but his unearthing of the sources, their processing, and presentation. As G. N. Clark once remarked,

> even in the few instances where the answer is in such a form as "Yes" or "No" or "5½ million souls" or "£1,753,000," the most valuable part of the investigation will be not that conclusion but what has been ascertained on the way to it.[31]

The reasonable part of this proposition is clear enough. Yet there is something not wholly satisfactory about the view that the conclusion of an investigation is less valuable than the investigation itself, as if the principal purpose were not to arrive at that conclusion. When the purpose is that of ascertaining some isolated historical statistic, such a view may be acceptable. What, indeed, does it matter whether the population of England and Wales at the beginning of the eighteenth century was five million, six, or 5.5?

The answer is that it acquires considerable significance when historical statistics are combined into a greater perspective of historical change. The three problems of statistical interpretation that have been briefly considered here may in themselves seem trifling, but when the estimates of mortality in medieval Europe are to be fitted into the picture of the evolution of Western mortality and when rates of demographic expansion become cornerstones in interpretations of the economic dynamics of preindustrial growth, it is more important to know the range of confidence of such estimates and the reasons for that confidence. Statistical estimates are not "facts" of history, first to be ascertained and then to be interpreted; the estimation of historical statistics is merely an aspect of historical interpretation.

[31] G. N. Clark, "History and the Social Sciences," in *The Social Sciences: Their Relations in Theory and Teaching*, London, 1936, p. 89.

JAPAN'S TRANSITION TO MODERN ECONOMIC GROWTH, 1868–1885

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> . . . every excess causes a defect; every defect an excess . . . —Ralph Waldo Emerson

Where must an analysis of Japanese industrialization begin? Those countries trying at present to conquer economic backwardness know only too well that it takes time to get started. Decades of preparatory activity may be necessary before modern economic growth (or as we shall sometimes write: MEG[1]) can begin, and much of this activity will have to be outside the range of what is usually termed "economic." From a certain point of view the roots of growth can be extended backwards for centuries. The genesis of modern agriculture may, perhaps, be traceable to early medieval conditions, just as some aspects of the modern factory can be connected to the skills and techniques of organization which evolved in fourteenth century guilds. This somewhat superficial element of continuity is terribly

• I would like to express my deep gratitude, first of all, to Ohkawa Kazushi, habitual and generous collaborator, who has allowed me the use of research materials which will eventually appear in a jointly authored book, now in preparation. Simon Kuznets, David Landes, and Irwin Scheiner read the manuscript, and made many helpful suggestions.

[1] Modern economic growth in its technical sense is a term coined by Simon Kuznets. According to his formulation there are four major characteristics associated with this phenomenon. First, modern economic growth involves the application of modern scientific thought and technology to industry. Second, a country undergoing MEG has a sustained and rapid rise in real product per capita usually combined with high rates of population growth. Third, this type of growth is reflected in rapid rates of transformation of the industrial structure, essentially the movement of workers, capital, and entrepreneurship out of agriculture and into manufacturing and services. Finally, modern economic growth for any one country requires the presence of international contacts—it has never taken place in an area isolated from all outside contacts. See Simon Kuznets, *Six Lectures on Economic Growth,* The Free Press, Glencoe, Illinois, 1959, Lecture I.

bothersome for those whose primary purpose is the study of an industrial revolution. Is it really necessary to move back farther and farther in time in order to appreciate the significant dimensions of a recent and entirely different past?[2] We do not believe so, although we do believe that it is important to determine just how far back it is useful to trace the antecedents of modern economic growth. This function, we hope, can be performed by the concept of "transition."

In our sense, transition has a clear beginning and end. It is defined as that period which elapses between the time when MEG becomes a national objective and the time when MEG begins for the first time. The end of transition can present no particular analytical problems: the four major characteristics of MEG are empirically verifiable. When they can all be identified, transition has ended and MEG has begun. The beginning of transition is best understood in the Japanese context, although the ideas also apply to follower countries in general. A national objective directed towards economic development implies a level of consciousness typical of late industrializers. Usually this goes together with government's playing a vital role in bringing about growth. Vague desires for modernizing the economy can exist for decades and even centuries, but they will not become effective—especially in a relatively backward country—until growth becomes an avowed objective of those who can influence the course of national policy.

