

## Chapter 9

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# Germany

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Germany played an important role in Gershenkron's work: it supplied the subject of his first major book, *Bread and Democracy* (1943) and subsequently served in his celebrated typology of industrialization<sup>1</sup> as the principal case of 'moderate backwardness'—in which banks supply crucial financial and entrepreneurial inputs. In addition, frequent references to Germany, to German industrialization, and especially to the German universal banks—which he at one point described as an innovation comparable in importance to the steam engine (Gershenkron 1968:137)—are scattered throughout his writings. These are grounds for expecting to find important connections between the historiography of German economic history and Gershenkron's work.

The connections, however, reflect a kind of historiographical multicollinearity. For Gershenkron's reception in German economic historiography was part of the latter's interest in two major paradigms: (1) The 'growth paradigm' of economics came to dominate European economic history in the 1950s and 1960s, and suggested that German industrialization and its causes—capital accumulation, technical innovation, labour force growth, etc.—represented a species of a larger genus encompassing many, if not all, countries of the world. For this purpose Gershenkron proved relevant, though not more so than, say, W.W. Rostow or Simon Kuznets (Tilly 1977). (2) The 'Sonderweg' paradigm stressed the need to interpret recent German history as a special case of political, socio-economic and cultural development (or 'modernization') occurring in many countries, but marked in Germany by a sharp discrepancy between successful economic and incomplete political modernization. The norm here is the strong positive correlation between industrialization and democratization—Hobsbawm's 'Dual Revolution' seems apt here—observed for such Western countries as Great Britain, the United States and France. In this 'Sonderwegdebatte', as with Rostow or Gershenkron, concern with Marxist interpretations of general history in terms of economic classes is paramount. Perhaps H.-U. Wehler's writings offer the best recent example of German work dealing with this triangle of issues: the general relationship between economic and political change in modern history, the

challenge of improving upon Marxist versions of that connection, and the fitting of German history into the discussion of both (Wehler 1987).

In the following, I discuss Gerschenkron mainly in association with the first paradigm, but some passing remarks are directed to the second as well. We ask: to what extent does the history of Germany's industrialization reflect, confirm or refute Gerschenkron's view of Europe's modern economic growth. Our answer adopts the primitive approach of running down a checklist of the major elements of his 'syndrome of backwardness'.

### **THE TIMING OF GROWTH AND THE 'BIG SPURT' DISCONTINUITY**

Over the last ten years or so the view that Germany's industrial breakthrough—in Gerschenkron's terminology, its 'big spurt'—came in the 1840s has increasingly dominated the country's economic historiography (Lee 1988). This view supports Gerschenkron since it involves not only the notion of a clear acceleration of industrial production concentrated in producers' goods, but also the successful borrowing of technology from abroad, e.g. in ironmaking and railroad organization, and the unprecedented large-scale development of investment banking. The empirical basis of this view derives from Spree's study of German growth cycles and from a number of studies of heavy industry. The former stresses the cycle-making role of railroad investment and heavy industrial growth from 1840 to 1880, the latter the backward and forward linkages generated by railroad expansion beginning in the 1840s and rising dramatically in the 1850s (Fremdling 1975, 1977; Spree 1977). As Fremdling has shown, thanks to a combination of tariffs and technological progress, continued growth of the German network in the 1850s induced rapid growth of iron output, leading in turn to increasing domestic coal production. We may see this as a case study in successful German borrowing of technology and import substitution aided by tariff policy (Fremdling 1977, 1986; Henning 1973; Holtfrerich 1973).

Nevertheless, it is a case of successful adoption tied to the leading sector, domestic railway expansion. Further studies of the relations between railway demands for equipment and iron materials and the iron and metal-working firms show that railroad orders were a significant source of income for the largest and technologically most progressive firms, and undoubtedly a major cause of their investment programmes (Wagenblaus 1973; Kregel 1980). And work on early railroad finance shows that universal banking originated here—modernization of German banking thus being a kind of backward linkage derived from railroad-building (Fremdling 1975:150–8; Steitz 1974; Spree 1977:267–73). But perhaps the clearest expression of this view is in Hans-Ulrich Wehler's modern classic volume II of *Deutsche Gesellschaftsgeschichte*. Here, the expansion of heavy industry in the 1840s marks the beginning of Germany's 'industrial revolution' and of the end of the period of her tutelage based on imitation of British industrial technology (Wehler 1987: vol. II, 614).

In my opinion this has been a useful way of looking at German industrialization. However, it has deficiencies, some of which are inherent in the Gerschenkronian idea of industrialization via a ‘big spurt’ discontinuity. First, and least important, if one adheres to Gerschenkron’s definition of a ‘big spurt’ as an extended phase of expansion of industrial output covering at least two major business cycles which do not reflect international cyclical downturns, then Germany experienced no ‘big spurt’ in the nineteenth century (Spree 1977; Gerschenkron 1962:77, 203).

Second, and more important, the ‘big spurt’ view is based mainly on empirical study of German heavy industry and railroads, coupled to the leading sector theory of industrialization; it is *not* based on firm quantitative evidence covering other sectors and the *pre-1840* period. Although the latter period is largely *terra incognita* from the econometric point of view, some quantitative data are available which raise doubts about the uniqueness of the 1840s: (1) Schremmer’s recent reworking and extension of Hoffmann’s series on industrial investment back to 1815 shows a slowdown in investment in the 1840s relative to the 1820s and 1830s. (2) The same holds for my own estimates of total net capital formation in Prussia over the 1816–49 period. (3) Agricultural output estimates for the entire 1800–60 period identify the 1840s as a time of marked slowdown or even collapse, preceded and followed by respectable growth trends. (4) A careful re-estimation of Spree’s industry and social product series using 1850–4 weights (instead of 1913 ones) reversed the ordering of the 1840s and 1850s: the new estimate has the 1840s growing only slightly more than half as much as the 1850s.

