws” of the family economy found full expression. In other industries

however, different patterns emerged, because the raw materials had to be supplied by outputters or manufacturers.

- (5) Variations in the institutional context. According to Ogilvie (1996), a great deal of the divergence amongst rural industrial regions can be explained by “profound and enduring differences” in the “sets of established rules and practices through which people organized their economic, social, demographic, political and cultural activities” (p. 23). Related arguments have been made by Berg (1994) and by Sabel and Zeitlin (1985).

The original proto-industrialization hypotheses have proven extremely fruitful in generating a vast body of scholarship on the “regional dimension” in the demo-economic transformation of Europe (Hudson 1989). In fact much of the variation had already been identified by the authors of *Industrialization before Industrialization* – something not often acknowledged by their critics. More recently, however, it has been argued that the models developed by both Mendels and Medick were vulnerable to the regional “exceptionalism” described above, because they remained embedded in “formalist” models of social change (Pfister 1996) conceived as a succession of “ideal types” (Gray 1993; 1997). More dynamic models incorporate principles of variation at their conceptual and methodological core (Tilly 1984). Pfister (1996) has made an important contribution to proto-industrialization theory along these lines.

For Pfister, the coexistence of commercial and subsistence sectors is the central assumption at the heart of proto-industrialization theory. This dualism implies the existence of “underutilized factors.” The path followed by a given proto-industrial region depended on “the relationship among factor productivity in the proto-industrial and

subsistence sectors on the level of individual households.” A long term increase in the proto-industrial labor force could occur either through geographical extension, or through an increase in the application of labor to manufacturing within a given perimeter.

Geographical expansion was likely to be the dominant growth pattern where the productivity of labor in proto-industrial activities was not much greater than the productivity of labor in subsistence agriculture. Because the opportunity costs of abandoning subsistence production were relatively high, proto-industrial growth depended, under these circumstances, on the presence of structural unemployment (usually of women and children). Pfister argued that these kinds of proto-industries did not alter household dynamics fundamentally, and thus did not cause population growth, though they might penetrate regions subject to overpopulation for other reasons. By contrast, where the productivity of labor in proto-industrial activities was significantly higher than in subsistence agriculture, the rent derived from market activity exceeded the opportunity costs of forfeiting subsistence income. Where this was the case, proto-industrial growth did not depend on the existence of structural unemployment, and might lead to population increase for the reasons originally identified by Mendels and elaborated by Medick. Due to transaction costs, mature proto-industrial systems were often characterized by the first variant at their peripheries, and the second at their cores.

While most “second generation” scholarship on proto-industrialization has focused on the puzzle of regional variation, research by Hudson and King (2000) has demonstrated that aggregate shifts in demographic indicators can be caused by changes in the behavior of a *sub-group* of the population, or by changes in the *proportion* of the population experiencing extremes of behavior. In their study of two textile townships in

Yorkshire they found that, for most people, rural industry promoted stability in demographic behavior by reducing out migration and increasing kinship density, thereby ensuring that they continued to be influenced by communal norms and practices. However, in both townships they found evidence of changing demographic behavior – earlier marriage, higher rates of illegitimacy and infant mortality, and increased marital fertility – amongst those people experiencing increasing economic insecurity due to proletarianization (increased dependence on outputters and the introduction of mechanized spinning).

Finally, it should be noted that several authors have rejected the idea, found in both Mendels' and Medick's models, that proto-industrial producers were subsistence-oriented, in the sense that their participation in manufacturing was oriented towards maintaining a customary standard of living, rather than towards generating a surplus (Cohen 1990; Mokyr 1976; de Vries 1993). In direct contradiction to the original proto-industrialization hypotheses, de Vries (1993) proposed the idea of an "industrious revolution." Over an extended period of time, pre-industrial households began to substitute labor for leisure, in order to purchase commodities in the marketplace, which they increasingly preferred to home-produced goods. Thus increased industrial output before the factory was driven less by external constraint, than by the emergence of new tastes and preferences.

How well does the evidence from Ireland fit proto-industrial models? In the next section of this chapter, I evaluate the existing evidence relating to the linen industry under the following three headings. First, I examine the regional dimension, focusing on the institutional and environmental contexts in which different patterns of proto-

industrialization occurred. Second, I discuss the limited evidence available on the relationship between proto-industrialization and demographic change. Third, I explore the evidence on the relationship between proto-industrialization and social homogenization and pauperization in the Irish countryside.

Proto-Industrialization and the Irish Case

(1) *The Regional Dimension*

Kevin Whelan (1997, pp. 70-85) distinguished five major regions in eighteenth-century Ireland with “well defined cores and more ambiguous edges,” namely: dairying, cattle fattening, tillage, proto-industrial and small-farm. These regions emerged in the context of two key processes of incorporation to the developing world-system: “[T]he initial subjugation, subsequent colonization and final integration of Ireland into the expanding English state, and the concurrent enhancement of Ireland’s location within the North Atlantic commercial world” (Whelan 1997, p. 67). The colonial upheavals of the seventeenth century left Ireland with a unique pattern of commercial landed estates, owned by a small, predominantly Protestant elite, and operated according to a universally applied leasing system (Whelan 1997, p. 68). A multifarious population of tenants, cottiers, laborers and squatters worked the land, their circumstances and composition varying greatly by region. Until 1778 Catholic tenants were precluded from holding leases for more than thirty-one years, or for lives. The establishment of the colonial estate system in Ireland meant that “[T]he rural lower classes became subject to the same broad body of property law as in England, but with none of the multiple accretions of use rights and customary entitlements that offered the population there and elsewhere a measure of

protection from the pressures of a rapidly developing market economy” (Connolly 1992, p. 55).

