German historians began to be interested in 'proto-industries' more than a century before the theory of proto-industrialization. In 1857, Karl Marx was already emphasizing the importance of a 'period of manufactures' before the industrial revolution, and stressing the role of rural domestic industries in the genesis of capitalism (Marx 1857–8 (1973): 277f, 505n). From 1870 on, the Older and Younger German Historical Schools of Political Economy sought to illustrate the 'debt which economic theory owes to domestic industry' (Sombart 1891, 1900: 1141). By 1930, they had concluded that 'the history of domestic industry is the history of capitalism', and had proposed many of the ideas which would later be built into the theories of proto-industrialization - among them that the 'ruralization' of industry in early modern Europe contributed to the rise of capitalism; that the 'penetration' of merchant capital into the production process played a central role; that industry progressed through a series of stages from Kaufsystem to Verlagssystem and then to factory; that agrarian by-employments and the 'family economy' were crucial features; and that this process caused social classes to polarize, economic relationships to become impersonal, landownership to contract and wage work to expand, and workers to become impoverished and vulnerable to international market fluctuations (Bücher 1927: 985–9; Schmoller 1900/4: 482–7; Sombart 1916: 706, 723–5, 803; Sombart 1900). This theoretical tradition also inspired numerous case-studies of German rural industries, although almost exclusively in Saxony, the Rhineland and the south (Thun 1897; Gothein 1892; Troeltsch 1897; Furger 1927; Aubin and Kunze 1940; Kunze 1961; Heitz 1961; Aubin 1967; Kisch 1959, 1964, 1968, 1972, collected in Kisch 1981b).

Partly as a consequence of this long existing tradition, both West and East German historians greeted the proto-industrialization theories of the 1970s with scepticism (Kuczynski 1981; Linde 1980; Schremmer 1980, 1981; Schultz 1979, 1983). They questioned the very term 'proto-industry', arguing that Marx and the German Historical School had
already generated a rich and precise terminology in German for the different types of pre-factory industrial production (Schremmer 1980: 422-3; Schultz 1983: 1091). They also expressed profound doubts about almost every aspect of the explanatory framework put forward by Mendels and by Kriedte, Medick and Schlumbohm. At first sight, this is surprising, given that in many parts of Germany, as late as the final decades of the nineteenth century, rural domestic industries were no mere remnants of a bygone era, but rather substantial sectors of the economy, co-existing and co-operating with factories. The continuities between these rural domestic industries and mechanized factory industries seemed, in some ways, obvious, and had surely lain behind the important developmental role assigned to them by Marx and the Historical School.

One reason for the doubts of German historians was methodological: the theories relied on community and regional studies, and concepts derived from demography, anthropology and development economics. These new historiographical approaches developed relatively late in Germany, because of their associations with *Heimatgeschichte*, as well as the village genealogies and racial anthropology of the Nazi period (Pfister 1994: 59–60). Even more important, however, was the view that European theories of proto-industrialization imposed assumptions drawn from western (and eastern) Europe on to a fundamentally different German historical reality (Kuczynski 1981: 105, 119ff; Linde 1980: 107, 110–13, 116–18; Schultz 1983: 1081–2, 1089).

As a consequence, empirical case-studies of German proto-industries appeared only rather slowly. There are outstanding exceptions, particularly the regional studies by Kriedte on Krefeld, Medick on Urach, Schlumbohm on Osnabrück and Mager on Ravensberg (Kriedte 1991; Medick 1992/forthcoming; Schlumbohm 1991, 1994; Mager 1982, 1983). But only very recently have there begun to appear a wider range of case-studies of German proto-industries, which not only discuss the traditional themes of industrial history, but also consider demography, agriculture and rural social structure.

This chapter therefore does not provide a complete account of every proto-industry in every territory in Germany between 1500 and 1850. Instead, it discusses the light thrown by case-studies of German proto-industries on the different aspects of the European proto-industrialization debate: on demography, family structure and women’s work; on agricultural commercialization, rural social structure, and agrarian institutions; on industrial organization and industrial institutions; and on the German industrial revolution. First, however, it looks at the distinctive features of the early modern German economy.

### The economy of early modern Germany

Two features of German economic development are crucial for understanding proto-industrialization in Germany. The first is that Germany industrialized quite late by European standards. While industrial ‘take-off’ occurred in Britain between 1760 and 1780, and in Belgium, Switzerland and France over the next few decades, in Germany it did not take place until 1835–50 (Spree 1977; Tilly 1979). Although some German regions, especially the Rhineland and Saxony, experienced a phase of ‘pre-industrialization’ from about 1780 onward, with scattered establishment of mechanized factories, industrialization proper did not begin even here until about 1815, and many other areas, especially in the north-east and the south, failed to industrialize until the late nineteenth century or even later (Hoffmann 1931; Kiesewetter 1980).