Third, and most important, even if the quantitative underpinning of the ‘big spurt’ of the 1840s were unambiguous, a case could be made for seeing the latter as the result of gradual, cumulative changes in previous decades. An interesting indication of this possibility can be found in recent analyses of the German railroads, already referred to. The weakest link in the argument connecting railroads with the ‘big spurt’ is the explanation of railway investment itself. Time-series analyses show the latter to depend largely upon previous profits and profit expectations. Studies of the early companies, moreover, suggest

Table 9.1 Estimated annual rates of growth (%)

	Net investment levels		Agricultural output		Net domestic product		
	Schremmer	Tilly	Helling		Spree	Tilly	
1815–30	4.68	3.72	1820–30	1.32	1840–50	3.43	1.74
1831–40	3.17	2.20	1830–40	2.58	1850–60	2.03	2.70
1841–50	1.46	1.72 <sup>a</sup>	1840–50	0.12	1860–70	–2.02	
			1850–60	1.72	1870–80	2.21	

Sources: Helling (1965); Schremmer (1987); Spree (1977); Tilly (1985).

<sup>a</sup> 1840–9.

that they were generally responses to pre-existing transportation demands; for this reason they yielded above average returns to their owners—virtually as soon as they began operation (Fremdling 1977:132–63). According to these findings, the restrictive policies of the German states towards railways in the 1830s held up development, for such profits represented demands which could have been realized earlier. If that is so, we need to explain the emergence of those demands. That is, we need to explain pre-railway, pre-1840 development.

This need enhances the importance of a number of recently revised chapters in the history of Germany's early industrialization. One such chapter concerns the spread of export-oriented rural industry in various parts of Germany since the sixteenth century. This 'protoindustrialization' involved the relative growth of proletaroid strata dependent on non-agricultural wage incomes, the development of supraregional markets for agricultural and protoindustrial products such as cloth, and the accumulation of capital in the hands of merchants creating new needs as well as providing the basis for further expansion of rural industry. Thanks to the work of such scholars as Kriedte, Medick, Schlumbohm, Mager, Schultz or Kisch, we are able to identify dynamic centres of craft-type, industrial development clearly emerging as early as the eighteenth century in such Rhenish centres as Krefeld, Elberfeld and Barmen, or in Saxon regions such as the county of Zwickau. Such regions not only produced the labour surpluses and merchant capitalists characteristic of 'protoindustrialization', but also the cadres of skilled craftsmen and innovative industrial entrepreneurs which introduced factory-type industrial growth in the nineteenth century. Although research on this problem has not yet reached the point where quantitative evidence on the contribution of craft-type development (textiles and iron wares) to German industrialization can be easily summarized, it is clear enough that (1) individual, local examples of rapid industrial growth occurred commonly long before 1840, and that (2) their cumulative effect could conceivably have been weighty enough to have induced the investment of the 1840s (Kriedte *et al.* 1977; Kisch 1981; Schultz 1984; Mager 1988).

A second chapter focuses directly on agriculture—seen by Gerschenkron to play only a minor role in cases of backwardness. Most of the new contributions unfortunately continue to build on the older estimates of von Finckenstein, Helling and Hoffmann, and can only partially overcome the basic uncertainty surrounding them (particularly with respect to estimates of the total area under cultivation and of fallow land). On the one hand, a visible expansion of agricultural production (and of land, seed and labour productivity) can be traced, with interruptions, back to the eighteenth century. Indeed, for the first half of the nineteenth century one can identify productivity gains which could have contributed significantly to economic growth before the take-off ('big spurt') (Finckenstein 1960; Helling 1965; Franz 1976; Rolffs 1976; Dipper 1980). One important source has argued—on the basis of largely non-quantitative evidence—that agrarian households were far and away the most important source of increased demand for domestically produced non-agricultural goods and services

in Germany in 1800–50 (Harnisch 1977). This view is supported by old and new estimates of the demand of agricultural producers for iron products (implements, machinery)—a demand which turns out to be approximately equal in aggregate to that of the railroads in the 1840s and 1850s (Fremdling 1986:335–7; Müller 1987). And further support comes from a recent reassessment of users of early pre-railway nineteenth-century transportation facilities: agricultural products clearly dominated (Kunz 1989). These are grounds for encouraging more work on German agriculture in the early period of industrialization.

The third relevant chapter takes up the growth and structure of German foreign trade and links it to the development of the country's internal trade. It first notes the structure of foreign trade (documented by Borries 1970; Kutz 1974; Dumke 1976): imports of intermediate and colonial products and exports of primary and manufactured goods. It then discusses a triangular trading pattern. The Prussian eastern provinces enjoy a primary goods export surplus *vis-à-vis* Britain, Britain an export surplus with western Germany dominated by intermediate goods (such as iron and yarn), and western Germany enjoys an export surplus *vis-à-vis* the eastern provinces dominated by final manufactured goods. High transportation costs limit east-west trade to relatively high-value commodities. Dumke attempts terms of trade and trade volume comparisons to show that this 'system' is determined by British demand for primary products: an expansion of export of primary goods raises eastern incomes and stimulates eastern German demand for western German manufacturers, while this expansion of sales stimulates, in turn, imports of intermediate goods from Britain. Exports of manufactured goods, particularly textiles and iron goods produced to a large extent under protoindustrial conditions, expand little before 1850, mainly due to British competition. The gradually rising level of internal trade draws attention to the need for internal transportation improvements, which are then carried out, beginning with the road investments of the 1820s and culminating with the railroad projects of the 1830s. The significance of this 'model' is—apart from its interpretation of regional differences—that it offers an explanation of how a virtually stagnating export in manufactures is consistent with a gradually expanding internal trade leading to, indeed, inducing, investment in transportation improvements. It thus offers German industrialization as a case in which export-led growth of one kind gradually turns into rapid industrial growth carried forward by investment and import substitution (Dumke 1979).

