

**TRADITION AND INTERACTION:
RESEARCH TRENDS IN MODERN JAPANESE INDUSTRIAL HISTORY**

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This paper surveys research findings since the early 1970s, focusing on the growth processes of both traditional and modern industries and their relations with government activity in the period between early Meiji and 1940. Most of researches surveyed can be seen as responses to the two theses: first, that pre-1940 Japan was essentially a market-led economy, and second, that the traditional sector did not decline in the industrialisation process, but in fact prospered. The survey suggests that there were a good deal of interactions between the modern and traditional sectors at regional levels, and that this regional economy occupied a significant place in the ways in which government-business relations were structured.

INTRODUCTION

Since the 1970s, the ‘traditional’ (*zairai*) sector has occupied a significant place in the debates on the economic history of modern Japan. Contrary to textbook impressions of the development since the Meiji Restoration, it was neither a straightforward

* The literature in the economic history of Japan is so vast that it is virtually impossible to cover all the research areas in a single article, even if confined to the period from the opening of the country to the 1940s. Therefore, in this paper we focus on the industrial history of modern Japan. For a more general account of this period, perhaps the best Japanese-language single-authored economic history is Shimbo, *Kindai Nihon Keizaishi*. Much of the recent historiography is covered in this well-balanced book.

‘modernisation’ of the pre-Meiji economy, nor a Gerschenkronian move occasioned by state initiatives in institution-building and technology transfer from the West. Rather, the traditional sector has been seen as having grown until 1920, amidst the bulk of government-sponsored and big business-initiated efforts of transplanting western institutions, systems and technologies. The ‘modern’ sector, much of which was a product of such efforts, did grow rapidly but failed to overtake the traditional sector.¹

The conceptualisation along this line of interpretation was first made in Takafusa Nakamura’s 1971 book *Economic Growth in Prewar Japan*. Having broken down the manufacturing industry into factory and cottage categories, Nakamura found that until about 1920, the ‘share of cottage industry in total industrial output may well have been falling but its absolute level did not decline’. Employment statistics reveal a similar picture. They indicate that much of the increase in the workforce was concentrated in the secondary and tertiary sectors. As Nakamura noted: ‘However, one should not jump to the conclusion that these secondary and tertiary industries consisted entirely of modern manufacturers, banks, or foreign trade companies. Many of these enterprises (such as traditional manufacturers, carpenters, plasterers, rickshaw drivers, small urban shopkeepers, and noodle vendors) were family businesses that at times employed a few hired people. In fact such enterprises continue to exist throughout Japan’. In other sectors of the economy too, therefore, the proportion of enterprises ‘managed according to capitalist methods’ was very small. To put it differently, the traditional sector ‘not only survived but in fact prospered’.²

¹ For recent surveys of evidence on traditional industry in the nineteenth and early twentieth centuries, see Tanimoto, *Zairai sangyo*, and Matsumoto, *Development of traditional industries*.

² The English version of Nakamura’s book was published in 1983. Quotes in this paragraph from Nakamura, *Economic Growth*, pp.81, 25, 86 respectively.

Until the 1970s, a dominant school in Japan's economic history writing was of a Marxist persuasion. Its proponents tended to stress the backwardness in the economic structure inherited from the Tokugawa era (1603-1868) and the state-sponsored nature of industrialisation. Small-scale, labour-using traditional industries as well as peasant agriculture were regarded as symptoms of such growth anomalies. Against that historiographical background, the *Long-term Economic Statistics of Japan* compiled by Kazushi Ohkawa and his associates provided fresh evidence on economic growth in the Meiji period (1868-1912) in quantitative terms. They too suggested that 'indigenous' (*zairai*) elements should not be overlooked when accounting for economic growth during the Meiji era. However, Nakamura saw this phenomenon not simply as a survival of age-old industrial activities, but largely as a product of interactions between the modern and traditional sectors. In the commodities market, for example, cotton spinning was an industry transplanted from the West. Its cheap, standardised yarn was used by domestic manufacturers of traditional cotton cloth. Silk reeling, indigenous in origin, became a factory industry along the Western line, and a good deal of its raw silk went to overseas markets. However, domestic silk weaving undoubtedly benefited from the development of this kind of silk filatures. Such 'functional divisions' between the modern and the traditional sector were also found in the capital and funds market, and all the interplay was demonstrated in the form of simulation based on an two-sector input-output model. For this reason Nakamura calls the period from the Meiji Restoration to 1920 an era of 'balanced growth'.³