This illustrates the second main feature of German economic development: its enormous regional variation (Fremdling, Pierenkemper and Tilly 1979; Kiesewetter 1980; Tipton 1976). During the entire period we associate with proto-industrialization, Germany did not exist. What we now call Germany was a conglomeration of some 384 separate sovereign jurisdictions – indeed, almost 2,500, when the sovereign estates of Free Imperial Knights are also taken into account. This conglomeration included 85 dominions of Free and Imperial Cities; 136 ecclesiastical territories, belonging largely to bishops and religious houses; and 173 secular territories ruled by princely dynasties, some small and relatively enclosed, but many larger and interspersed with the territories of others, and some (such as Brandenburg-Prussia) scattered across Europe from Poland to the Netherlands. Almost all they had in common was that they spoke the same language, and were loosely organized (along with what are now Austria, the Czech Republic, and parts of western France, northern Italy, northern Slovenia and Croatia, and southern Poland) into a constitutional entity called the Holy Roman Empire of the German Nation. Although the imperial constitution meant that until 1804 all Germans were in theory subject to the Habsburg Emperors in Vienna and could appeal against their own princes to the various imperial courts, diets and circles, in most everyday matters German states were independent sovereign countries. It was not until 1814–15 that this plethora of German principalities was reduced to a mere 39 (including Austria), not until 1834 that they even formed a customs union, and not until 1871 that all (except the Austrian lands) were unified into a single state, the German Empire, headed by the King of Prussia (Gagliardo 1991).

Political fragmentation and the two-level structure of imperial and
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territorial government created on the one hand considerable social and economic diversity, but on the other a number of shared pressures and experiences which gave rise to common features in all German societies. Diversity arose because the German economy was segmented, over very small geographical areas, by trade barriers, economic policies, currency, weights and measures, transportation infrastructure, the level and distribution of taxation, warfare, diplomatic alliances, religion, education and law. Above all, each German state possessed a different legacy of social institutions, and thus a different framework for economic activity. The common pressures were created by the two-level structure of imperial and territorial state, and by Germany’s geographical location in the centre of Europe. Together, these helped to generate a situation of almost continual warfare in many areas of German-speaking central Europe from 1618 until 1814. This warfare induced – or compelled – German princes to expand the size of their armies and bureaucracies, the level of taxation and the intensity of social and economic regulation (Fiedler 1972; Klein 1974; Ogilvie 1992). To achieve this, they were forced to obtain the support of traditional social groups and institutions: noble landlords, privileged cities and towns, village communities, guilds and merchant companies. Almost all German states did so by issuing and enforcing corporate privileges to these institutions and social groups, privileges which ultimately came to cover almost every sector of economic activity – including proto-industry. Only within the framework of corporate privileges enjoyed by favoured social groups were markets able to operate (Ogilvie 1992). Thus early modern Germany was characterized by enormous social and institutional variation over very small geographical distances, yet an over-arching common pattern of powerful corporate institutions surviving in symbiosis with strongly interventionist states. This combination of diversity and shared structures emerges strikingly from the economic geography of German-speaking central Europe.

The single most important demarcation in German historical geography is the river Elbe, which rises east of Prague on the Silesian–Bohemian border, and flows north-west through Bohemia, Saxony and Brandenburg to Hamburg on the North Sea. At least in theory, the Elbe divided the ‘advanced’ German societies of the west from the ‘backward’ ones of the east. In most parts of western Germany – as in England, the Low Countries and France – the institutional powers of feudal landlords over the rural population had greatly weakened by the sixteenth century at latest. But in many areas of eastern Germany – as in Poland, Bohemia and Hungary – landlords’ powers declined little, if at all. Indeed, after roughly 1600, in a process sometimes referred to as the ‘second serfdom’, the great noble landlords began to intensify their institutional powers, and the expanding early modern state enforced them in exchange for fiscal and military support.

But this is a simplified picture, and even within east Elbian Germany there were important variations. In some areas, soil and climate favoured large-scale grain cultivation to such an extent that landlords monopolized the entire rural labour surplus for forced work on their own demesne estates – as in East and West Prussia, Brandenburg, Pomerania, Mecklenburg and Holstein. Industry was restricted largely to the towns, partly because of feudal restrictions on rural labour, and partly because the state could only tax craftsmen in towns, and thus tried to keep them there (Kisch 1981a; Reininghaus 1990: 9, 32, 72; Schultz 1979: 211). But in other parts of eastern Germany, conditions were much less suited for grain cultivation on large estates, or indeed for any kind of agriculture. In such areas, the landlords saw more profit in extorting feudal payments from rural industrial work than in enforcing labour services in agriculture. A prime example is Silesia, a large German-speaking territory north-east of Bohemia and Moravia, first ruled by Austria, captured by Prussia in 1742, and part of Poland since 1945. Here, a dense linen proto-industry arose in the seventeenth century, at the same time as the so-called ‘second serfdom’ enormously increased landlords’ powers. It was dominated by the great feudal landlords until well into the nineteenth century, and although it ultimately stagnated and de-industrialized was one of the most important and longest-lasting German proto-industries (Kisch 1981a).