These structures raise the more general question of the timing and character of German industrialization. As suggested, Gerschenkron's 'model' seems to best fit the 'take-off' period from the 1840s to the 1870s. As already noted, that implicitly downgrades the importance of prior changes. It has another defect, however. It obscures the subsequent changes in German economic life which were also part of the industrialization process. Historians have argued that German industrialization entered its 'second phase' sometime around the 1870s. This 'second phase'—some have called it 'high industrialization'—describes the period to 1914 and encompasses a number of important changes:

the political organization of agriculture in response to its decline as the principal sector of the German economy; the related decline in economic liberalism as the dominant ideology of the country's economic policy makers: the related increase in state intervention designed to soften some of the effects of market competition on the less well-to-do population, e.g. social insurance; the development of scientific knowledge as a factor of production and its encouragement by government institutions; and the absolute and relative growth of very large industrial enterprises.

Some historians have found that the 'second phase' of industrialization came quite abruptly, initiated by the crisis of the 1870s which, in attenuated form, lasted until the mid-1890s and has been called the 'great depression' (of 1874–94). Most economic historians, however, have resisted this notion of a 'great depression' twenty years in length, some of them on the grounds that the 'great depression' was largely a price phenomenon—a 'great deflation'—while the existing output data show no marked decline in volume well-correlated with the relevant period (Borchardt 1966). In this view, sustained real output growth as observed in Germany is semantically inconsistent with the term 'great depression'. Although I sympathize with this position and fully accept dismissal of the term 'great depression', something with analogous connotations may be needed to replace it, e.g. the 'prolonged slowdown'. There are three reasons for this. First, Rainer Fremdling's recent work casts doubt on the reliability of Hoffmann's index of industrial production for the period, mainly its probable sensitivity to weighting assumptions (Fremdling 1988). Second, the Hoffmann or Hoffmann-based data *do* show a slowdown in real output even if one adjusts for position within the business cycle to obtain fully comparable periods (see Table 9.2). Note the sharp contrast obtained by adhering to the older ('Contrast Maximizing') periodization. I am not convinced that this is illegitimate practice. Third, some other indices of industrial activity

*Table 9.2* Comparable growth cycles and periods in Germany, 1850–1913 (real output, annual rate of growth)

	<i>Industry and crafts</i>		<i>Net domestic product</i>		
	<i>Trough-to-trough Growth rate</i>	<i>Contrast maximising Growth rate</i>	<i>Peak to peak Growth rate</i>		
848–66	0.0294	1850–74	0.0441	1857–64	0.0261
866–79	0.0380			1864–74	0.0250
879–91	0.0338	1874–94	0.0262	1874–84	0.0127
891–1901	0.0364			1884–90	0.0283
901–8	0.0406	1894–1913	0.0416	1890–1900	0.0339
908–13	0.0497			1900–7	0.0268
				1907–13	0.0321

Sources: Hoffmann *et al.* (1965); Solomou (1987).

also reflect a slowdown from the late 1870s to the mid-1890s, namely Hoffmann's estimates of net investment in crafts and industry and, moreover, an independent estimate of industrial fixed investment based on the experience of large enterprises confirms the periodization suggested by Hoffmann's investment estimates (Rettig 1978).

The upshot of these observations is that one can make a case for a slowdown phase—possibly a transitional phase?—followed by a phase of re-acceleration around the mid-1890s. This latter period, however, has also been seen as sufficiently unique to deserve its own name, the 'rise of organized capitalism'. This involved big business and oligopoly, cartels, organized labour and strikes, increased government regulation and intervention which was seen in part as 'stabilizer' of a system otherwise prone to anarchy and breakdown. This notion has not found favour with most economic historians, but it does raise the question of swings in industrialization which would not seem to fit in with the idea of relative backwardness as the 'master process' driving economic development.

## THE ROLE OF THE BANKS

Gerschenkron's well-known emphasis upon Germany's universal banks as developmental instruments was built on an historiographical tradition going back to the beginning of this century and including such names as Hilferding and Schumpeter—illustrious names, I might add, strategically placed, as it were, to make an impression on Gerschenkron. The continuing flow of publications on the subject is thus obviously more than a response to his work (Tilly 1986).

In general, the notion that these banks—at first private firms and from the 1850s increasingly joint-stock companies—provided much entrepreneurship and risk capital and thus positively contributed to industrial growth and especially to the growth of large-scale industrial enterprises in Germany has stood the test of time quite well. The contrast to the role of banks in Great Britain—Gerschenkron's basic standard—has been confirmed. The consensus can be described in the following four propositions:

First, despite some dissent, the historical literature generally attributes to the banks a positive and significant contribution to Germany's economic development in the nineteenth century. This contribution consisted in the financing of risky investments, particularly in heavy industry, and included entrepreneurial feats such as the formation of new enterprises, the implementation of mergers, and the organization of cartels (Tilly 1982; Kennedy and Britton 1985; Wengenroth 1986). It is unsurprising, but nevertheless interesting, that recent work—including some application of modern portfolio theory—suggests that the German institutional arrangements for capital market finance of risky industrial investments were significantly more effective in the

1870–1913 period than those of Great Britain at this same time (Kennedy and Britton 1985; Tilly 1986).