This approach turned attention, firstly, to the continuity from the Tokugawa

³ Ohkawa *et al.*, *Long-term Economic Statistics*, 14 vols, Ohkawa and Rosovsky, *Japanese Economic Growth*, and Nakamura, *Economic Growth*, chapter 3.

past at industry levels, to the issue of how traditional industries transformed themselves keeping their technological and organisational traits more or less intact. This is the agenda that will have a bearing on the role of labour-intensive industrialisation in the whole development process. Secondly, Nakamura's thesis implied that even the studies of the modern sector should be conducted in regional contexts since the inter-sectoral functional divisions are expected to have taken place more visibly at local and regional levels. Finally, the regional perspective has led to questions about the conventional, dichotomous framework of any state-business relationships throughout the entire period of prewar Japan.

In the next section, we will look at what the Meiji government actually did during the 1870s. Then we will turn our attention to issues in industrial history – both traditional and modern – from late-Meiji to the 1930s. Finally, we will comment on a recent effort to conceptualise the economy of that period as a 'system' in comparison with the ones for the wartime and the postwar high-growth economic regimes.

EARLY MEIJI GOVERNMENT ACTIVITY

Soon after the Meiji Restoration in 1868, a number of reforms were introduced.⁴

During 1869-1873, some 300 domains were abolished, commoners received the freedom to move and to 'pursue their respective callings', Tokugawa monetary systems were abolished, land taxes revised, and private ownership established. Most of these and other reform efforts were inspired by Western experiences. Most of the legal, political,

⁴ This section draws on Saito, 'Economic history of the Restoration period'. For pre-modern economic trends and reform efforts made in the late Tokugawa period, see Shimbo and Saito, 'Economy on the eve of industrialization', and for a recent overview of what the early Meiji government actually did, see Koiwa 'Meiji ishin-ki'.

economic and educational systems adopted were modelled on Western institutions. Among the technologies imported from the West were also the arsenal, brick-built commercial buildings, factories, steam ships and locomotives. The introduction of these was called *shokusan kogyo* (industry promotion) and has long been regarded as the pillar of the development policy of the early Meiji government. Initially, it established state-run mills, factories and shipyards, and invested much of the Department of Industry's money in the construction of railways and mining. Big businesses such as Mitsui and Mitsubishi benefited from a deal with the government in relation to the sales of the state-owned establishments in the 1880s when the government had to cut back the budgets drastically. Also in private-sector areas such as merchant marine, where government support was called for, it was the big businesses which were given *ad hoc* favour by the state, in much the same way as observed between business groups and the Ministry of International Trade and Industry (MITI) after the Second World War.

However, research in the past three decades turned attention to other aspects of the development programme and to what the government actually did in areas of industry promotion and economic management. Now it is realised that the new government faced chaotic financial situations caused by the opening of Treaty ports, on the one hand, and the collapse of the old domonial systems, on the other. Of all difficulties, as one policy document of the time pointed out, most serious were deficits on foreign trade and deficits in government revenue. Under the Treaties with the Western powers, Japan had no tariff autonomy, causing trade deficits. In order to decrease such deficits, the nation had to promote industry, but if it were pursued entirely through the Westernisation programme, it would mean an increase imports from the

West and would deteriorate the foreign trade balance even further. In order to decrease trade deficits, exports had to increase and exports goods were only found among products of traditional industries in the countryside. Yet, close scrutiny of the available documented evidence suggests that the collapse of the old domains meant the disappearance of the monetary functions which those late-Tokugawa local governments had provided through issuing paper money (*hansatsu*) and subsidising credit to trade bureaus and associated merchants. What the new government did in response to these difficulties was the introduction of a *decentralised* American model of national banking in 1872. Without any central bank, this system allowed local economies to set up their own note-issuing banks. In fact, such 'national banks' grew rapidly during the 1870s. The increase of the number of the banks was accompanied by an increase in money supply, which caused inflation, but it is argued that the increased local supply of money helped local industry and commerce substantially.