The three main agricultural regions in eighteenth century Ireland were concentrated in the east and south of the country – commercial dairying in south Munster, tillage in much of Leinster and east Munster, and cattle grazing in northeast Leinster, parts of north Munster, and inner Connacht (see Whelan 1997, Figure 9, p.70). Ulster had been the province least affected by commercial agriculture during the seventeenth century (Cullen 1972, p. 24). During the 1690's, however, significant numbers of Scottish colonists settled in the northeast where they were granted leases over the native Irish, many of whom became undertenants or cottiers. Landlords required the settlers to introduce "British" husbandry practices in place of the Irish pastoral system: the terms of their leases included, for example, such items as building a dwelling to certain specifications, planting an orchard and fencing the boundaries of their holdings (Crawford 1976, p. 194). In return they benefited from what became known as "Ulster tenant-right": they were considered entitled to sell their leases to other individuals without interference from the landlord. It was in this northeastern district that the domestic linen industry was first established and carried on most intensively throughout the pre-factory era.

Whelan distinguished the proto-industrial zone of east Ulster from a “small-farm” region spread along the western Atlantic fringe, from Donegal to Kerry, and including parts of the midlands. However, it is important to point out that these districts were in fact “proto-industrial,” insofar as spinning represented an important source of income in many households, especially in the northwest.³ Along the Atlantic seaboard, from Donegal to

Galway, more than half of all occupied women in each county were spinners in 1841. It might be argued that the 1841 data give a distorted impression of the spatial distribution of spinning, since by that date mill-spinning had begun to make inroads on the market for hand-spun yarn. However, Leister's (1962) map of the distribution of textile manufacturing in Ireland, based on Arthur Young's observations, suggests that spinning was already prevalent in much of the small-farm region at the end of the 18th century, as do the flax-premium data from 1796 (see Map 2.2).⁴ The significance of proto-industrial activity outside central and east Ulster has often been under-estimated, because the quantity, and monetary value of the yarn produced in the small-farm region was relatively small. However, from the "subsistence" perspective of small farmers on the Atlantic fringe, the income from flax cultivation and spinning represented a vital input to their household economy.

Throughout the small-farm region land was often held in the manner known as "rundale". Under this system, small communities allocated arable land in usufruct shares and held grazing land and access to peat and seaweed (for fertilizer) in common. A permanently cultivated "infield," divided into unenclosed strips, was separated from the "outfield," which might be periodically reclaimed. Sometimes cattle were moved away from arable lands to highland grazing during the summer in a practice known as "booleying" (McCourt 1981, p. 120). The arable land was divided in such a way as to ensure that each family had the use of some good soil, so that individual holdings consisted of a number of widely dispersed, unfenced plots. Under a practice similar to the English "gavelkind" (or "changedale") land was transmitted, not through inheritance but by the periodic reallocation of land to the whole community. The landholders' houses

clustered in villages (or "clachans") and the whole area was rented jointly by the community.

There has been some debate as to whether or not the small farm region is best thought of as a pre-capitalist economy, with rundale representing an archaic, or primitive form of agricultural organization. In 1960, Lynch and Vaizey first proposed the thesis that there were "two Irelands" at the end of the 18th century, corresponding to an east-west regional divide: a modern cash economy linked to Britain through trade, credit and travel, and a traditional subsistence economy that remained largely outside the market until after the Great Famine of the mid-nineteenth century. In his classic study of *Why Ireland Starved*, Mokyr (1985) accepted the thesis of economic dualism, but argued that the two Irelands were not geographically separate, but were instead "living alongside each other, intertwined and mutually interdependent though entirely different in their degrees of commercialization, economic attitudes, agricultural techniques and so on" (p. 20). For Mokyr, the numerous class of cottiers and landless laborers, more characteristic of the eastern tillage and grazing zones than of the small-farm region, was also part of the subsistence sector because the use of money was not widespread among its members.

In one of the first applications of historical sociology to the Irish case, Clark (1979) argued that the subsistence sector was not the residue of an earlier period, but was instead a *product* of socio-economic processes occurring during the 18th and early 19th centuries. In a similar vein Whelan (1994, pp. 68-69) rejected the thesis that rundale villages represented a survival from pre-colonial or even neolithic times:

They are not the degraded relics of an archaic, aboriginal settlement form, practicing primitive agriculture in 'refuge' areas. They are instead a sophisticated

solution to specific ecological, environmental and social problems, which maximised the carrying capacity of a meagre environment in an expanding demographic regime.

Thus while scholars like Almquist (1977) and McCourt (1981) argued that the “elasticity” of traditional rundale settlements *facilitated* high rates of population increase, Whelan suggests that 18th and early 19th century rundale settlements were, in effect, *caused* by population growth.

Slater and McDonough (1994) made the strongest claim for the survival of pre-capitalist relations in 19th century Ireland. Whereas Lynch and Vaizey distinguished between “traditional” subsistence and “modern” cash sectors within the Irish economy, Slater and McDonough distinguished between the extraction of “absolute” and “relative” rental value under a “feudal mode of production” which, they argued, persisted in Ireland up to the 1880s, when the process of transferring land ownership from landlords to farmers began.