Second, there is more dissent but on balance a clear preference in the literature for the view that these ‘great’ banks and their executives exercised considerable power in German economic life, power indicated by the large number of banks they took over and the resultant increase in their share of total bank deposits, by the large number of directorships they occupied in German business corporations, by their well-known ability to control strategic decisions through the institution of proxy voting in shareholders’ meetings, by the close links between leading bankers and the political élite of the German Kaiserreich, and by a number of well-documented concrete cases of enterprise decision-making in which conflicts resolved themselves in favour of intervening banks (Jeidels 1905; Witt 1970; Feldenkirchen 1982; Wengenroth 1986; Pappi *et al.* 1987). This is related to the first point about financing risky investments, for such power reflected banker access to information which could lower their *ex-ante* risk assessment.

Third, the literature agrees that by concentrating on the financing of small numbers of relatively large-scale projects and established enterprises, the ‘great banks’ neglected large segments of the country’s financial business: agricultural credit, housing, small business (especially new business enterprises), small savings were all fields left to the municipal savings banks, the credit cooperatives, local small private bankers—so far as these fields attracted financial intermediaries at all. After all, then, as later, most industrial investment was self-financed (Rettig 1978; Pohl, M. 1986). It was only in the 1890s that the large credit banks, spurred by the expansion of the savings banks and the credit cooperatives, began to utilize their branch systems to attract small savings and finance smaller business (M. Pohl 1986). This is significant for two reasons: 1) the relatively élite character of their business operations, in fact, explains much of their willingness to engage in fairly risky investment finance and also the low cash reserves they maintained, and (2) the overall effectiveness of Germany’s financial institutions in promoting industrialization was by no means solely a function of the activities of universal banks.

Fourth, much of the vitality of the universal banks rested on the complementary relationship developed between their own activities and those of the government institutions regulating the payments system, above all the central bank of issue. By the early 1860s note issue was virtually a government monopoly. The result was a division of labour which left most pure payments and short-term trade credit business of the economy to the government bank of issue and most of the industrial credit and security issue business to the private bankers and their protégés, the corporate ‘mixed banks’. In addition, the latter found themselves increasingly able to turn to the former for payments services, cash, and for short-term discount credits when the need arose. By establishing a thick network of branch offices covering most of Germany, the Prussian Bank contributed to a significant reduction in transaction costs of

trade and finance, illustrated, for example, through the setting of one rate of interest and fixed exchange rates for bill payments anywhere in Prussia as early as 1848. Thus, to some extent, even before the 1870s, the 'mixed banks' could build their growing business upon the security that the bank of issue could and would supply it with liquidity, if necessary.

However, from 1876 the powerful support universal banks gave German industry and trade rested in part on the payments network and liquidity guarantee provided by the Reichsbank. By the 1880s this government institution (with its more than 200 branches) dominated the country's payment business. The credit banks used it extensively, eventually even when they were transferring funds between offices of their own systems. But most important in the present context was the virtually unlimited access to the Reichsbank's discounting facilities which the credit banks came to enjoy. The German banks could get by with less liquidity and 'lend to the hilt' if demands warranted, because the Reichsbank provided extremely liberal rediscounting facilities. In fact, they were so liberal—though not cheap—that bills of exchange held by the banks or their acceptances could be seen as substitutes for central bank notes. This was in contrast to the Bank of England, which frequently resorted to credit rationing.

The behaviour just described tended to stabilize the business cycle in Germany, for at least since the 1880s, through its discount policy, the Reichsbank tended to attract business in upswings and repel it in downswings, which meant a substitution of central bank money or gold coin for short bills, or what was, in effect, potential central bank money. (The reason for this was that the Reichsbank discount rate was generally higher than the market rate, but it rose and fell proportionately less than the latter.) With this stabilizing guarantee behind them, the German banks did not have to live with the fear of illiquidity which combining commercial and investment banking activity might otherwise have dictated (as, for example, under the British set of arrangements).

Of course, the 'take-off' phase of German industrialization from the 1840s to the 1870s had in fact evidenced considerable instability. The crises of 1847–8, 1857–8 and 1873–6 brought down large numbers of firms and especially banks. The crisis of the 1870s was particularly severe, as noted above. It forcibly called attention to the need for more comprehensive controls of financial activity. No doubt the Reichsbank's subsequent policies reflected this.

Nevertheless, the Reichsbank remained a gold standard creature to 1914, and it did not underwrite more 'on-trend' credit expansion than its gold reserve position allowed. Its contribution to the 'German system' lay in the flexibility/elasticity of its rediscount policy, especially in times of 'liquidity pressure'. The universal banks, in consequence, could hold more risky portfolios than would have otherwise been the case.