Two points are to be made here. First, the above account suggests that the Meiji administration since Toshimichi Okubo came to power was, despite its autocratic appearance, reasonably realistic and flexible in formulating policies of economic management and industry promotion. In 1873 Okubo quashed an expansionist campaign in relation to the Korean affairs, arguing that the paired slogan at the time of the Meiji Restoration, 'rich country and strong army' (*fukoku kyohei*), was separable as policy objectives – for the time being, at least. Although he announced that both 'guidance' and 'encouragement' by the government was the key to successful development of a latecomer like Meiji Japan, he did not see the state sector as the principal agent of industry promotion. The newly established Home Ministry, of which he himself held the

portfolio, was put in charge of broader areas in development policy; from merchant marine to agriculture and handicraft industry. It is true that the ministry owned state-operated enterprises, but they were model factories and smaller in scale. Virtually no 'hands-on' measures were taken in vast many areas. Instead, subsidies were given to one-off projects on an *ad hoc* basis, most of which went to schemes authorised by prefectural governors. Together with the increased supply of money through the 'national banks', whose impact reached a wider community of local entrepreneurs, the rural economy was given a boost. As virtually all the export goods of the day were rural products such as silk and tea, it was the promotion of traditional industries, especially export trades, rather than import-substitution that made sense in the context of the early Meiji period.

Second, both the ways in which industry was encouraged and the government's reliance on money supply as a principal means of encouragement were not novel. In the late Tokugawa period, many *daimyo* (feudal lords) instituted domanial reforms, in which 'rich country' (*fukoku*) became the domains' goal and for that goal, the encouragement of industry and trade was thought necessary. Various domanial governments thus encouraged the production of cash crops and manufactured goods by monopsonising and 'exporting' them to Osaka and other commercial centres. Moreover, although those schemes were in most cases put into practice through government agencies, merchants actually carried out the businesses. The domanial government's role was to supply credit to the agencies, who often issued paper money in the hope that it would serve as the supply of capital to the local producers of their 'export' goods. It is very likely, therefore, that Okubo and his Finance Minister, Shigenobu Okuma, had

been accustomed to this Tokugawa tradition. In other words, in the areas of money supply and industrial policy too there was much continuity in the process of actual policy-making and institution-building.

The Meiji government was born in an age when a strong state initiative was expected in order to compete with Western powers. However, the activities of the early Meiji government suggest that, unlike Taiwan and South Korea of the 1960s, Meiji Japan was not a developmental state in its strict sense. Under the clauses of the 'unequal treaties', early Meiji Japan was in no position to adopt protective trade policies. With persistent trade deficits, a hasty transplanting of any industrial stimulus package from the West was unrealistic. Without any modern notion of macro-economics such as national accounting and input-output analysis, no proper 'planning' was possible. As a consequence, there were not many 'hands-on' policies, while more emphasis was placed on the development of traditional sectors of the economy, especially during the Okubo-Okuma era of the 1870s. Nevertheless, the government's stance was never neutral in relation to macro-economic management. Throughout the period up to the late 1880s, the balance of payments was the chief concern of the government's financial ministers while printing more money remained a major policy measure to stimulate the economy. In this respect, the development policy of early Meiji Japan was still conceived in the Tokugawa conceptual framework.

The economic environment changed after the so-called Matsukata deflation. In an 1881 political crisis, Okuma was ousted and his portfolio was taken over by Masayoshi Matsukata. Faced with increasing inflation (fuelled partly by a rebellion of former *samurai* in 1877) and accumulated government debts, Matsukata developed an

austerity policy. Money supply was cut back and prices started to fall, both of which brought about a serious recession. With the cost of this economic set-back, the government learned the lesson that money supply should be kept under tight government control, which led Matsukata to establish the central Bank of Japan. Another lesson the Finance Ministry learned was that spending should be within means. Although this was later occasionally overridden by gigantic demands from the Ministry of War, the government sought to avoid chronic budget deficits since the 1880s. In terms of economic policy, the continuity from the Tokugawa past therefore came to an end during the Matsukata deflation.

However, this did not mean that industrial re-structuring was done to the detriment of traditional industries. The traditional sector continued to grow during and after the 1880s, to which we will turn in the next section.⁵

WEAVING IN THE LATE NINETEENTH CENTURY

Cotton weaving – one of the most intensively researched areas of study in Japanese economic history – is perhaps the best example of the case for Nakamura's account of traditional-modern interactions.

There were two separate agents in the development of cotton weaving in the Meiji period. One consisted of the weaving sections of cotton spinning companies in the modern sector. They wove broad cloth on a large scale by using yarn produced in their own spinning mills. The product was machine-made and the market was for those who

⁵ For an account of the development of various traditional industries at the time, see Tanimoto, *Role of Tradition*. Chapter 1 of that volume gives Tanimoto's account of the agenda concerning traditional industry in prewar Japan.

manufactured Western-style garments. The other comprised numerous small-scale workshops in weaving districts across the country, all of which produced narrow cloth for traditional *kimono*. Most of such industrial districts (*sanchi*) were rural in location and pre-modern in origin. There, weaving was carried out as farm family by-employment in many cases. The typical pattern of the division of labour was that while the man worked in the fields, his wife and daughters combined farming tasks with side-line weaving jobs at home. In the farm household, therefore, agricultural and industrial activities were intricately combined.