Absolute rental value was extracted simply by increasing rents, or by increasing the number of tenants on the land. Because all profits were channeled to the landlord under this system, farmers relied on customary, intensive-intensive production techniques since they had neither capital to improve productivity nor incentive to do so in the first place. Slater and McDonough refer to the intensive process within the absolute rental value regime as “spade husbandry.” Farmers drew primarily on family intensive. Additional intensive requirements were met by the mobilization of a wider kinship or community based cooperative work-team – a ‘meitheal’. More substantial farmers might also draw on the intensive of cottiers, resorting only in the last instance to employing

waged laborers (Slater and McDonough 1994, p. 88). For Slater (1988), waged intensive under spade husbandry was “living in the pores” of customary intensive processes. The intensive-intensive character of spade husbandry, combined with reliance on family intensive and the meitheal, favored smaller farms (Slater and McDonough 1994, p. 87). From the landlords’ point of view, the extraction of absolute rental value had the advantage of not requiring any supervision of their estates. In the long run, however, the system tended to collapse, as rack-renting, population increase and the subdivision of land undermined the capacity of rent payers to meet their own survival needs.

Relative rental value was extracted by increasing the productivity of individual tenant farmers. This system entailed landlords restricting the number of people who could survive on the land in order to consolidate holdings and prevent subdivision. It thus encouraged the adoption of saving-saving technology – plough husbandry.⁵ Farmers continued to rely primarily on family saving, but additional seasonal requirements were met by employing wage laborers. Kinfolk and neighbors sometimes pooled the technical means of production – horses, for example, might be joined to form a plough team. According to Slater and McDonough, the development of plough husbandry was stunted in Ireland because of the absence of tenurial security. Thus Irish farmers invested in purchased seeds and fertilizer, but not in the construction of outbuildings.

Slater and McDonough make the distinction between spade and plough husbandry in chronological terms – before and after the Famine, with a transitional period between 1815 and 1850 - but it seems reasonable to infer a spatial dimension as well, since the transition from absolute to relative rental regimes was an uneven process (Slater and McDonough 1994, p. 87). Just as spade husbandry continued in parts of the small farm

region after the Famine, so elements of plough husbandry were clearly present in the economy of late 18th and early 19th century Ireland. The authors place their argument firmly within a “modes of production” perspective that, following Brenner (1977), they believe to be fundamentally contrary to world-systems hypotheses. This is not the place to review the debate.⁶ For my present purposes, Slater and McDonough’s “spade” and “plough husbandry” represent useful orienting concepts for understanding the rural saving processes underpinning the development of the linen industry. This theme will be pursued in more detail in Chapter 4.

To summarize, from the end of the 17th century, the linen industry developed in those regions of Ireland least fully integrated to the evolving, British-dominated world-economy. However, there were some important institutional differences between those districts in east Ulster that eventually formed the core of the proto-industrial zone, and those districts within the small-farm region that formed its periphery. East Ulster was characterized by the presence of a Protestant settler tenantry that enjoyed a measure of customary security on the land, and that attempted to introduce “English style ‘civility’ in tidy enclosed landscapes with arable predominating over pasture” (Duffy 1995, p. 32). By contrast, the peripheral districts were characterized by “untidy,” open-field farming, often on joint holdings operated under the rundale system. All parts of the proto-industrial zone were, by definition, integrated to the capitalist world-economy. However, especially in the peripheral districts, production was oriented towards maintaining a minimum standard of living using customary saving processes.

(2) *The Demo-Economic Regime*

From the middle of the 18th century to about 1820, Irish population growth was unusually fast, relative to other European countries (Guinnane 1997, p. 80). The total population is estimated to have tripled between 1740 and 1821 (Ó'Gráda 1994, p. 6). Dickson, Ó'Gráda and Daultrey (1982) showed that that between about 1750 and 1790, the most rapid growth occurred in Ulster, where population grew by between 1.8 and 2.2% per annum. After 1790 population grew most rapidly in Connacht, by about 2% per annum, while the rate of growth in Ulster slowed to 1.1% per annum. According to Ó'Gráda (1994, p. 6), "The surprise here is not so much Connacht's headlong population growth, as the relatively slow growth in Ulster after 1790, where modern industry was making greatest headway."

Unfortunately, because of the scarcity and poor quality of sources pertaining to demographic behavior during this period (Guinnane 1997, pp. 125-128), it is difficult to draw any conclusions about the demo-economic processes giving rise to general patterns of population change. Almquist (1979) made the only systematic attempt to test proto-industrialization hypotheses with respect to demographic variables in Ireland, using aggregate data from the 1841 census. He found that the percentage of spinners by county was correlated with high proportions of young women married, and with high proportions of children under 15 years in the population. Using multiple regression models, Almquist (1979, p. 714) demonstrated that 64 percent of young female nuptiality was 'explained' by the availability of waste land and the presence of high proportions of spinners. Almquist's research thus provides the best evidence we have in support of the proto-industrial model, given the absence of the kinds of historical records that would allow us to reconstruct demographic behavior at the level of individuals and households. However,

the findings are compromised by the fact that, by 1841, mechanized spinning had already made substantial inroads on the proto-industrial system in Ireland. Moreover, Almquist found that *female* nuptiality was not significantly correlated with *weaving*, nor was it negatively associated with distance from Belfast.

Mokyr (1985, p. 63) concluded that the relationship between rural industry and propensity to marry was overdrawn in Almquist's analysis. Moreover, "[It] is not possible to leap merrily from 'marriage age' to 'fertility' to 'birth rates' to 'population growth'." Mokyr's own analyses of data from the 1841 census yielded results that are not inconsistent with Almquist's findings, but are ambivalent from the perspective of proto-industrialization theory: cottage industry affected male propensity to marry, but not that of females (Mokyr 1985, p. 55). However, Mokyr measured "cottage industry" as the proportion of rural men and women employed in "occupations ministering to clothing" in the 1841 census, thus obscuring the different effects of spinning and weaving revealed by Almquist's analysis.