Explaining this connection, however, involves a good deal more than Gerschenkron's summary references to Germany's industrial backwardness and capital scarcity relative to Great Britain. It requires going back to the early

nineteenth century and examining two related questions: (a) the precarious fiscal position of most of the German states (especially Prussia) and its connection with internal political and class conflict on the one hand, and with monetary and banking policy on the other; and (b) the relationship between those fiscal needs and the development of the German customs union, on the one hand, and the need to coordinate currency policies among the several states, on the other. Briefly, the story is this. Its first part concerns the metallic currency. In the first half of the nineteenth century metal monies dominated Germany's currency stock. Owing to the historical heritage of multiple governments a wide variety of coins circulated, and fluctuations in their value are alleged to have hampered intra-German trade and capital flows. For rulers in some of the German states, the coinage was seen as a sovereign monopoly right and valuable independent source of revenue worth defending. However, given the initial difficulties, the problem was overcome with astounding speed. The catalyst was the Prussian government's customs union policy of the 1820s leading to the Zollverein. Here, the Prussian government built on the success of its own customs union of 1818, which had already proven to be a useful generator of revenues. Its offer of a substantial share in anticipated customs revenues to the rulers of the smaller German states proved irresistible to a decisive number of them, for it promised tax revenues free from parliamentary restraints or concessions. But the practical problem of revenue collection and redistribution required agreement on the value of different monies and on exchange rates. Negotiations on these matters received legal expression in treaties of 1837 and 1838, later again in 1857 (Holtfrerich 1989). Formally, two currency areas emerged from this: the Thaler and the Gulden areas. However, the Thaler dominated (and became the standard) and it is important to note that power politics—particularly the struggle between Prussia and Austria—and parochial fiscal interests had a powerful influence on this institutional change, not the needs of 'the economy'—which appears to have adjusted to the change readily.

The second part of the story builds on the first and concerns the handling of paper money and note-issuing banks. As suggested elsewhere, in Prussia, fiscal needs and commitments supplemented aristocratic-agrarian suspicions about private business aims, leading to the decision (in 1846) in favour of a government monopoly of paper money and note issue. This was related to the Zollverein question, for negotiations about the metallic currency had not regulated paper money, while some German states permitted private banks of issue, which began to circulate their notes in Prussia. Prussia's answer to this was to impose penalties on the use of such money and to expand her own note-issuing bank. This worked. By the 1860s the Prussian Bank's circulation dominated in most parts of Germany. By this time, also, a Zollverein treaty prohibited the issue of non-convertible paper money. This was one of the foundations for the development of German banking system as already discussed.

Reviewing this evidence, one is forced to conclude that in order to explain the evolution of banking structures and institutions in countries like Germany,

one must devote considerable attention to political forces and institutions. Economic backwardness *per se* certainly seems inadequate to the task and that is one important limitation of Gerschenkron's model as originally formulated.

## THE STANDARD OF LIVING

Gerschenkron's model suggests that economically backward countries experience falling consumption levels and living standards during their early stages of industrialization—well into and possibly beyond their 'big spurt' of growth. This is due to the stress in such countries on investment goods and possibly 'forced savings' associated with credit creation and inflationary price increases for consumption goods. Such a characterization would seem to fit German experience as rendered by recent research. For a consensus has emerged that in that phase of Germany's development which most closely corresponds to the 'big spurt'—from the 1840s to the 1870s—rapid industrial growth dominated by investment goods production went hand in hand with virtually stagnating living standards. The latter were also associated with food prices which tended to rise over the period and which accompanied a considerable rise in the terms of trade of agricultural *vis-à-vis* industrial prices.

It is only in the 1880s that a clear and widespread rise in real incomes and living standards can be documented. Here, the consensus is equally strong: living standards rose. Our knowledge of these changes stems from (a) general studies of wages and living standards (Gömmel 1978, 1979; Saalfeld 1984), from special sectoral and regional studies by Kirchhain (1977) on the cotton industry, by Holtfrerich (1973) and Tenfelde (1977) on Ruhr coal miners, by Fremdling (1975) on railroad workers, by Borscheid (1976) on Württemberg textile workers, or by Fischer (1968) and Noll (1976) on artisans ('Handwerker'), and from (b) direct examination of consumption standards themselves, e.g. by Teuteberg and Wiegelmann (1971) on food and nutritional standards or by Niethammer and Bruggemeier (1976) and also by Teuteberg (1986) and Wischermann (1983) on housing (Saalfeld 1974; Gömmel 1978, 1979). One must concede that huge gaps in our knowledge remain, especially for the considerable number of self-employed households in agriculture and (mainly rural) domestic industry. However, all recent work on this group points to average levels of income considerably below those enjoyed by employed labour in the 1840s and 1850s and to a noticeable decline in their number over the 1860s and 1870s (Henning 1975). This supports the periodization on living standards just outlined.

One needs to stress the distributional aspects involved, however. To reiterate: what we have is the disproportional growth and leading cyclical role of the heavy-investment goods sectors of the economy. For the German economy as a whole this was accompanied by a clear rise in per capita incomes. The estimated annual increase in real per capita income of 1.6 per cent probably exceeded the growth rate in the previous period. However, it was not remarkable when

compared with later periods and—most important for our present purposes—it was not matched by increasing real wage income, which rose hardly at all over the period (roughly zero from 1850 to 1873 and about 0.35 per cent per annum, 1844–80). Moreover, this stagnation in real wage income was accompanied—at least until 1873—by a clear rise in the degree of inequality of personal income distribution (as reflected in the Prussian data) and a probably related decline in the share of labour (or wages) in aggregate social product (from about 0.82 to 0.77). At the same time, we may note that both levels and growth rates of wages in the heavy industrial sectors stood well above the overall average and above the average of those in cotton textiles—a branch probably representative of the consumption goods sectors (see Table 9.3).