Finally, there were important eastern German states, such as Saxony, where although landlords enjoyed wide institutional powers, so too did towns. The conflict between the two, and the failure of the Saxon princes to enforce the privileges of either consistently, created considerable freedom of manoeuvre, particularly in rural non-agrarian activities. This encouraged a wide variety of successful proto-industries, and one of the highest industrial densities in Germany by 1800 (Quataert 1985; Reininghaus 1990; Schöne 1981, 1982; Wolff 1979). Thus even within eastern Germany, there were wide variations in institutions and social structure, some altogether preventing the rise of proto-industry, but others merely channelling its development in different directions.

The same can be said of the German south, which was dominated by three substantial territorial entities – Bavaria in the east, Württemberg in the middle and Habsburg-rulled Vorderösterreich (Anterior Austria) in the west. Apart from these territories, southern Germany, particularly toward the west, was highly fragmented, with a complicated patchwork of Free Imperial Knights, Free Imperial Cities, sovereign religious
houses, prince-bishops and secular principalities (especially the various margravates of Baden). The societies of most larger south German principalities were characterized by quite strong peasant communities. The autonomy of these rural communities, combined with territorial fragmentation (aiding smuggling) and export markets in nearby free city-states, enabled the rural population to move massively into industry in the early modern period (Schremmer 1981). But although town–country distinctions became very weak, rural communities themselves strictly regulated proto-industry as well as farming. The proto-industrial population was also regulated in Bavaria by strong landlords, and in Württemberg and the Baden margravates by networks of ‘regional’ (rural–urban) guilds enforced by the state (Gothein 1892; Medick 1983a; Ogilvie 1985; Schremmer 1970; Troeltsch 1897). Throughout the German south, therefore, proto-industry co-existed with strong rural institutional controls.

The presence of the great south German trading cities of Ulm, Nuremberg and Augsburg, and their importance in the trade between southern and northern Europe, also stimulated the rise of rural industry in smaller south German principalities, especially the East Swabian micro-states between Bavaria and Württemberg. In the sixteenth century, competition between different cities created a situation reminiscent in some ways of the Low Countries: that is, no single city was able to restrict the rapid growth of rural industry, even in its own dominions. But the seventeenth century saw industrial stagnation, as the Thirty Years War disrupted exports, and the economic centre of Europe shifted away from the Mediterranean toward the north Atlantic. The south German cities responded to decline by increasing political restrictions on rural industries, setting up rural and regional guilds, and trying to limit production and exclude new techniques. Although not wholly successful, the partial implementation of these strategies imposed costs which made the east Swabian textile proto-industries much less competitive (Kießling 1989, 1991; Reith 1986; Zorn 1988).

The west of the Empire, along the river Rhine, was another area of great political fragmentation and high industrial density. The Rhineland contained not only great Free Imperial Cities such as Frankfurt and Aachen and their rural dominions, but also the ecclesiastical Electorates of Cologne, Mainz and Trier, the fragmented Lower Palatinate, and a plethora of miscellaneous principalities, including the highly industrial county of Mark and dukedoms of Berg, Jülich and Kleve, situated close to the Netherlands border. Some were ruled by tiny independent dynasties, others by monarchs with larger possessions elsewhere, especially the Electors of the Palatinate and of Brandenburg-Prussia. In most parts of the Rhineland, landlord powers declined early, entrepreneurial peasants practised commercial agriculture and social institutions were quite flexible, creating a cheap, mobile and plentiful labour supply (Kisch 1981a: 188–9; Kriedte 1983: 249–50, 256–7). Guilds and merchant companies still exerted more power over rural industries in most parts of the Rhineland than, for example, in neighbouring France or the Netherlands (Kisch 1981b, 1972; Reininghaus 1990: 62). However, territorial fragmentation meant that proto-industries – like proto-industrial workers – could easily cross state boundaries to locate themselves where political and institutional conditions were least oppressive (Kisch 1981a: 187–8). As a result, the Rhineland was the most economically advanced part of Germany, even more than Saxony, and harboured many of the most dynamic and successful German proto-industries (Kisch 1972; Kriedte 1982b, 1983).

North-western Germany was less fragmented than the south and the west (although more so than the east), and from 1648 on increasingly came under Prussian rule. Landlords and village communities retained greater institutional control over rural society than in the Rhineland, but much less than in Prussia’s eastern possessions. Guilds remained strong in the towns, but lost most of their rural powers by about 1700. However, towns themselves were strong enough to force rural proto-industrial producers to sell their output through urban staple markets, and these rights were enforced by the state into the nineteenth century, especially in the great Westphalian linen proto-industries (Mager 1982, 1983; Reininghaus 1990; Schlumbohm 1983, 1992). To the north-east of Westphalia lay the important Hanse cities of Bremen, Hamburg and Lübeck which, like the great south German cities, were important centres of trade – for proto-industrial as well as agricultural output – between east and west. To the south-east of Westphalia, in the centre of Germany, lay Nassau, Hessen and Thuringia, all with quite strong rural institutions and significant textile and metal proto-industries (Reininghaus 1990: 19, 25f, 28; Schremmer 1981; Göbel 1988).