Most general accounts of Ireland's demographic regime before the Great Famine of 1845-50 begin with the now classic arguments put forward by Kenneth H. Connell, in his *The Population of Ireland* (1950). According to Connell, the availability of land – either through partible inheritance, or the reclamation of waste – together with the possibility of relying on potato cultivation for survival, meant that Irish people were not subject to the constraints on marriage inherent in the European peasant system. However, in contrast to Medick's model of the proto-industrial family economy, where cottage industry provided an *incentive* to marry early, Connell argued that the Irish married young because of the *absence* of any prospect of improving their material well being.

Marriage was an ‘inferior good’ in the context of Irish poverty (Ó’Gráda 1994, p. 7).

Clarkson (1996, p. 72) implicitly reiterated Connell’s thesis when he argued that:

[It] is unnecessary to invoke proto-industrialization to explain the growth of the Irish population during the eighteenth century...when more obvious explanations are readily to hand...Although the presence of rural industry stimulated the growth of population, for example in south Ulster, the most important influences were the peculiarities of a land system that permitted continual sub-division, and the widespread adoption of a diet dominated by potatoes that sustained a healthy and fertile population. Inasmuch as youthful and fertile marriages required an economic base, in Ireland it was amply supplied by the ubiquitous potato.

However, other recent research in Irish demographic history demonstrated that some aspects of Connell’s argument clearly cannot be sustained. Most importantly, there is little evidence to support the thesis that the Irish married at an unusually young age (Guinnane 1997, p. 82). Calculations from the 1841 census suggest an average age at marriage for women of about 26 years (see Fitzpatrick 1985, Table 2; Mokyr 1985, Table 3.3).

Most commentators accept that early marriage may have been common amongst some social groups. While rejecting Connell’s thesis that age at marriage was not responsive to trends in living standards, Ó’Gráda (1994, p. 10) agreed that the controls on marriage and household formation associated with the European peasant model “held little appeal” for “the poor who eked out a living on the margins of cultivation.”

According to Connolly (1985) farmers were more likely to postpone marriage than were

laborers and other land-poor groups. However, O'Neill (1984, p. 181) concluded from an analysis of the 1841 census manuscripts for Killashandra, in County Cavan, that:

The evidence...affords no reason for supposing that laborers as a group married considerably younger than farmers, but rather every indication that laborer's wives married later than farmers' wives throughout the pre-famine period.

Nonetheless, O'Neill (1984, pp. 182-183) found that the age at marriage for laboring women declined steeply between about 1795 and 1825. He argued that the achievement of near "equality of opportunity" for marriage by laboring women might have been sufficient to explain the overall increase in population. O'Neill attributed this decline to an increase in the demand for saving in the context of commercializing agriculture.

Unfortunately, O'Neill failed to consider the possible effects of proto-industrialization on age at marriage. This is disappointing given the dynamism of the linen market at Killeshandra during this period (see Chapter 2, Table 2.2). Age at marriage for *both* farmers' and laborers' wives appears to have been lower in Killashandra (about 22 years) than in Ireland as a whole (about 26 years), and Guinnane (1997, p. 82) suggested the availability of income from rural industry might explain this difference. Morgan and Macafee (1987) provided further evidence of a link between the linen industry and relatively early marriage in their analysis of some surviving 1851 census enumerator's returns from County Antrim. They found that both male and female linen workers married younger than farmers and their wives, although the difference was less marked for women. These studies thus hint at a possible link between the linen industry and early marriage.

Population increase can have causes other than a decline in marriage age amongst women. In Swiss proto-industrial regions, population growth appears to have been caused by declining mortality, rather than by a lowering of the age at marriage. Householders invested their savings from rural industrial activity in agriculture, leading to improved nutrition and greater resistance to mortality crises through crop differentiation, including the introduction of potatoes (Pfister 1992; Pfister 1996, pp. 146-147).⁷ The evidence on mortality is particularly sparse in the Irish case (Guinnane 1997, p. 81). Inoculation against smallpox may have had a small effect (Ó'Gráda 1994, p. 12). There is tentative evidence in favor of relatively low child mortality (Ó'Gráda 1993, pp. 43-46). Anthropometric research on average heights, and estimates of calorific intake, suggest that the nutritional status of Irish people was relatively good (Ó'Gráda 1994, pp. 17-23 and 85-97). However this was not achieved by diversification of the nutritional base, but rather by near total dependence on the potato for food.⁸ Almquist (1977) pointed to the relationship between flax and potatoes in crop rotations on smallholdings in County Mayo. However, outside the main zones of flax-cultivation smallholders, cottiers and laborers were equally dependent on potato consumption, so no simple connection between proto-industrialization and declining mortality may be inferred.

Guinnane (1997, pp. 84-85) concluded that high rates of marital fertility most likely account for Ireland's population growth – that is, Irish women had unusually large numbers of children once they married. Calculations from the 1841 census imply very high rates of marital fertility relative to other European countries (Mokyr 1985, p. 36). High marital fertility is consistent with Medick's model of the proto-industrial family economy, since the saving of each additional child added an important marginal input to

the overall prosperity of the household. However, Vandembroeke (1996, p. 109) found that in Flanders, at the end of the 18th century, fertility in rural industrial areas was lower than in purely agrarian districts:

The reasons behind these regional contrasts have to do with nursing habits and women's position in the production process. A high degree of domestic industry implies home saving, and a long lactation process (twelve months or more). In most cases, lactation causes temporary sterility, with the result that there are longer intervals between births. A side effect of this long and frequent nursing is lower infant mortality.