It is important to note, however, that not all the Tokugawa-era weaving districts modernised and expanded. Some declined while others grew rapidly, especially during a period after the opening of the Treaty ports in 1859. Decisive for this rise-or-fall pattern of district development in that critical period was, according to Abé and Tanimoto, the introduction of a new raw material, *i.e.* machine-made yarn.⁶ They kept producing narrow cloth for the growing domestic market, but the success of this traditional trade was made possible by switching first to imported, then to Japanese-made yarn when the domestic factory industry rose.

It is also worth noting that organisational change played a role in this development. Putting-out systems tended to spread in periods of market expansion for traditional fabrics. In fact, contrary to the stereotyped supposition that the organisation of production evolved from dispersed forms such as putting-out to the factory, the actual history of production organisation in the weaving districts could reverse depending on market situations. It is argued that putting-out was chosen by district entrepreneurs as an

⁶ Abé, *Meiji zenki*; Abé, *Nihon ni okeru*; Tanimoto, *Nihon ni okeru*.

efficient organisational form in order to ‘modernise’ the traditional trade, which in turn made the relationship between weaving and farming even closer.⁸ Within the farm household, Tanimoto argues, labour supplied from its farming sector was absorbed as by-employment. The development of rural industry such as the traditional cotton trade in the Meiji period benefited from this elasticity of labour allocation in the farm household.⁹

Scholars have paid special attention to technological progress, for technology transplanted from the West not only gave rise to modern industries, but extended its beneficial impacts onto the traditional trades as well. Productivity in the traditional sector undoubtedly rose with new technologies, but it should be noted that not all the imported technologies diffused to rural industrial districts across the country. An example is weaving. While a flying shuttle (*batten*) in both cotton and silk trades spread all over the country within a short period, the power loom did not.¹⁰ In some areas, growth was spectacular with the introduction of electrically-driven looms, but there were substantial regional variations in the speed at which the power loom was adopted by local weavers. The variations were so great that it cannot be accounted for by a single factor. Important were, according to Minami *et al.*, whether the product was white, pre-dyed or striped cloth, what the type of production organisation was, and

⁸ For the expansion of putting-out system under particular conditions of the market in the development process, see Saito and Tanimoto, Transformation.

⁹ Tanimoto examined how farm families decided to allocate their labour between the industrial and agricultural sector (*Nihon ni okeru*). Even for factory girls from the farm family, the seasonal fluctuations in farming affected their yearly working days (Sasaki, Sanchi men orimonogyo). Tanimoto (*Kindai nihon no toshi*), extends this argument to urban family businesses.

¹⁰ Kiyokawa, *Nihon no Keizai Hatten*, chapter 5.

whether electric power was available locally.¹¹

Minami *et al.* stressed the importance of electrification for the survival of individual rural industrial areas, a finding which suggests that electricity was instrumental in sustaining the small size of operations in the traditional weaving industry. But on the other hand, they also emphasised that the introduction of the power loom was early in districts producing white cloth where putting-out arrangements were not common. This implies that the putting-out system was a hindrance to the mechanisation in the traditional sector. The latter issue has invited criticism. Textile historians argued that, putting-out did never represent any single stage in the linear progression of industrial development. Indeed, there existed cases where a putting-out type of contract was found between the clothier and small-scale workshops even after the introduction of power looms into those rural workshops. There is now consensus that the organisation of production should be seen as a much more dynamic concept in this phase of industrial development.¹²

Such developmental courses may be called 'flexible specialisation' paths as the cases resemble the patterns described by Sabel and Zeitlin.¹³ According to recent research, some of the 'backward' weaving districts, *i.e.* districts where the adoption of power loom was delayed, were those whose major concern was product differentiation, giving much attention to subtle differences in the design, colour and feel of cloth.¹⁴ In

¹¹ Minami, Ishi and Makino, *Gijutsu fukyu*.

¹² See, Saito and Tanimoto, *Transformation*. For the adoption of putting-out-like arrangements by the factory with power-looms, see Sasaki, *Sanchi men orimonogyo*. A similar pattern is found in Kiryu, one of the most famous silk textile districts, where putting-out was re-introduced to keep the varieties of products (Hashino, *Meiji koki*). For the efficiency of putting-out as a system in the same district, see Nakabayashi, *Ton'ya-sei*.