Even a simple geographical survey of the early modern German economy thus reveals enormous institutional variations, and obscures an even greater number of smaller-scale differences. Yet proto-industries arose almost everywhere in Germany, illustrating an important finding which has emerged from European research more widely: the fact that proto-industry was an economic sector which could co-exist with a wide variety of social and institutional conditions. However, research on German proto-industries has also contributed to another important finding: that the differing social and institutional contexts for different proto-industries played a crucial role in how they developed.
Demography, the family and women's work

This can be seen quite clearly in demographic studies of German proto-industrial regions. Rapid population growth, as predicted by the original theories of proto-industrialization, has been observed in a number of German proto-industrial regions, at least in some periods: in the linen- and silk-weaving city and rural district of Krefeld in the Rhineland, in the linen-weaving prince-bishopric of Osnabrück in Westphalia, in the neighbouring Prussian-ruled linen area of Ravensberg, in the cotton- and linen-weaving areas of Upper Lusatia in Saxony, in the variegated textile trades of the Wupper valley in the Rhineland and in the worsted-weaving Black Forest of Württemberg (Ebeling and Klein 1988; Kisch 1972; Knieriem 1986; Kriedte 1986; Mager 1982; Ogilvie 1985, 1995; Quataert 1985; Schlumbohm 1992; Troeltsch 1897).

But there is considerable doubt about whether proto-industrialization caused population growth, or whether both were caused by underlying characteristics of the regions in question. Proto-industry was certainly not necessary for rapid population growth in Germany, since population also grew fast in a number of purely agrarian areas (Harnisch 1979: 287ff, 303–20; Knodel 1988; Lee 1979; Sabean 1990: 40–1, 60–2, 256–7, 454–8; Thümmler 1977). Nor was proto-industry sufficient for population growth, as is shown by the fact that population only began to grow fast in areas such as the Wupper valley and Ravensberg in the mid-eighteenth century, although proto-industry had arisen in the sixteenth century (Knieriem 1986: 169; Kisch 1972: 338–40; Ebeling and Klein 1988: 31).

In the Württemberg Black Forest, some worsted-weaving villages grew fast while others did not; the same was true of agrarian villages (Ogilvie 1985: 233–8). Even to say whether proto-industry was more frequently associated with fast population growth than were other economic activities would require systematic comparisons of population growth in areas with different economic bases, holding other factors constant, and such studies are difficult and rare. In a sample of sixteen Württemberg villages and small towns, pooled cross-section time-series analysis showed no statistically significant effect of proto-industry on population growth rates between 1672 and 1784, although villages grew faster than towns (Ogilvie forthcoming). Thus proto-industry was associated with population growth only in some regions and some periods, and was not the only source of demographic growth in early modern Germany.

The demographic behaviour underlying population growth also varied across German proto-industrial regions, according to social institutions and economic trends. In Osnabrück, where landlords and villages strictly regulated settlement, marriage ages stayed high, fertility was moderate and in-migration was minimal; population growth was due almost entirely to the fact that almost everyone was able to marry, however late in life (Schlumbohm 1992: 189–90). In neighbouring Ravensberg, where agrarian institutions were liberalized in the 1770s, one third of population growth was caused by in-migration (Ebeling and Klein 1988: 32; Mager 1981: 143). In-migration also played an important role in the rapid growth of population in the Wupper valley and in Krefeld, because of liberal social institutions which offered not only work in proto-industry but also freedom from conscription and religious oppression (Kisch 1972: 338–9; Knieriem 1986: 169ff; Kriedte 1986: 260ff, 275f). In the Württemberg Black Forest, where communalities and rural guilds rationed settlement and niches in proto-industry, there was high out-migration of young men, high female celibacy, and universal (though quite late) marriage for men who obtained community citizenship and guild mastership (Ogilvie 1985, forthcoming). Mendels' 'ratchet mechanism' – whereby proto-industrial upturns increased the marriage rate but downturns had no effect – does not appear to lie behind population growth in any German proto-industrial region studied so far. Statistical tests have established its absence in the proto-industrial region around Hagen in Westphalia (Hohorst 1977: 208–27), and in other regions, such as Krefeld, downturns in proto-industry were followed by declines in both marriage rates and population growth (Kriedte 1986: 260, 280, 288).