In the Irish case Schellekens (1993) argued that the demand for female saving in potato cultivation could have reduced the amount of time they spent breast-feeding, leading to narrower birth intervals. As I will show in Chapter 6, in Ireland, flax cultivation and processing also drew on vast amounts of female saving. Thus in the Irish case, proto-industrial activity could have had the opposite effect on birth intervals than in Flanders, where spinners bought their flax in the marketplace, rather than cultivating and processing it themselves (see Chapter 6). Mokyr (1985, p. 57) found that "cottage industry" had a positive effect on total birth and fertility rates, but no apparent effect on marital fertility.

In summary, I cannot agree with Clarkson (1996, p. 72) that "[It] is unnecessary to invoke proto-industrialization to explain the growth of the Irish population...when more obvious explanations are readily to hand." On the contrary, in the absence of any convincing explanation for the dramatic increase in Ireland's population from the middle of the 18th century, it remains plausible that the availability of income from proto-

industrial activity was one of the determining factors. However, the sparse evidence available includes a number of paradoxes indicating that – as in other parts of Europe – the relationship between proto-industrialization and demographic change was more complex than the original models suggested. Those paradoxes include: (1) the relatively slow rate of population increase in Ulster after 1791, when linen markets were booming; (2) findings that weaving and proximity to Belfast were not associated with young *female* nuptiality at the middle of the 19th century. In sum, the evidence suggests that from the end of the 18th century onwards, “proto-industrial” demographic trends were more pronounced at the margins of Ireland’s linen-manufacturing zone, than at its core.

(3) *Impoverishment and proletarianization*

On the eve of the Great Famine more than half of all farms in Ireland were less than 10 acres in size (Mokyr 1985, p. 19). However, there were distinct regional differences in the distribution of farm sizes:

In Connacht and Ulster farms were smaller than in Munster and in Leinster, but in the latter two the proportions of very small farms was larger. In Ulster and Connacht a single-peaked distribution of farms existed, whereas in Munster and Leinster the distribution of farms was bimodal, with large numbers of both very small and very large farms (Mokyr 1985, p. 19).

In his analysis of the effects of land and saving markets on the distribution of landholdings, McGregor (1992, p. 490) found that: “Domestic industry was of particular importance in the reduction of inequality though it had little discernible effect on median holding size.”⁹

Thus in Ireland, proto-industrialization does seem to have been associated with the homogenization of landholdings, as Medick's model implied. The precise mechanisms of the process are unknown, but partible inheritance and the reclamation of marginal land must have played a part. There is also evidence that cottiers and farmer's sons used their earnings from linen manufacturing to bid for tenancies when leases came up for renewal (Crawford 1994, p. 51; 1983, 1976). Under the "absolute rental regime" described by McDonough and Slater (1994; see above), landlords were happy to subdivide tenancies in order to maximize their rental income.¹⁰

An overall tendency towards a reduction of inequality in landholding size does not exclude the possibility of class-differentiation between manufacturers and cottier-journeyman. As I described in Chapter 2, this pattern was often remarked on by contemporary observers. Medick (1976, p. 308) argued that such arrangements "should be considered as specific variants or mutations of the substantial farmer's or craftsman's family and they must be distinguished from the main type of extended family to be found among the landless or land-poor proto-industrial producers." However, Cohen (1990) argued that the existence of petty manufacturers undermined the proto-industrialization thesis by showing that rural industrial producers were not just "passive victims whose 'traditional family subsistence economy' enabled merchants and putters-out to realize a 'differential profit.'" At least some were motivated to accumulate profit and to employ others as wage laborers in order to do so. The question of "subsistence-orientation" as a distinct mode of household economic behavior is pursued in some depth in Chapter 4.

Did proto-industrialization in Ireland lead to impoverishment and proletarianization (or immiseration) by reducing the size of landholdings to the point

where households were unable to revert to agriculture during the transition to mechanized industry? There is evidence for and against. We have already seen that McGregor (1992) found domestic industry to have had little effect on median landholding size. In her study of the fine linen-weaving district of Richhill, in County Armagh, McKernan (1990) found that most tenants leased plots of land sufficient in size to ensure independence. From Rathfriland, in County Down it was reported in 1840 that:

The weavers who now work for employers are a different class from those who formerly worked on their own account. The farmers were formerly the manufacturing weavers, and divided their attention between the loom and their farm. The class who now work for employers formerly composed those who worked occasionally as day labourers for hire for the farmers, either on their land or on their looms. All those farmers who held from 10 to 20 acres and upwards have left off weaving, and only those who have from four to ten acres of land now attempt to carry on the manufacture of linen on their own account for the brown markets. (H.C. 1840, Vol. 23, p. 636).

On the other hand many commentators have observed that population densities in the weaving districts, especially in north County Armagh, were amongst the highest in Ireland (Crawford 1994, p. 26). According to the Devon Commission, eight acres was the minimum holding size necessary to support a family “in comfort” (quoted in McGregor 1992, p. 480). Poor Law Union data show that the highest proportions of holdings between 1 and 10 acres were found in the provinces of Connacht (54.4%) and Ulster (42.6%) in the 1830s. However, in Ulster, more of those farms were greater than five

acres than in Connacht (Mokyr 1985, p.19). Almquist (1979, p. 711) found that spinning – but not weaving - was significantly correlated with landholdings of more than 1, but less than 5 acres.¹¹ In his dissertation he argued that flax cultivation and spinning interacted with the rundale system of landholding and inheritance to create a pattern of “involution” in County Mayo (Almquist 1977).