¹³ Sabel and Zeitlin, *Historical alternatives*.

¹⁴ Product innovation, especially that of new kind of stripes dyed by new materials is examined

the 1880s when such weaving districts introduced a new dyeing material, aniline, from the West, lack of scientific knowledge and proper methods of its application led to problems of producing low-quality textiles in large quantity (*sosei ranzo*). In response to market signals, those weaving areas took concerted action such as organising themselves as trade associations, imposing tighter quality checks, inviting experts from research institutes in the Ministry of Agriculture and Commerce and other institutions, and setting up training schools in their own district.¹⁵ All this turned mere geographical areas of weaving into structurally coherent ‘industrial districts’ in the Marshallian sense.¹⁶ It also made it possible for those weaving districts to find a way to lead the domestic market by creating new designs and colours without hasty mechanisation.

The case of weaving indicates that recent research by a younger generation of historians has moved away from the stereotypical view of Meiji Japan’s industrial revolution being a creation ‘from above’. It illustrates how issues like industrial organisation, technology and institution ought to be approached and highlights the importance of the industrial district (*sanchi*). While Marshall’s original concept of industrial district was focused on external economies derived from market interactions, recent work tends to stress the institutional aspects that were part of an industrial community. In other words, trade associations, technical institutes, stations and middle schools that the district or local authorities in the district established, currently receive much attention.¹⁷ Also important is the attempt by the district to develop its own

in Uchida, *Narrow cotton stripes, and Tamura, Zairai orimonogyo*.

¹⁵ For the low-quality problems in the textile districts and actions taken by them to solve them problems, see Hashino, *Orimonogyo ni okeru*.

¹⁶ Marshall, *Principles*, book IV, chapter 10.

¹⁷ Early studies that examined the internal structure of cotton weaving *sanchi* from various aspects, are Yamazaki, *Ryo taisenki*, Yamazaki, *Chita men orimonogyo*, and Abé, *Nihon ni*

product identities and brand names common to all the district producers. This does not mean that such industrial districts were free from conflict. There were disagreements between members of the association, which occasionally developed into open confrontations within the district community.¹⁸ Despite such internal conflicts, however, the district bodies played a substantial role in many areas, including technology transfer, training and maintaining skill levels, product innovation, quality control, and marketing brand names.

It is worth reiterating that many middle-level vocational schools had initially been established through private initiatives, but were later transferred to the public sector when the nation's education system took shape. In addition, industrial institutes and stations had been established often by local governments before the central government established the foundations of technical education.¹⁹ As noted above, the central government's ministries were expected to promote the nation's industry and commerce. But they actually did little during the period 1890-1920, except sending government engineers and specialists to local industrial districts and hold exhibitions and fairs (*kangyo hakurankai* and *kyoshinkai*) in order to guide local producers and merchants with respect to new technologies and know-how.²⁰

Given the tendency for the country to run persistent trade deficits, the

okeru. Functions of trade associations in the industrial districts were examined by Matsumoto, Ryotaisen-ki Nihon, and Omori, How local trade associations. For the middle school in the textile district, see Takeuchi, Minami-Tsuru, and Hashino, Orimonogyo ni okeru. A recent study stressing the importance of differences in the district structure in relation to interregional competition is Yomota, Mozo panamabo.

¹⁸ For conflicts within the district, see Yamauchi, Dogyo kumiai, Yamauchi, Communal action. Matsuzaki (Development of a rural weaving industry) places the district community in a broader, social context.

¹⁹ For textile and dyeing schools, see Takeuchi, Minami-Tsuru, and Hashino, Orimonogyo ni okeru. The cases of other traditional industries are found in Toyoda, *Wagakuni Ririku-ki*.

²⁰ For the role of exhibitions and fairs, see Kiyokawa, *Nihon no Keizai Hatten*, chapter 7.

government ministries were also keen to disseminate information about overseas markets, fashions and trends in science and technology, gathered through consular networks in the world, to manufacturers and merchants in all local industrial districts. It is important to realise, therefore, that the role of the government in this period was confined in the areas of what Sugihara called ‘informational infrastructures’.²¹ In addition, any judgement based on the dichotomous ‘state *versus* private sector’ conceptualisation could misinterpret the reality of the day. In various local schemes adopted in this period, the boundaries between central and local governments and between government and private hands were often unclear. What seems clear, however, is that all these attempts were much less costly to the central government compared with the hands-on measures of the early Meiji period.²²

INDUSTRIAL MODERNISATION

Studies in the economic history of ‘modern’ industries in Japan have undergone significant shifts in approach and focus since the 1970s, which may be seen as a consequence of research trends in the study of traditional industries. Since the importance of the industrial district has been emphasised as a player in the development of national as well as regional economies, we will now look at the modern industrial sector in a regional setting.²³

²¹ Sugihara, Keiei hatten.