Marriage ages, too, varied according to the particular institutional context. In liberal Krefeld – at least in the 1820s and 1830s – proto-industry was associated with lower marriage age for both sexes, although more for men than women (Kriedte 1991: 36–8). In Ravensberg, the Heuerlingsystem (cottage system) made it easier to obtain a niche as a cottager than as a peasant, so cottager men (whether linen producers or agricultural labourers) married slightly earlier than peasant men; however, savings from service remained important to finance marriage, so cottagers married much older women (Ebeling and Klein 1988: 35–7). In Osnabrück, with a Heuerlingsystem but stricter community and landlord regulation, showed the same pattern but later marriage for all (Schlumbohm 1992: 189ff). In the Württemberg Black Forest, guild and community regulation meant that proto-industrial worsted weavers married at the same age as other craftsmen, but the stagnation in their industry meant they married older women (Ogilvie 1985: 238–50).

These variations in marriage age were reflected in fertility and family size. In Ravensberg, later female marriage meant fewer children born to proto-industrial families; birth intervals were high for all, but higher for...
pushed out by strong rural guilds, corporate communities and state regulation, and were ultimately restricted to spinning (at below-market rates fixed by the rural guilds) (Ogilvie 1990, 1993b). It was social institutions, not proto-industry, which expanded or contracted women's economic role.

**Agriculture, rural social structure and agrarian institutions**

Originally it was thought that proto-industry was associated with part-time subsistence farming within the proto-industrial region, and commercial farming in neighbouring regions, to supply it with food and raw materials. But in Germany, the organization of agriculture—which varied widely from region to region—affected its relationship with proto-industry. Thus in Ravensberg, fine linen production, commercial grain farming and part-time flax cultivation were all practised in the same region, because proto-industrialization in neighbouring regions and remoteness from trade routes made food and flax imports too costly (Mager 1982: 442, 444–6, 465). In Württemberg, by contrast, proto-industrial areas lived partly from their own farming and partly from grain surpluses produced elsewhere in Württemberg (Ogilvie 1985; Troeltsch 1897). The Silesian variant on the ‘second serfdom’ produced yet another pattern, whereby the proto-industrial population was hardly at all involved in farming, but rather depended for food on feudal—not commercial—agriculture before the coming of the potato in the early nineteenth century (Kisch 1981b: 179, 182–3, 197–8).

By-employment in agriculture, initially regarded as an essential element in proto-industrialization, was present in some German proto-industries but absent in others, depending on how both agriculture and industry were organized. Thus in the coarse linen industry of eastern Westphalia, proto-industrial workers cultivated the raw flax and hemp as well as processing, spinning and weaving it. In the higher-quality linen proto-industries of Bielefeld, Upper Swabia and Silesia, by contrast, weavers did not cultivate the raw material, but bought ready-made yarn from specialized spinners and yarn dealers (Harder-Gersdorff 1986: 204–7; Kaufhold 1986: 136f; Mager 1982: 453f; Schlumbohm 1979: 180–5, 290). The Westphalian Heuerlingsystem meant that proto-industrial cottagers worked part time in grain cultivation, although the reform of agrarian institutions in Ravensberg after 1770 enabled a group of full-time proto-industrial cottagers to arise, while in Osnabrück the survival of the traditional institutional structure maintained agrarian by-employments for all (Mager 1982; Schlumbohm 1992). In Württemberg, strong communities and strict
partible inheritance meant that a majority of rural worsted weavers continued to live partly from their own land (Ogilvie 1985). In Silesia, the 'second serfdom' enabled noble landlords to influence access to land, as well as to other opportunities to work in agriculture (Kisch 1981a: 180–1). Both industrial organization and agrarian institutions thus influenced the nature and extent of agricultural by-employment in proto-industrial regions.

Agrarian institutions also decided whether the potential which proto-industry (like other non-agrarian activities) created for expansion in the land-poor or landless 'rural sub-stratum' would in fact be realized. In Silesia, as we have seen, the increasing institutional powers of landlords enabled them to determine land supply after the Thirty Years War, affecting the number of land-poor and landless who turned to proto-industry (Aubin 1942: 162f; Kisch 1981a: 180–1). In Westphalia, strict enforcement of one-heir inheritance into the nineteenth century combined with population growth to create a growing group of Hauerlinge (cottagers) who lived not only from proto-industry but also from labouring in commercial farming (Mager 1982: 440, 448; Schlumbohm 1992). But in parts of Westphalia, such as Osnabrück, the landed peasants also participated in proto-industry and, indeed, produced more linen than the landless cottagers, because their land enabled them to marry younger women and maintain a larger household labour force (Mager 1981: 143f, 157ff, 165; 1982: 486ff; Mooser 1984: 234ff; Schlumbohm 1991: 43, 52). Indeed, some proto-industries, such as the metal production in Berg and Mark in the Rhineland, required substantial capital, which kept them in the hands of the landed peasants (Engels and Legers 1928: I, 56–70, 171–6; Kauflrold 1976: 42–71; Wagner 1986, 1993). In other cases, such as Upper Lusatia, Württemberg and Bavaria, rural social institutions ensured that most of the population, including proto-industrial producers, continued to own land (Ogilvie 1985; Quaetaert 1985; Schremmer 1981: 670).