According to Medick’s model of the proto-industrial family economy, rural industrial producers were likely to engage in ‘self-exploitation’ as demand for their product declined. That is, they continuously increased the amount of saving devoted to industrial activity in order to glean an income. In Ireland, there is some evidence that spinners followed this path during the 1830s and 1840s, as mill-spun yarn began to substitute for the hand-spun product, pushing down prices. Contemporaries observed that women spent long hours at the wheel, even though their yarn sold for little more than the price of raw flax.¹² However, not all commentators accept that this represented a process of immiseration. Instead, they suggest that women continued to spin given the absence of other employment opportunities (Geary 1998, pp. 535-536). Collins (1982, pp. 141-142) argued that, in the outer weaving districts of north-central Ireland, rural industrial households remained viable by alternating the intensity they devoted to flax production and weaving, according to fluctuations in demand. In this context, spinning served to meet short-term cash requirements. “Although spinning was regarded merely as an alternative to idleness its production continued because the family labour which produced it was an invariable overhead cost” (Collins 1982, p. 142). I pursue this question in more detail in Chapter 4, where I argue that women’s willingness to engage in

this kind of ‘self-exploitation’ depended on the extent to which spinning was embedded in the family economy of their households.

Evidence that many rural households in the linen districts sought alternative sources of income in the 1850s and 1860s provides the strongest argument in favor of impoverishment. Collins (1988, p. 242) calculated that, in every county in Ulster, between one in four and one in nine women was employed in embroidery, sewing or dressmaking in each decade from 1850 to 1914. In a study of six townlands in the Lagan valley - “just too far away [from Lisburn] for folk to walk to work in that town’s spinning mills and weaving factories” - Collins found that most farms were too small for agriculture to provide the main means of a livelihood in the 1860s (1997, pp. 230 and 233). Here, families supplemented their income through handloom weaving of fine linens and cambrics using mill-spun yarn under the putting-out system. In Connacht, the loss of income from spinning led many households to fall back on seasonal migration, illicit distillation and begging.

Mokyr (1980, p. 450) remarked that “Ireland industrialized, but unfortunately for the Irish, its industrialization took place outside its borders: in northwest England, the Scottish Lowlands, and New England.” Ulster’s spinning-mills absorbed only a small proportion of those who had depended on handspinning to maintain their access to the means of subsistence. Emigration provided an alternative to ‘industrial involution’ for some families in the yarn districts – especially in Donegal, Londonderry, Tyrone and Sligo (Ó’Gráda 1994, p. 74). Similarly, while some weaving households from the outer districts moved to Belfast and its environs, most migrants sought work overseas. Collins (1982, p. 144) demonstrated that weaving households from north-central Ireland were

able to transfer their skills to textile centers in England, Scotland and France. By contrast, emigrants from west Ulster “were treated as unskilled laborers by the countries which received them” (Collins 1982, p. 143). Families in other parts of the yarn districts – especially in west Donegal and Mayo – were more likely to resort to seasonal migration as agricultural laborers both within Ireland, and to Britain. Why such families were so much more determined to retain their grip on Irish soil remains a matter of debate. However, it is likely that they had fewer resources – not just financially, but also in terms of literacy, English language and kinship networks overseas – than those who emigrated permanently from west Ulster (Ó’Gráda 1994, pp. 74-74).

In an analysis consistent with the immiseration thesis, Almquist (1977) suggested that “industrial involution,” together with the decline of hand-spinning in the 1830s, help to account for the severity of the Great Famine in County Mayo in the 1840s. However, the extent to which rural industry mediated the effects of the Famine remains uncertain. In County Donegal, for example, the proportion of women who were hand-spinners was greater than in County Mayo, yet the impact of the Famine was far less severe. Regional data show that “mortality was highest in the extreme west, high in Munster and south Ulster, and very low in Dublin and in east Ulster” (Ó’Gráda 1994, p. 185). This seems to suggest that the core weaving districts were relatively insulated. In his attempt to explain county-level variation in famine mortality, Mokyr (1985, p. 274) was unable to determine the effect of rural industry: “In some specifications the relation seems to be negative, in others positive.” However, using different mortality estimates, Ó’Gráda found that domestic industry “shielded people from death.” Cohen (1997, pp. 148-155) argued that vulnerability to the Famine was differentiated by gender in core weaving districts. She

found that in Lurgan workhouse the proportion of inmates who were women was greater in most years “due to the elimination of handspinning, greater economic expendability and desertion by husbands” (Cohen 1997, p. 151). However it is not clear that admission to the workhouse can be taken as evidence of greater vulnerability. Indeed Fitzpatrick (1997) suggested that their overrepresentation in workhouse admissions may *explain* women’s lower mortality levels overall. Thus, to date, there is little evidence to support Almquist’s hypothesis of a relationship between proto-industrialization, immiseration and vulnerability to the Great Famine. Instead, the preponderance of evidence suggests that rural industry ameliorated its effects.