Given this pattern, and also the relatively constant and high share of foods and beverages in German consumption patterns over the period we have, I believe, some strong arguments for speaking of a ‘capital-oriented’ growth process during the take-off era.

This took place at the cost of virtually stagnating domestic wage incomes, whose distribution, however, made possible substantial gains not only to owners of property but also to sellers of agricultural products, and less substantial gains to the workers of the expanding heavy industrial sector. It was this kind of squeeze on overall living standards—with a hierarchy of exemptions running from ‘substantial’ for property holders to ‘modest’ for workers in the favoured growth sectors—which lay behind the period of the ‘big spurt’. It was a squeeze which augmented agricultural and industrial profits and, in all probability, the investment financed out of them. This is not to claim, I should add, that the German working class achieved no improvements in their standard of living during the take-off period, for there were modest gains in real wages—supported, moreover, by some reductions in hours of work and in the mortality rate. Nevertheless, these gains did not lead to a pattern of growth which assigned a leading role to workers’ purchasing power. This picture corresponds to Gerschenkron’s typology, I believe.

German historiography, however, has repeatedly drawn attention to a dimension of the question of living standards poorly handled in Gerschenkron’s

*Table 9.3 Wages in selected industries, 1840–80*

	<i>Annual growth rates, wages 1840–80 in sectors (%)</i>	<i>Ratio of wages engineering/cotton textiles</i>	
Cotton	1.3	1850/54	1.7
Coal (Prussian)	3.1	1860/64	1.5
Railways (German)	2.4		
Iron	1.5	1870/74	1.8
Engineering	1.4	1875/79	1.8

*Source:* Tilly (1985).

basic model: the role of demographic change. According to currently standard versions (Dickler, Harnisch, Hohorst, Knodel, Köllmann, Lee, etc.) Germany's population growth accelerated in the second half of the eighteenth century and remained high, though unstable, until the end of the nineteenth century. German experience seems to confirm the idea that children are the poor man's capital, for population growth resulted primarily from increased nuptiality and fertility among the rural poor as a response to the demand for labour, in rural domestic industry as well as in agriculture. Shifts in labour demands and restrictions on child labour associated with urban living conditions weakened this nexus from the 1860s. High and unstable child and infant mortality rates are also seen as determinants of fertility, with overshooting and externalities of reproduction decisions dominating population growth rhythms. When these mortality rates fell, beginning in the 1870s, family planning became possible and fertility decline set in. There is some debate about which of these two forces weighed more heavily in explaining German population growth, but the importance of the question for my purposes here is that, whatever the reason, it resulted in a labour surplus economy in Germany for much of the nineteenth century. This view is implicitly supported by dozens of collections of contemporary descriptions of underemployment, living conditions, and work-seeking migration among the poor, by the gap, already noted, between growth of aggregate real income per capita and real wages, and by a number of studies suggesting that wage rates—especially for unskilled labour—tended to respond more to migration from rural areas and shifts in economic opportunities there than to productivity and demand shifts in the industrial centre (Köllmann 1974; Saalfeld 1974; Fremdling 1975; Kirchhain 1977; Gömmel 1978, 1979; Hohorst *et al.* 1979; Fischer *et al.* 1982; Lee 1988).

There may thus be sense in viewing German industrialization as a case of rapid industrialization with abundant, elastic labour supplies, as well as the scarcity of capital stressed by Gerschenkron. For an evaluation of this part of Gerschenkron's typology, however, it is useful to refer back to the periodization argument raised in the first section of the paper. In the period up to the 1870s, institutional change tended to strengthen the pressure on living standards just described. The capital accumulation and growing inequality which accompanied the early phase of industrialization reflected more than differential fertility among social strata; it reflected the highly unequal distribution of property and property incomes. This was largely a result of market forces in the nineteenth century. But these market forces operated on the basis of institutions which strengthened and supported owners of capital relative to labourers, e.g. the rules governing conversion of feudal claims and obligations upon peasant land and labour into private property, the laws weakening the guilds, the regressive taxes and the defences against labour organization.

The situation changed in the 1870s, to be sure. From the 1870s onward, collective official concern for workers' employment and living conditions grew. Due to urbanization and growing urban concentrations of working-class

populations those problems become highly visible to public opinion and policymakers. Real wages and living standards begin to rise significantly in this period. This rise did not result solely or even primarily from mounting public concern, but a positive connection doubtless existed.

Does this fit in with Gerschenkron's views? Perhaps one could argue that public concern for the workers resulted from collective recognition that further German industrialization depended crucially on the country's human capital resources and hence, on related investments in health, education and welfare: Bismarck's social legislation was an essential part of the 'second phase of industrialization'. Certainly, Germany's industrialization pattern here did diverge significantly from that of Great Britain, and there may be something in the idea of a link to the backwardness syndrome. But the issue is by no means clear-cut. It would seem panglossian to believe that such institutions came when the country's development 'needed' them. And it would be ahistorical to ignore the fact that, for example, Germany's educational institutions had powerful non-industrial features—and could thus be considered 'dysfunctional'—or that social legislation was hotly contested and only gradually came to be a significant socio-economic factor in German daily life. Thus, an attempt to link living standards and the German 'social question' to industrial backwardness alone would seem to be guilty of gross oversimplification.

## THE ROLE OF IDEOLOGY

According to Gerschenkron the degree of economic backwardness is generally reflected in a country's dominant ideology. In the German case, that was the kind of economic nationalism articulated by Friedrich List. No doubt, economic nationalism—giving priority to national over international or individual interests—is more visible as a professed creed among political and business leaders in Germany in the nineteenth century than in Great Britain. But on the whole, I do not find this interpretation too helpful. It has two related weaknesses: (1) it overlooks change over time; and (2) it is excessively aggregative, i.e., it neglects class differences and the structure of organized interests. These deserve brief discussion.