Differences in commercialization of agriculture, agrarian by-employments and rural social structure all reflected differences in rural social institutions. Seigneurial systems and communities were originally believed to have been weak in all proto-industrial regions (Kriedte, Medick and Schlumbohm 1981: 8, 16–17, 40; Mendels 1982: 80), but the German evidence shows enormous diversity. In areas such as the Rhineland, landlords and communities had already become weak long before proto-industry arose in the sixteenth century (Kisch 1972: 299–304; 1981b: 94–6; Kriedte 1983: 225). In Saxony, village communities were relatively weak, and landlords could not control settlement, although they could and did demand feudal 'loom taxes' from rural weavers into the nineteenth century (Gröllich 1911: 9–11; Kunze 1960: 20; Quaetaert 1986: 8–9). But the Rhineland and Saxony were exceptional. In Württemberg and Baden, landlords were weak before proto-industrialization, but local communities remained strong — in proto-industrial as well as agrarian regions — until well into the nineteenth century (Gothein 1892; von Hippel 1977; Ogilvie 1985; Tipton 1976). In Westphalia, the communal 'Markenwirtschaft' and the powers of landlords survived until 1770 in Ravensberg and until 1806 in Osnabrück, deeply influencing the entire course of proto-industrial development (Mager 1982: 443, 447–9; 1984: 162–3; Schlumbohm 1982: 334; 1991: 47; 1992: 187, 197). In Silesia, the linen proto-industry was controlled by powerful feudal landlords, whose powers actually expanded during the proto-industrial period (Kisch 1981a: 179, 180–3, 185, 198; see also the contribution by Myška in the present volume). Although there was thus wide variation in agrarian institutions across German proto-industrial regions, the majority were regulated by rural communities, or powerful landlords, or both, until the late eighteenth century, and many to an even later date.

Industrial organization and industrial institutions

Research on German proto-industries does not generally support the view of a stage-like progression from Kaufsystem to Verlagssystem to factory. Although some German proto-industries were purely artisanal and others purely putting-out, it was not uncommon to find a 'conglomeration' of different organizational forms existing side by side (Bräuer 1983: 58; 1987: 31; Mager 1993: 187–8). In the Ravensberg linen proto-industry, for instance, putting-out dominated in one stage of production, an artisanal system in another stage, and the finishing processes were carried out in centralized manufactories (Mager 1982: 453–6; Mooser 1984: 48–52, 62–7; Schlumbohm 1983: 290–2). In the Württemberg worsted industry, some weavers accepted raw wool from putting-out merchants, while others operated as independent rural craftsmen; this was the case from c. 1580 until the industry declined around 1800 (Ogilvie forthcoming; Troeltsch 1897). In many German proto-industries, large centralized manufactories co-existed with and were supplied by extensive putting-out or artisanal systems (Flügel 1993; Henderson 1985; Knieriem 1986; Schöne 1979). State-enforced monopolies over certain stages of production, and state-enforced monopolies over input and output markets, were the rule, not the exception in the organization of proto-industry — a factor widely neglected in the theories of proto-industrialization.
Proto-industrialization in Germany

The theories argued that proto-industrialization led to the breakdown of the traditional institutions regulating industry: urban privileges, guilds and merchant companies (Mendels 1981: 16, 26; Kriedte, Medick and Schlumbohm 1981: 7, 13, 22, 106, 115, 128). In Germany, however, this was far from true. Indeed, in many regions, proto-industrial profits created an incentive for powerful social groups to try to capture them by extending their existing institutional privileges to the new economic sector, or obtaining new ones; the desire to tax and regulate the new sector, and to obtain domestic political support, led states to grant such privileges. In Krefeld, certainly, guilds and merchant privileges were always unimportant, owing partly to Krefeld’s quasi-village origins and partly to the development of its industrial institutions under ‘laissez-faire’ Dutch rule from 1601 to 1702 (Kisch 1981b: 100-3, 116, 130ff; Kriedte 1983: 221ff, 241ff, 258; 1986: 260-1). But Krefeld was an exception, even for the Rhineland. The Wupper valley proto-industry was dominated from 1527 to the end of the eighteenth century by a privileged merchant company, and from 1738 to 1783 was also regulated by a rural guild; both were formed with encouragement from the state, which also enforced their privileges (Kisch 1972: 307, 351-3, 400ff). Rural guilds also regulated the small iron goods industry of Berg and the scythe industry of Remscheid (Kriedte, Medick and Schlumbohm 1981: 115; Mager 1993: 188; Thun 1897).

In Saxony, although most rural proto-industries were guild-free after about 1650, some – such as the trimmings and lace making of the Erzgebirge-Vogtland – had rural guilds (Quaataert 1986: 8, 14-15; Schöne 1981, 1982; Wolff 1979: 33–5). In others, urban guilds retained significant privileges, as in Lusatia, where the urban guild obtained a state ban on ribbon mills, whose repeal in 1765 released enormous growth in rural production (Schöne 1979: 178–9). In almost all Saxony proto-industries, urban merchant guilds obtained state privileges forcing rural producers to sell their products through them; black-market rural traders operated, but with high risks and costs, and were not legalized until after 1800 (Quaataert 1986: 8, 14–15; Wolff 1979: 33–5, 38).