²² For industrial promotion policy by local governments, especially by Yamanashi prefectural government, see Saito, Chiho reberu, and Saito, Meiji koki.

²³ Needless to say, there are other modern industries which do not fit the following arguments. Important cases are mining, iron and steel, and shipbuilding, in which government and *zaibatsu* involvement was more active. For those, see for example Takeda, *Nihon Sandogyo-shi*, Okazaki, *Nihon no Kogyoka*, and Shimbo, *Kindai Nihon*, part II, chapter 2. For the period after World War I, see Hashimoto, Rise of big business.

Generations ago, it was assumed that any industry in the modern sector was urban in nature, and scholars tended to relate the performance of the modern sector directly to that of the national economy. Recently, however, several case studies have drawn our attention to regional aspects of the histories of individual industries. Indeed, detailed research has been completed on the emergence of local machine manufacturers in various regions. They reveal, for example, that there were local-level interactions between the emergence of small and medium-sized makers of power looms and the afore-mentioned technological advance in the local weaving trade.²⁴ Power looms suitable to mechanical particulars of an individual weaving district were supplied and repaired by such workshops in the neighbourhood areas, a function which must have been indispensable in the mechanisation process of any traditional rural trade. In turn, such machine makers required the infrastructural support from the local economy to allow them to grow. A case in point is Osaka where alongside the large-scale factory sector, a number of small-scale machine manufacturers emerged, for which external economies of technical institutes and middle-level industrial schools were crucial.²⁵ Although it was a typical modern industry in the sense that machine making itself was transplanted from the West, the industry had a two-tiered structure from the beginning. In other words, the lower layer of the industry consisted of a large number of local manufacturers serving local demands for various kinds of machines and tools. In this respect, it is interesting that today's car manufacturing giant Toyota began life as a humble

²⁴ On power-loom makers for the local market, see Minami *et al.*, *Gijutsufukyu*. The growth of small machinery factories in local areas is examined in Suzuki, *Meiji no Kikai*, and Suzuki, *Humble origins*.

²⁵ The case of Osaka is discussed by Sawai, *Role of technical education*. See also Yamazaki, *Ryo taisenki*, Yamazaki, *Chita men orimonogyo*, and Abé, *Nihon ni okeru*, for the cases of textile districts.

loom maker in a local district during the Meiji period.

A second area in which substantial research effort has recently been made is railways. The Marxist and old historical schools considered the railway sector a typical case of 'capitalist development from above'. To be sure, the Meiji government invested a considerable amount of money into this sector with technology borrowed from the West. The expansion of the mileage of trunk railways was made possible by the so-called designated factory scheme. The trunk lines, by linking regional capitals directly with Tokyo, changed the country's transport landscape drastically. Age-old systems of coastal shipping and packhorse transport were replaced by webs of long-distance railway lines supplemented by local road networks. Given such state initiatives, historians tended to frame their discussions in relation to the Marxian thesis of state monopoly capitalism and to fix their empirical attention mostly on the issues centring on the nationalisation of trunk lines in 1907.

In the late 1960s, however, scholars started working on individual railway histories. In sharp contrast with the conventional approach, their focus has been on those constructed by private initiative with much emphasis on the role of the railways in local economies.²⁶ This new line of research involved criticism of then mainstream historiography, and has produced a multiplicity of fine case studies with fresh empirical findings. The emphasis on the local nature of railway building, while involving an inherent tendency to narrowly focused research, has enabled a younger generation of transport historians to re-evaluate the conventional views. They shed new light on relationship between regional railway politics and the investment behaviour of local

²⁶ A case in point of this line of early enquiries is Aoki, Shimotsui Tetsudo.

notables, and on the business strategy and organisational development of railway companies.²⁷ Moreover, new research is now directed to the interrelationships between private concerns and the government and to the close examination of ways in which technology was introduced and disseminated across the industry.²⁸