I begin by asserting that ruling élites are identifiable in nineteenth-century German history and that the ideologies these espoused shifted over time. If my assessment of the literature is correct, the middle decades of the nineteenth century are seen as witness to a shift in attitudes among Germany's ruling élite—particularly among the publicly articulate—in favour of capitalist industrial growth, and individualist, competitive economic activity. This shift accompanied a liberalization of economic policy—not least a remarkable shift in the sphere of commercial policy which had very important long-run political consequences—and was no doubt reinforced by the ongoing strength of the economic growth of the 1850s. But in the course of the depression of the 1870s a remarkable shift in this élite's ideology against economic and political liberalism took place. Most

authors have seen the shift as a response to the threat posed to East Elbian owners of agricultural estates by intensified international and national competition in grain markets, to the desire of industrialists and their bankers to stabilize their shares in a shrinking national market, and to the interest of both and of the bureaucracy in combatting the growing socialist labour movement. It is important to note, however, that this shift was not complete. In many areas of public policy involving housing, trade unions, voting rights, etc., the debate between liberals and conservatives—or reformists—went on. Moreover,—and this takes us the second point referred to above—it goes without saying that the Marxist programme of the socialist labour movement represented yet another and highly distinct position within the German ideological scene. In short, it seems unhelpful to look for a dominant ideology directly connected with a country's level of backwardness, not least of all since such a procedure begs the important question of whether or not ideologies are dysfunctional. I think there is a need here to tie up ideologies with analyses of interest group organization and political change on a more general level. That is, the links between ideologies and backwardness should be seen as *indirect* ones.

## REGIONAL DIFFERENCES

An obvious and frequently noted defect of Gerschenkron's 'model' is its aggregative, national orientation, its failure to account for or even interpret regional differences. In the light of the previous discussion of ideology it is interesting to note a recent suggestion that the strength of nationalism as an ideology in Germany has to do with the strength of regional differences in development levels—seen as a political problem which must be overcome (Lee 1988). In fact, Gerschenkron himself pointed out this possibility, though he drew no consequences from it for his basic model. In any case, German economic historiography is clear on this issue. For one of the clearest results of recent work into regional dimensions of industrialization is the stress on its unevenness. There are leading regions—such as parts of Saxony or the Rhineland—as well as leading sectors. However, growth in one region need not and did not automatically contribute through trade, factor movements or the diffusion of technical knowledge to growth in another. This work shows that developmental differentials were (a) a pre-industrial phenomenon which (b) industrialization failed to remove, mainly because the east had remained largely agricultural (Borchardt 1966; Hesse 1971; Hohorst 1977; Fremdling and Tilly 1979; Lee 1988). It is thus possible that the temporal and sectoral shape of German industrialization could have varied substantially from region to region, so much so, in fact, that 'German industrialization' could turn out to be a phrase denoting an average or artifact including highly diverse components. Explanation of German industrialization, in such a case, might require (a) explanation of regional changes and (b) explanation of how the weights of regions changed over time, as well as (c) explanation of linkages between regions. Under extreme assumptions—factor

immobility, internal trade barriers and impotent national policy—the development of national economies depends on these regional changes and not at all on policy. But most important, regional differences may have powerful consequences for the development of the national economy and polity. Tipton (1974, 1976) has used his own study of Germany's regional differences to raise this question, focusing particularly on the well-known east-west differential and on the response of agricultural protectionism and the problem of migration and labour supply. Ongoing industrialization shifted the economic centre of gravity in Prussia—Germany's dominant state—westward and away from the agricultural regions. As Tipton puts it, 'The eastern landlord class achieved and maintained an important political position, but the economic basis of that position eroded as their region began to drop behind the urban and industrial centers of central and western Germany'. This erosion threatened to accelerate in the agrarian depression of the 1870s, which concentrated strongly upon the East Elbian grain producers. Tariff protectionism was the political response engineered by Bismarck, but this penalized labour-intensive mixed farming and taken together with the competition which continued despite the tariff, could not slow down and may have even encouraged the massive emigration out of the agrarian east which had begun in the 1860s. By the 1890s, this made recourse to seasonal immigrant labour a necessity for the East Elbian grain producers and the result was that peculiar labour market which maintained, just as it reflected, the continued power of the eastern landlords. This further retarded any attempt to industrialize the east. Given the Prussian-German political structure and the disproportionate weight it gave to the eastern landlords (and the Conservative Party) in national questions, democratic change in the country as a whole proceeded more slowly than a regionally balanced industrialization would probably have allowed (Tipton 1974, 1976; Bade 1982).

### **THE ROLE OF THE STATE AND ITS POLITICAL ECONOMY**

To some extent this section is a residual. In the previous sections much of our topic has already been covered, for 'the state' is virtually omnipresent in German economic historiography. A few remarks will suffice. To begin with, there is no question but that the state's direct role was greater in Germany's industrialization than in Great Britain's. A number of relevant areas can be cited: there is government's direct support for, even entrepreneurial involvement in, the creation of social overhead capital (e.g. railroads); the agrarian reforms involved setting up government banks which facilitated the conversion of previously feudal claims into private property rights; there was commercial policy involving selective tariff protection and easing national economic integration; an ambitious programme of social insurance; and so on. On the other hand, in the case of 'moderate backwardness' (Germany's) Gerschenkron's model 'predicts' the rapid development of private business entrepreneurship, and is thus consistent with a literature full of observations of inefficient government policies, such as

those restraining entrepreneurs in banking, transportation, etc. This obviously differs from cases of extreme backwardness such as Tsarist Russia (where government policy might be inept but without alternatives). The trouble with Gerschenkron's formulations, however, is that they do not offer an adequate explanation of changing levels of state action. His references to military priorities, while pertinent, certainly fall short of the mark, for the state is more than the collective national interest in military power. And the level of backwardness is not the only other conditioning factor. National governments or polities are coalitions of regional, sectoral and class interests which mobilize political resources and contend for control of the polity.