In Westphalia, rural producers were unregulated by the urban guilds after about 1700, but were compelled to sell to merchants in the local town through the Laggen (state inspection offices), which were strengthened by the state in the 1770s. Although there was some rural smuggling, records for Osnabrück suggest that most rural linen output was sold through the Legge, enabling the urban merchants to form an oligopoly (Mager 1982: 444; 1983: 67; Schlumbohm 1982: 331).

In Württemberg, all proto-industrial linen and worsted weavers were placed by the state under the ‘Bann’ of privileged merchant companies, to whom they were legally obliged to sell their output, at fixed quotas and prices, until the companies dissolved – along with the industries – around 1800 (Flik 1990; Medick 1983a, 1983b; Ogilvie 1985; Troeltsch 1897). Although there was some smuggling and illegal rural trading, the company monopolies were largely effective, as is shown by their successful maintenance of prices lower than the ‘free market’ price in neighbouring Free Imperial Cities (Flik 1990: 92–3; Medick 1983b: 301). Proto-industrial linen and worsted weavers also formed ‘regional’ (rural–urban) guilds, whose privileges and regulations were enforced by the state (Flik 1990; Medick 1983a; Ogilvie 1985; Troeltsch 1897).

Surviving records for one of these guilds reveal intense and effective regulation of all aspects of rural production (Ogilvie 1985, 1995). Although there was thus wide variation in institutions across German proto-industries, the majority were regulated by guilds, merchant companies or other corporate privileges and monopolies, until at least 1800.

The German industrial revolution

In 1800, a number of areas of Germany had more than sixty rural industrial producers per 1,000 inhabitants: the Lower Rhine, Saxony, Thuringia, Westphalia, Baden, Württemberg and Bavaria (Reininghaus 1990: 9). Yet during industrialization these regions developed in widely different directions: Saxony and the Rhineland were the earliest parts of Germany to industrialize, by about 1815; parts of Westphalia industrialized, but only in the 1850s, while others returned to agriculture; Baden, Württemberg and Bavaria stubbornly resisted industrialization until after about 1870 (Hoffmann 1931; Kiesewetter 1980; Tipton 1976).

Whether a German proto-industrial region made the transition to factory industrialization was therefore an open question, which was decided by many of the same factors that had shaped its proto-industrialization.

It was in the Rhineland and Saxony, where there had been fewest social and institutional obstacles to growth and flexibility during proto-industrialization, that factory industrialization was accomplished earliest and with greatest ease. Even here, however, corporate monopolies and urban privileges survived to a later date than in the Low Countries or England, and were direct obstacles to industrialization. For instance, when Brügelmann, a Wupper valley merchant, tried to set up the first English-style spinning mill in Germany in 1782, he met huge opposition from the proto-industrial merchant company and rural weavers’ guild; eventually he obtained a state monopoly concession, but built the mill
outside the Wupper valley. As late as 1792, the Wupper valley merchant company prosecuted one of its members who attempted to set up a ribbon manufactory in Alsace (Kisch 1972: 394–8, 399–401).

In Saxony, too, industrialization could only take place in the interstices left by privileges granted during the proto-industrial period (Wolff 1979: 35, 38–41; Tipton 1976: 30–8). In Lusatia, it was not the privileged proto-industrial merchants of Zittau and Löbau, but illegal village traders who promoted the shift from linen to cotton in the 1770s, and introduced mechanical cotton spinning after 1800 (Wolff 1979: 35). In the Vogtland, the shift to cotton saw the foundation of compulsory guilds of cotton ‘merchants’ and ‘manufacturers’ in 1764, which were still competing for each other’s privileges when the merchants’ guild was abolished in 1843. Calico printing developed under guild regulation and a state monopoly which was still in force in 1805. As late as 1786, two-thirds of muslin workers in the region around Plauen were still guilded (Tipton 1976: 32). Mechanization began around 1800, but found it hard to compete until the state began to remove ‘the prohibitions, monopoly rights and restrictions’ in 1817 (Wolff 1979: 39–41; Tipton 1976: 30ff). Thus even in the Rhineland and Saxony, early industrialization was delayed by a proto-industrial institutional legacy of corporate privilege, which was only gradually broken down through state action.