In Japan, transition begins with the Meiji Restoration of 1868 and terminates with the end of the Matsukata Deflation in 1885. This essay will therefore describe the history of a lag—that is, the lag between the time when MEG became a national objective and the beginning of MEG, a period of slightly less than twenty years. We will examine the evidence in two ways. First, we shall describe the "given conditions," meaning thereby the state of economy and society existing at the time when the new national objective first appears. Secondly, we must discern how the given conditions were shaped or changed—by public or private action—to bring about modern economic growth itself.

A final preliminary point relates to the use of dates. When we say that transition ends in 1885, what kind of meaning is intended for the specific year? Our aim is the analysis of trends, and especially those elements bringing about a change in the trend. Both in statistical and historical terms, this leads to the use of "smoothed" facts (in history) and numbers (in statistics). As such, each specific year, selected as a turning

[2] "The explanation of the very recent in terms of the remotest past, naturally attractive to men who have made of this past their chief subject of research, has sometimes dominated our studies to the point of a hypnosis. In its most characteristic aspect, this idol of the historian tribe may be called the obsession with origins." Marc Bloch, *The Historian's Craft,* trans. Peter Putnam, Vintage Books, New York, 1964, p. 29.

point, is both an average and an abstraction, representing a clustering of forces at that point. Therefore it is best to think of a selected point in time as representing a range of approximately plus or minus a few years.

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Japan's economy in 1868 was relatively backward. No one will dispute this statement, perhaps because of its emptiness. A somewhat closer look may reduce the general level of agreement, at the same time that it enlarges the contents of our assertion. We wish to understand the givens for the economy at the time of the Restoration, but with what facet of the economy should we be concerned? We have chosen those variables which we know to be important in later years: per capita product, population growth, industrial structure, science and technology, and international contacts.

Real Product Per Capita and Population Growth

It is difficult to make precise quantitative statements about the Japanese economy during the 1860's. This is especially true if interest centers on national information. National income figures begin only in 1878, and the reliability of the earlier estimates is debatable. Population figures present similar problems: Japan's first modern population census was taken only in 1920. Nevertheless, let us begin with such information as is available and then attempt inferences about the unknown.

We may start with the level of real product per capita. Since reports for the period before 1878 are not available on a yearly basis, we begin by using a three-year average (1878–1880) in order to have a benchmark against which fragmentary evidence can be matched. At that time, the gainfully employed population was distributed as follows:[3]

	Agriculture	*Manufacturing*	*Services*
1878–1880	83%	5%	12%

This working population produced a gross national product according to these sectoral divisions:[4]

	Agriculture	*Manufacturing*	*Services*
1878–1880	65%	9%	26%

[3] Computed from Ohkawa Kazushi and Others, *The Growth Rate of the Japanese Economy Since 1878,* Kinokuniya Bookstore Co., Ltd., Tokyo, 1957, p. 145. These figures undoubtedly overstate the agricultural population. A gainfully employed proportion in agriculture of approximately 79 per cent seems closer to reality.

[4] Gross product estimates from Ohkawa Kazushi and Akasaka Keiko, "Kobetsu suikei no sōgōka" (Survey of Individual National Income Components), Hitotsubashi University, Institute of Economic Research, Rockefeller Project Preliminary Report Number D11. (Hereafter cited as Hitotsubashi D11.)

For the same period, average GDP was ¥627 million (current prices) while total population approximated 36.6 million, resulting in a per capita product of ¥18.7 (Per capita net national product was ¥16.5.) There is a strong temptation to convert this figure into present value. If this were possible, and if the results for other countries were accurate, we would be able to compare quantitatively preindustrial Japan with present-day underdeveloped areas. But this step is inadvisable on at least two counts: the index number problem precludes the historical conversion, and the ordinary techniques using exchange rates for international comparison yield equally misleading answers.

Early national income figures can be used to obtain an approximation of the sectoral productivity structure. Based on gainfully employed population these results appear for 1878–1880:[5]

	Agriculture	*Manufacturing*	*Services*	*Total*
Product per gainfully occupied person—current ¥	26.0	59.0	70.0	33.0
Relative product	79	179	213	100

These answers undoubtedly understate the labor productivity of agriculture, because many persons who were counted as gainfully employed on the land were actually employed in other sectors on a part-time basis. In spite of this, the relative productivity ordering can be safely assumed to be correct.