In fact, the economic history of German industrialization is full of government actions, economic policies, decisions having at most an indirect connection with economic backwardness and military considerations. I conclude this section by briefly mentioning one set of actions which illustrates an alternative approach: it concerns the Prussian and German customs unions: Ohnishi's well-documented study of the Prussian commercial union, 1818–33, demonstrates the strong, positive fiscal motivation and positive revenue effects of the union, but also surprisingly significant (and rising) protective effects as well. R.Dumke's work extends the discussion. First, he shows that the Zollverein was an extension of the Prussian commercial union in the sense that (a) the latter's relatively high rates became the norm for the former and, more significantly, that (b) the revenue motive was of decisive importance, since Prussian statesmen, drawing on their own experience, could offer the rulers of small and poor states the prospects of revenues free of the necessity for democratic-parliamentary concessions as enticement to join the Zollverein. Parochial interests—including those of the civil servants in the several German states—explain commercial policy and not economic backwardness or military needs. The history of German state activity contains many chapters into which an approach stressing micro interests and political bargaining might be extended.

## CONCLUSIONS

The main body of this chapter offers quite a few generalizations about the appropriateness of Gerschenkron's basic model for the study of European industrialization. For this reason, these conclusions can be brief. They make only three points.

First, criticism and suggestions for revision are directed toward Gerschenkron's basic model (as developed in Gerschenkron 1962), not toward his life's work as a scholar. That work is a treasure trove of differentiated knowledge about European history, even about German history, and contains numerous valuable insights into the process of economic development generally. And one must add that it also contains observations which qualify and even contradict the basic model. Nevertheless, it is the basic model—which necessarily

suppressed much differentiated knowledge—which is on trial here, not Gerschenkron the scholar.

Second, Gerschenkron's fundamental insight—the importance of relative levels of backwardness as a determinant of industrialization patterns—automatically produces a significant deficiency in his model: the model's premise is that it makes sense to 'tune in' on the industrialization drama of a country on the 'eve of its initiation'—a point in time (or period?) determined by ex-post knowledge of a great spurt which subsequently took place. But this way of formulating the problem begs the question of why a given country is backward in the first place and precludes discussion of factors present in 'earlier developers' but not in their backward rivals. His model focuses on the successful followers, and neglects the failures or partial failures (with slow growth). Revision here implies at least three modifications of the basic model.

- 1 There is a need to distinguish between relative backwardness and absolute levels of development, a need which calls for an extension of what we wish to explain beyond the rate of industrial growth and the share of industry in total output and employment to more general measures of economic welfare.
- 2 A more general model should include factors generally—at least potentially—relevant for all countries; natural resources, labour supply, the levels of human and non-human capital, the level of technological knowledge, communications and mobility, the distribution of wealth and income and so on.
- 3 There is a need to relax (or forget) the assumption that modern-economic growth takes the form of a 'big spurt' discontinuity associated with rapid, dramatic industrial changes, and a need to see modern economic growth as a more gradual, longer-run process extending well into the pre-industrial period.

Third, as suggested throughout the paper, Gerschenkron's basic model implicitly assigns great importance to the state but fails to develop an explanation of state behaviour and changes in it. More generally, modern economic growth depends on the state, not only or even primarily as a source of specific services (financial and otherwise), but as the social arrangement through which the general rules and especially the legal framework of economic activity are negotiated, established and enforced. Explaining the role of the state means developing an appropriate model of political change. This is not the place to attempt to sketch out such a model, but in order to be useful as part of an explanation of the modern economic growth of nations it should probably cover at least the following needs:

- 1 the need to explain how regional, sectoral and socio-economic class interests are mobilized and organized and what determines their effectiveness at the national level. It is the economic weight of their basic constituencies,

- their social homogeneity, the particular kinds of coalitions they enter into, ideology, or some combination of all of these?
- 2 the need to see the state as more than the collective expression of organized interest groups but as an autonomous actor (or collection of autonomous actors) pursuing independent aims. Autonomy may have a purely traditional base, which may correspond to no more than the inherited prerogatives of a small but highly cohesive minority. On the other hand, autonomy can be maintained by the adept exploitation of differences among contending socio-economic interest groups. What explains autonomy and with what kinds of state behaviour is it associated? That leads directly to
  - 3 the obvious need to monitor the 'output' of the state action, to assess its efficiency in promoting or hindering modern economic growth in nations. This has been a traditional field of work for economic historians, so little more need be said. Nevertheless, if more attention is paid to the relationship between the political bases of government—the kinds of coalitions and bargaining its stability depends on—and the contribution of state activity to modern economic growth (net of resources absorbed by government), that work will doubtless yield higher returns.

## NOTE

- 1 In the following 'industrialization', 'modern economic growth' and 'economic development' are used interchangeably; the same applies to the terms 'typology' and 'model' with respect to Gerschenkron.

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