In Westphalia, nine out of ten proto-industrial linen regions de-industrialized. In the Osnabrück region, for instance, proto-industrial merchants turned to other wares, large peasants shifted to market farming and small peasants and cottagers emigrated or became agricultural labourers (Mager 1982: 441; Schlumbohm 1982: 330–4). Industry survived and mechanized only in Ravensberg. Not proto-industry but institutional factors made the difference, according to Mager and Schlumbohm: the early reform of Ravensberg’s agrarian institutions in the 1770s created a proletarianized labour force before international linen demand fell, and the less thorough enforcement of the Bielefeld Logge permitted some black-market rural trading (Mager 1982: 441; 1983: 71; Schlumbohm 1982: 330). Even so, there was no direct continuity between proto-industry and factory industry: the black-market rural traders played no role in mechanization; the urban proto-industrial merchants delayed mechanization for decades, and boycotted the first spinning mill in 1852; the second mill was established only with state assistance and foreign managers; local proto-industrial flax cultivation ceased, so the mills had to import costly Russian flax; local proto-industrial spinners refused to work in the mills, so workers had to be brought in from Silesia, East Prussia and Bohemia; and proto-industrial weavers resisted mechanization until 1870 (Mooser 1983: 75–82; Schlumbohm 1982: 330; Wolff 1979: 30–3).

In Silesia, too, proto-industrial institutions proved inimical to industrialization (Kisch 1981b: 182–7; Tipton 1976: 18–20; Wolff 1979: 20–3). The institutional powers of the landlords had forcibly kept labour costs low, creating a comparative advantage for proto-industry, but they also generated feudal dues on proto-industry, which were threatened by mechanization; to protect the landlords’ feudal revenues from proto-industry, the Prussian state prohibited technological improvements to linen production (Kisch 1981a: 182f, 185; Wolff 1979: 20–3). The enormous legal privileges of Silesian landowners also meant that capital did not accumulate in proto-industry, but flowed into landownership and noble consumption (Kisch 1981a: 184–5). As Kisch concludes, ‘In many ways the Silesian linen trades corroborate the contention ... that domestic industry was not always, as might be generalized from the English case, an agent of progress; rather, where domestic trades have been appendices of the feudal order they have had the opposite effect’ (Kisch 1981a: 187).

In Bavaria, Württemberg and Baden, too, the institutional legacy of proto-industrialization proved an obstacle to factory industrialization (Schremmer 1981). In the Württemberg Black Forest, both merchant company and worsted weavers’ guilds opposed any change in technology or organization that would threaten their privileges; after the dissolution of the company in 1797 (against state protests), the worsted industry collapsed and found no resilient successor (Flik 1990: 241–308; Ogilvie 1995; Troeltsch 1897). In the Urach linen proto-industry, the company monopoly and state regulation meant that neither privileged merchants nor illegal rural traders were willing or able to become industrial entrepreneurs; the district remained heavily proto-industrial, lost markets to mechanized competitors after about 1800 and was only industrialized in the 1860s by outside entrepreneurs (Medick 1983b: 306–10). It was Heidenheim, the least successful of the Ṣulzirnemberg linen districts, which was the only one successfully to industrialize, possibly because the repeated company bankruptcies from the 1760s on created greater flexibility; yet even here, the proto-industrial linen-weavers’ guild violently opposed the shift to cotton in the 1780s (Flik 1990: 117ff, 142–3).

Conclusion
No systematic link can be found, therefore, between proto-industrialization and changes in the demography, society or economy of early
modern Germany between the late medieval period and the nineteenth century. Rather, the empirical evidence suggests that social and economic developments (whether in proto-industry, agriculture or other sectors) were shaped by underlying factors — particularly the social and institutional framework — which varied widely from one German region to the next. But in all parts of Germany — even the most advanced — both proto-industries and factory industries were characterized by a long survival of traditional institutions, whose corporate privileges constituted direct and enduring obstacles to economic and social change.

The causes of this survival are the subject of lively debate, but it may be ascribed partly to the enormous growth of the powers of most German states in the early seventeenth century, in the 'institutional hothouse' of the Thirty Years' War. Local and regional studies are making increasingly clear the way in which, in order to gain the fiscal and military resources to survive decades of continual warfare, German states had to grant extensive corporate privileges to traditional social institutions (see the survey in Ogilvie 1992). The continued demands of the perpetual central European warfare of the seventeenth and eighteenth centuries, which resulted in enormous state indebtedness, made it impossible to provoke domestic social unrest by attempting to withdraw these privileges (Klein 1974; Fiedler 1972). The corporate privileges of traditional institutions could only be weakened, beginning in the late eighteenth century, by the issuing of countervailing state privileges issued through new institutions to favoured social groups. Even then, the new institutional regime tended simply to overlay the older one, rather than replacing it, and corporate privileges remained a ubiquitous feature of most German economies well into the nineteenth century (Tipton 1976).

Research on German proto-industrialization therefore makes clear that the 'corporative' and 'statist' features so often emphasized in accounts of German industrialization did not originate, as frequently argued, in nineteenth-century Prussian militarism (Spree 1977; Tilly 1979; Fremdling, Pierenkemper and Tilly 1979; Kiesewetter 1980). Rather, these features, like industrialization itself, had their roots much further back in German history, and can already be observed in the economy and society of early modern Germany.
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