All this, however, does not bring us very much closer to the two major questions which should be answered: what was the level of per capita product in the 1860's (preferably at the time of the Restoration) and what was its rate of increase? Economic historians generally agree that the 1860's "was a decade of political and social dislocation in which the traditional economy was not functioning normally";[6] the economic level of that period probably lay below that of the 1850's. During these years Japan was just in the process of joining, *for the first time,* the community of nations. Some foreign representation had already arrived to watch the spectacle of the old order disintegrating. A variety of factions were struggling for power, and uncertainty must be the most descriptive word for the situation. The shogunate was uncertain about what policies might most effectively counter both foreign threats and domestic discontent; the imperial court was uncertain about where to exercise its limited influence; the opposition—mostly samurai—was split, rallying behind now one slogan and then another. Economic relations could not remain unaffected—especially in an economy where authorities had traditionally exacted adherence to numerous rules and regulations. Peasants, merchants, and craftsmen could not but have a confused and anxious picture of the future. Some practiced economic caution and retrenchment; others engaged in reckless speculation, egged on by unscrupulous foreign merchants. The net effect on national income was almost certainly a decline in the 1860's—compared with either the early 1850's or late 1870's.[7]

[5] *Ibid.*

[6] E. S. Crawcour, "The Tokugawa Heritage," to appear in W. W. Lockwood (ed.), *The State and Economic Enterprise in Modern Japan,* Princeton University Press, Princeton, 1965.

Recently, E. S. Crawcour prepared an estimate of the average level of national income for Japan during the 1860's—he made no attempt to calculate yearly figures. These calculations necessarily involved heroic assumptions and indirect procedures, some more valid than others, and, as Crawcour admits without hesitation, the numbers cannot be very reliable. (Needless to say, we share some of these feelings as far as our own numbers go for the period 1878–1880.) He finds that national income (NNP) averaged between ¥383 and ¥418 million per year, whereas per capita income was between ¥13 and ¥14, all stated in 1878–1880 prices.[8] Let us, for the sake of argument, accept these estimates. What do they show? Assuming that these averages hold for 1860 and measuring the twenty-year period until 1880, one may say that per capita income before or at the time of the Restoration was rising at between 1.25 to 1.5 per cent per year, while national income was increasing at between 2 (minimum assumption) to 4 per cent (maximum assumption) per year. This is certainly a shallow and misleading interpretation.[9] The 1860's were a trough and cannot be used as a base from which to measure trend values. If we could measure income growth from the 1850's to 1880, the rates would have been a good deal lower. Moreover, once MEG begins, in the 1880's, even the upward-biased rates of the 1860's appear low. For example, toward the end of the 1880's and during the 1890's per capita product was rising at 3.1 per cent per year; between 1905 and World War I the rate rose to 4.8 per cent per year.[10]

We conclude that when the Restoration occurred per capita product was not rising at a rapid rate—with "rapid" understood in the comparative context of modern economic growth. Of course, there were in Japan at that time both rich people and relatively rich and advanced sections of the country. Nevertheless, the Japanese economy of 1868 was still typified

[7] Some official pronouncements, written at a later date, support this view. See, for example, Japan, Ministry of Agriculture and Forestry, *Kōgyō iken* (A Survey of Industries), 1933. This report was originally written in 1884, and in a great many places stresses the disorganization and economic distress of the 1860's.

[8] Crawcour, *loc. cit.*

[9] An interpretation implicitly condemned by Crawcour.

[10] See Ohkawa Kazushi and Henry Rosovsky, "A Century of Japanese Economic Growth," to appear in Lockwood (ed.), *op. cit.,* Statistical Appendix, Table 1.

by the small peasant cultivator working in many cases only slightly above subsistence levels. An impressive secular increase in the growth rate of national product per capita required significant improvements in *average* agricultural practice and the introduction of new industries. All this came only after 1868. It may well be true that in the 1860's—and perhaps as early as the 1830's and 1840's—we can see some of the "preliminary stirrings"[11] contributing to the eventual achievement of MEG. But, as has been pointed out earlier, the search for preliminary stirrings is likely to be endless.