In summary, there is evidence that the Irish linen industry was associated with the diminution of landholdings, but that the process was clearly mediated by geographical and institutional factors. On well-managed estates where landlords attempted to prevent subdivision, or where the transaction costs associated with distance from the marketplace made it difficult for landless weavers to purchase leases, rural industrial activity did not necessarily lead to impoverishment in land. By contrast, in the proximity of major linen markets, and on poorly managed land, especially in remote and marginal districts, many households were unable to fall back on full-time farming once the process of rural de-industrialization had begun. Under these circumstances, some households attempted to survive by allocating increasing amounts of women’s saving time to spinning.

In the long run, the extent to which impoverishment led to immiseration depended both on distance from the major industrial centers, and on the skills base of different households and communities. At the core of the proto-industrial zone, where the “habit, knowledge and language of the loom” (quoted in Collins 1997, p. 240) was part of daily,

lived experience, households could survive by weaving for outputters of mill-spun yarn. In the outer weaving districts, at least some families were able to transfer their skills to centers of textile production in Ireland, Britain, or further afield. Households in the yarn districts resorted to new commercial outlets for women's traditional skills, including sewing, embroidery and poultry keeping. Male seasonal migration provided an additional source of income in Connacht and west Donegal. Testimonies to the Poor Law Commission of the 1830s leave no doubt about the hardship caused by the loss of income from hand-spinning. However, there was no simple relationship between proto-industrialization and immiseration in Ireland.

Discussion

Research on the Irish case has added to the ambivalent balance sheet on the theories of proto-industrialization. Superficially, the high rates of population growth and diminution of landholdings in Ulster and Connacht seem to support the main hypotheses. However, more detailed studies have failed to provide convincing evidence that the household dynamics posited by Medick lay behind those trends. Instead, they have yielded a set of paradoxical findings suggesting that, at least by the 19th century, proto-industrial trends were more pronounced at the periphery of the Irish linen manufacturing zone, than at its core. This appears directly contrary to Pfister's (1996) model, although we cannot exclude the possibility that factors other than an alteration in household dynamics lay behind population increase and land impoverishment in the yarn districts. Neither can we exclude the possibility that such districts would have been characterized by high rates of population growth, even in the absence of proto-industrial activity.

However, the applicability of Pfister's model to the Irish case is limited by his treatment of gender as an exogenous factor. Superficially, the core/periphery structure of Ireland's proto-industrial zone conforms to Pfister's account. Relative to weaving, spinning was a low value-added activity. Therefore, we should not be surprised to find it extending to remote districts characterized by marginal land, and by landholding and inheritance practices that facilitated population increase. But spinning and weaving are not simply different activities; they are stages in a subdivided saving process. The gender division of saving that restricted spinning to women had the potential to create saving imbalances within individual proto-industrial households, especially given the intensive-intensive nature of spinning (Collins 1982, pp. 132-134). Weaving households could make up the difference by taking in female relatives and spinning servants, but in the long run increases in weaving output depended on the geographical extension of spinning, and thus on the emergence of a core/periphery structure in the proto-industrial zone. There was nothing 'natural' or inevitable about this process, however. Weaving households displayed great flexibility in their efforts to expand intensive supply, but *not* in the way they allocated men's and women's intensive to different proto-industrial activities. In principle they could have allocated intensive to different proto-industrial tasks according to overall household requirements rather than by sex; they did not. The causes and implications of this phenomenon are the subject of Chapter 5.

In Chapter 6 I show how other European proto-industrial regions developed different 'solutions' to the bottleneck created by the gender division of intensive between spinning and weaving. In Ireland, as we have seen, the solution was an almost infinite increase in the supply of cheap intensive to spinning, through a combination of

geographical extension and population growth. Why did the emergence of a functional division of intensive between spinning and weaving districts apparently lead to a decline in the rate of population growth, and of young female nuptiality in the latter?

It is possible that the declining significance of women's and children's spinning *within* weaving households reduced the positive incentive to marry early and have many children, especially given the degree of population pressure already existing on the land. Coote (1804, p. 253) observed of the women in County Armagh that "Their earnings are generally spent on finery, as the men's labour procures them provisions." So long as the earnings from weaving remained high, women's income had the status of pin money, given that most of the yarn absorbed by the household was purchased in the marketplace or put out by manufacturers. Once the process of deindustrialization began, that balance shifted once again, and spinning acquired new significance in the economic strategies of households under pressure (Collins 1982; see Chapter 4).

What of the yarn districts? Pfister argued that proto-industrial activities in such places conformed to a "vent for surplus" model. They provided an outlet for the otherwise unemployed intensive of women and children, but were not sufficiently remunerative to divert men from subsistence production. Under these circumstances there was no positive incentive for earlier marriage and increased fertility. But spinning was much more than a vent for surplus in Ireland's yarn districts: it paid the rent and thus enabled many families to gain access to land who would otherwise have been unable to do so. In a famous passage, Sligo landlord Charles O'Hara argued that the "villagers" in that county turned to spinning having been displaced from the better land by graziers:

Such of the cottagers as remained...saw the necessity of an increase of industry but what to turn themselves to they know not. But what they themselves could not discover the Linen Board pointed out to them. The flax seed, wheels and reels given on public account, pointed out to them a branch of industry which they had never before considered but a saving in their own wear. They now solicited for flax seed and their women manufactured the produce into yarn. (P.R.O.N.I. T2812/19/1).