A third research area is concerned with human resources that contributed to the expansion of the modern sector. Firstly, Odaka's survey of a variety of evidence revealed that craftsmen of traditional origins did play a role in the process of factory industrialisation.²⁹ For example, it was local smiths who acquired skills and know-how for the emerging machinery industry, such as loom making, that allowed the industry to take root firmly in the regions.³⁰ These studies point to some kind of continuity between Meiji-era initiatives and the Tokugawa tradition even in this industry. The suggested Tokugawa-Meiji link has apparent parallels with the role of traditional elements in the evolution of rural industry into the factory industry discussed above. Secondly, there were engineers who emerged as an occupational group for the first time. They were in charge of introducing advanced technology after early Meiji foreign employees had returned home. As higher education in engineering expanded in Japan, their numbers increased and so did their level of knowledge. Research has been done, not just on the technical contributions of engineers, but also their managerial talents, the

²⁷ Oikawa, *Sangyo Kakumei-ki*, and Nakamura, *Nihon Tetsudogyo*. Nakamura (Formation of railway transformation system) has recently pointed out that the importance of the introduction of not only railway technology, but also management systems. For the link between the development of railways and local industries, see Watanabe, Cement industry, and Watanabe, Sangyoka to chiho kigyo.

²⁸ Kato (Tetsudo fusetsu) compared local people's visions and expectations for transport building with the reality they had to realise after its opening. For the development of the railway rolling stock industry, see Sawai, *Nihon Tetsudo*.

²⁹ Odaka, *Shokunin no Sekai*.

³⁰ Suzuki, *Meiji no Kikai Kogyo*, chapter 9.

differentiation of their functions according to their educational attainment, differences in their social mobility patterns, class differences, and the roles they played in individual company histories.³¹

Finally, the cotton spinning and silk reeling industries merit special attention since they were two of the best-performing industries in the modern sector before 1920. The two industries, however, were contrasting cases in one important respect. In the Tokugawa period, cotton spinning did not exist as a separate industry. It was ginned cotton, not yarn that was marketed. Against this background, cotton mills were introduced on the basis of the Western factory system with raw cotton imported from China and India. Takamura explored company records thoroughly, and found that spinning firms actively sought the best-suited advanced technologies, had a strong growth-orientation, and paid special attention to co-ordination with other spinning firms and with government bureaus.³² They were among the first to introduce a joint-stock company form, which helped them to raise funds for expansion in the capital market.

In contrast, silk reeling had long been a rural industry. Raw silk had been reeled by farm women, then collected and sent by merchants to weaving centres. This reeling section of the silk industry transformed itself into a factory industry in the Meiji period, and started supplying standardised silk yarn to American weaving mills that were being rapidly mechanised. Suwa (Nagano prefecture) emerged as its leading centre. The processes by which Suwa manufacturers built up systems of production management,

³¹ Uchida's (*Gijutsu iten*) pioneering work, provided us with the statistics concerning engineers who graduated from state universities and state-owned technical colleges. For graduates from technical schools, Sugayama (1920 *nendai judenki*) and Sawai (*Jukagaku kogyoka*) examined their career paths in the firm and their roles in the production processes.

³² Takamura, *Nihon Bosekigyo-shi*.

work organisation and market transactions, were recently carefully examined by Nakabayashi and Kambayashi. By employing econometric and game-theoretic approaches, both were able to demonstrate how a successful set of appropriate and efficient institutions emerged in Suwa district. In other words, a home-grown modern capitalist system was formed in a rural setting.³³

The outcome of this change in silk reeling had something in common with the pattern of change of the large-scale cotton mills. Both industries took the form of factory industry, but the technological profiles of both industries remained labour-intensive. Kiyokawa argued persuasively that the early adoption of ring frames by Japanese cotton mills was closely associated with the industry's high labour-intensity, while Nakabayashi demonstrated that the interactions between incentive schemes adopted by silk filatures and the work effort of female operatives was the key to Suwa's performance in productivity growth. It should be emphasised, therefore, that Meiji Japan's cotton spinning and silk reeling chose an 'appropriate technology' path.³⁴ Given the weight of the traditional sector that was overwhelmingly labour-using, the overall pattern of Japan's industrialisation up to 1920 was substantially labour-intensive in line with the country's factor endowments. This in turn had important implications for the country's trading pattern in the industrialising global economy.³⁵

WAR-TIME ECONOMIC REFORMS

³³ Kambayashi, Tokyū chingin seido, Nakabayashi, *Kindai Shihonshugi*, and Nakabayashi, Rise of a factory industry.

³⁴ See Kiyokawa, Technology choice, and Nakabayashi, *Kindai Shihonshugi*.

³⁵ Sugihara, Labour-intensive industrialisation. See also Yasuba (Did Japan ever suffer?), which discusses this issue in relation to the country's natural resource endowments.

Since the late 1980s, the research focus of economic historians of modern Japan has shifted to the issues related to economic reforms during the wartime period of 1937-1945 and their longer-term implications. Probably most influential was the 1993 publication of a book of essays on the historical origins of Japan's postwar economy, edited by Okazaki and Okuno-Fujiwara and with contributions mostly from economists. In the introductory chapter, Okazaki put forward a strong argument that the origins of the systemic features observable in Japan's high-growth period after 1960 – such as the 'Japanese-style' firm structure, management practices like seniority wages and life-time employment, the so-called 'main bank' system, active government involvement in industrial policy (especially in the form of MITI's administrative guidance) – were found in institutional frameworks brought in during the early-1940s when the state imposed tight control over the whole economy.³⁶ Noguchi expressed a similar view, although he stressed the regulatory aspects of the wartime regime while Okazaki was more concerned with interactive processes between the government and businesses.³⁷ However, it is clear that their line of argument significantly downplayed the revolutionary nature of postwar reforms. It is no surprise, therefore, that their books invited criticisms from historians. Hashimoto and several others, for example, questioned various interpretations concerning the postwar changes implied by the wartime-postwar continuity thesis, by stressing the importance of the impact of 'Americanisation' on postwar economic institutions.³⁸ This aspect of Okazaki's thesis is likely to be debated further.

³⁶ The English edition was published in 1999. Okazaki and Okuno-Fujiwara, *Japanese Economic System*.

³⁷ Noguchi, *1940 nen Taisei*.

³⁸ See Hashimoto, *Nihon Kigyo*, especially chapter 1.

However, it should be remembered that the Okazaki thesis had an important implication for the study of the period before the wartime regime since, according to his view, a structural break occurred, not at the time of postwar reforms, but when the country was gearing up for a command economy. Okazaki characterised the economic system before 1937 as one closer to a classical, market-led economic regime. He himself contributed a chapter on firms and the question of corporate governance to the book he edited with Okuno-Fujiwara, giving an empirical foundation to his broad thesis. Although there had already been an important macro-economic finding that interwar Japan was essentially a ‘flex-price’ market economy, it was Okazaki’s argument that shed new light on the interpretation of Japan’s economic regime from late-Meiji to the 1930s.⁴⁰

Against this background, Teranishi has recently published a synthesis on the evolution of economic systems in modern Japan. Based on his earlier research on money and capital in the development process since the Meiji Restoration, on Okazaki’s and his own works concerning corporate governance and market workings in the prewar period, and on the empirical studies of other scholars in many related areas, he advances a model of the economic system that is supposed to have been working in the late Meiji and Taisho period of 1900-1930. The system he delineates is diagonally different from that for the postwar high-growth period. The ‘Meiji-Taisho system’, as he puts it, is characterised by a market-led relationship in the government-business dimension and the importance of large shareholders, not of banks, in the area of corporate governance. Among such shareholders were regional merchants and large landlords. They were also

⁴⁰ Sato, *Senkan-ki Nihon*.

involved in one way or another in local banks, railway constructions, and other public utility works. Businesses in the traditional rural sector, therefore, were financed by their banks and benefited from the externalities of their infrastructural investments in the region, hence district and regional socio-political interests carried weight even in the nation's policy making processes.⁴¹

CONCLUSION

Teranishi did not go for the issues in industrial history, but his arguments concerning both government-business relations and the mode of policy making are not inconsistent with the findings in the previous sections of this survey, that the industrial district was a player in the market economy while much of the interaction between traditional and modern industries worked in a regional setting. Indeed, both Teranishi's thesis and our understanding of the history of industry point in the same direction and appear to have a bearing on the question of how the whole economy was structured during much of the prewar period. Our impression is that between the state and the private sector at large was the regional economy, through which money, capital and human resources, on the one hand, and information, guidance and policy demands, on the other, were transmitted and disseminated. In other words, the state of recent research in industrial history seems to suggest that the market-led, industrialising economy of prewar Japan worked through the medium of district- and prefectural-level interactions between political and business interests, as well as between modern and traditional elements in technology, organisation and human resources.

⁴¹ Teranishi, *Nihon no Keizai*, Okazaki, Corporate governance, and Teranishi, Financial system. For the investment behaviour of local leaders, see Tanimoto, Capital accumulation.

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