In good times, spinning not only provided the rent; it enabled families to purchase small luxuries and thus “save up riches” (Kirkham 1988). Scally (1995, p. 32) eloquently described the range of goods sold by itinerant peddlers in the west of Ireland:

[Hats] were part of the flotsam and jetsam of the rag trade flowing from east to west circuitously seeking its lowest market, where the final drops of profit could be wrung out...Shoes travelled the same silent routes, along with sundry other manufactured and processed items from within the industrial core of western Europe, and some, like cotton cloth, tea, or tobacco, from distances beyond the cognizance of the townlanders. This was one of the markets of last resort in Europe, where commodities of the lowest and most exhausted quality found their last buyer.

The important point here is that it was a *market*. The commodity chains that linked smallholders in the northwest to the world-economy through the production of yarn also linked them through the consumption of those exotic luxuries that traveled along the chains in the opposite direction. Just as the relatively low value of the yarn they spun should not blind us to its economic significance, so the poor profits garnered by the pedlars should not blind us to the cultural significance of trinkets and stimulants from far-

off places to those who lived on the edges of the proto-industrial zone. Thus spinning may have provided a positive incentive for earlier marriage, insofar as it ensured access to land, and enabled smallholders to purchase small luxuries that symbolized prosperity.¹³

It is a central argument of this book that there is no sense in which the households of the yarn districts were residual. Scholars have tended to underestimate their significance in the overall development of the industry because the value of what they produced was small in monetary terms, and because the producers were women and children. This, in turn, has led to an underestimation of the significance of spinning in the demo-economic development of the yarn districts themselves. By contrast, the anonymous poem with which this chapter began highlights the significance of women's work in the small-farm economy of the yarn districts: it paid the rent that ensured continued access to the means of subsistence, and permitted the consumption of such small "luxuries" as tobacco. But the poem also reveals an interesting feature of spinning, namely, the extent to which it formed part of the everyday round of housekeeping. In the final stanza, the narrator tells us that his wife tries to fool him into believing that she is working hard all day:

Nuair airigheann sí mé féin ag teacht chun an tighe,
Teine mhaith mhóna cuireann sí síos,
Stiúruigheann na leinbh ar fuaid an tighe,
Agus scaoileann ar siubhal an túirnín lín.

[When she notices me coming towards the house,

She sets a good turf fire,
Organizes the children around the house,
And puts the flax spinning-wheel in motion.]

Because it was carried on alongside, and constantly interrupted by their other household duties, women's labor input to manufacturing was difficult to measure, and therefore liable to be undervalued, both by their own contemporaries, and by modern economic historians. Chapter 5 examines the implications of this characteristic of women's work, both for the overall development of the Irish linen industry, and for the evolution of gender relations over time. First, however, in Chapter 4, the broad regional differentiation between spinning and weaving districts identified thus far, is subjected to more detailed analysis at the level of an individual county.

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NOTES TO CHAPTER THREE

1. Incorporation is here understood as an “iterative” process (O’Hearn 2001. I do not mean to imply that these territories were somehow isolated, or without market links before.

2. Fertig (2003, p. 131) recently drew attention to the problems inherent in treating the “niche mechanism” thought to regulate population under the European peasant system as an “adequate model for understanding entire societies in past times.” In particular, he observed that: “The rhetoric of balance is... of limited help for understanding biographical inequality among the rich and poor in preindustrial times.” Fertig’s critique has potentially serious implications for the demo-economic system posited by Medick because it suggests that his model of the proto-industrial family economy is built on a false or incomplete understanding of peasant family economies.

3. In the southern parts of the “small-farm” zone, wool-spinning may have been more important than flax-spinning. See the discussion in Clarkson (1996). There was, however, a substantial linen industry centered in West Cork. In the 1820s, according to Bielenberg (1991, p. 10), “The total number of people employed in the cultivation of flax and the manufacture and finishing of linen in the Cork region was about 60,000.” Donnelly (1975, p. 19) estimated that the decline of the industry in the late 1820s and 1830s “must have added several thousand displaced hand-loom weavers to the already overcrowded agricultural labour market.”

4. See also the maps in Clarkson (1996) and Ó’Gráda (1989) showing proportions of individuals and households engaged in manufacturing in 1841 and 1821.

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5. The difference in terms of intensive requirements was immense. Ó'Gráda (1994: 92-93) cites evidence to suggest that spade husbandry required the equivalent of about 15 days work per acre, compared to just two days under plough husbandry.
 6. But see the discussion in Chase-Dunn (1989, pp. 20-47).
 7. The opposite appears to have been true in England where "protoindustrial areas bucked the national trend to falling mortality in the later 18th century" (King 2003, p. 27).
 8. McGregor (1992, p. 479) pointed out that this does not mean that smallholders practiced potato monoculture. Oats were grown for the market in many districts. According to Ó'Gráda, ((1994, p. 91), cabbages probably played an important subsidiary role in the Irish diet.
 9. McGregor measured domestic industry as the percentage of men and women "ministering to clothing" by barony, in the 1841 census.
 10. In an argument consistent with the proto-industrialization thesis, Miller (1983) suggested that in County Armagh, the removal of the traditional constraints associated with land inheritance on the behavior of young men partly explains the eruption of sectarian violence known as the "Armagh troubles" in the 1780s and 1790s.
 11. These data are from the 1841 census, and may refer to Irish or Plantation acres, which were larger than English statute acres.
 12. See for example the testimonies to the Poor Inquiry on women's and children's earnings (H.C. 1836, Vol. 31, Appendix D).
 13. Scally (1995, p. 32) argues that imported commodities functioned as symbols of "micro-status," and that excessive display could lead to community disapproval.

However, he provides little evidence for this interpretation. It should be noted that spinning was apparently not widespread in the townland studied by Scally (1995, p. 163).