Findings pertaining to population tend to support these views. Our knowledge about the demographic aspects of early modern Japan are a bit more detailed, and also reach back farther in time. Irene Taeuber's book, *The Population of Japan*,[12] has proven particularly useful at this juncture, and her conclusions have been adopted without modification. She based her findings on the work of Japanese demographers, such as Morita and Tachi,[13] and general agreement seems to prevail among the principal investigators.

According to Mrs. Taeuber, in 1852 the total population of Japan was somewhere between 29.4 and 32 million. A report for 1872 suggests a level of 34.8 million. "Thus the increase of population in these two decades of transition from seclusion to the modern era may have amounted to less than 10%; it certainly did not reach 20%."[14] In other words, population growth was rather slow. It is generally believed that the Japanese population began to grow again in the early 19th century—after nearly a century of stability—". . . but there is no conclusive evidence that the rate of increase quickened in the early decades after the opening to the West."[15] Mrs. Taeuber believes that in the 1870's rates of increase were of the order of ¾ of 1 per cent per year; no one would be disposed to call this an especially high rate of population growth.

Information concerning vital rates, if properly interpreted, supports the findings about total population. Mortality in 1868 must have been high, although it may have been slightly declining. The decline can be explained by an improved food supply, access to external markets, and the decreasing incidence of epidemic and endemic diseases. Contact with the West did bring new diseases such as cholera and bubonic plague, but public health programs were adopted early and probably more than counterbalanced these adverse influences.

[11] An excellent phrase originally used by Crawcour in a preliminary version of the article cited above.

[12] Princeton University Press, Princeton, 1958.

[13] *Ibid.*, p. 395ff.

[14] *Ibid.*, p. 44.

[15] *Ibid.*

In the 1860's population was growing slowly while the level of mortality remained high. This must have required high fertility, and Mrs. Taeuber suggests that a rate of 40 per 1000 is plausible. She concludes that in Japan early and sustained declines in mortality were followed by declines in fertility (in the twentieth century), with a consequent increase in the rate of growth of population during MEG. There is thus nothing particularly unusual about Japan's demographic transition, other than the possible impact of the cessation of infanticide. This manner of fertility control may have been more extensive in premodern Japan than in other Asian cultures, and the initial result of Western contact and consequent abandonment of *mabiki* (a Japanese euphemism for infanticide) could have precipitated a slight rise in fertility. No one really knows—but we do know that the balance of demographic changes was "normal."

Industrial Structure

What was the industrial structure of Japan when MEG became an objective of national policy? Once again the lack of sufficiently early macroeconomic series precludes direct answers. Perhaps the first bit of relevant information dates from 1874, with the publication of *Meiji shichinen fu-ken bussanhyō* (Prefectural Production in 1874), an official government survey designed to ascertain the national level of production. Experts believe that the results of this survey were quite accurate, and the *bussanhyō* combined with other fragmentary data yield a fairly detailed picture of the productive structure before industrialization began.[16]

According to the *bussanhyō*, the value of total gross output—*excluding services*—is divided into three categories:[17]

Value of agricultural output	62.0%
Value of manufactured output	30.3%
Value of "other" (*genshi*) output	7.4%
	99.7%

[16] We have relied on the interpretation of *bussanhyō* prepared by Yamaguchi Kazuo. See his *Meiji zenki keizai no bunseki* (An Analysis of the Early Meiji Economy), Tokyo Daigaku shuppankai, Tokyo, 1956, Ch. 1.

[17] *Ibid.*, p. 5. These percentages differ very slightly from Yamaguchi's results. See p. 18. At first glance these figures may appear completely inconsistent with the previously cited national income figures for the late 1870's. In the *bussanhyō* agricultural output is only about twice as large in value terms as manufacturing, whereas in the national income figures agriculture is over six times larger. However, it must be remembered that *bussanhyō* deals in gross value, whereas the GDP figures show only value added. Under realistic value-added assumptions the inconsistencies would be largely eliminated. See Ohkawa, *The Growth Rate of the Japanese Economy*, where the following net income ratios are indicated for the late 1870's: agriculture, 88 per cent (p. 62); factory manufacturing 25–27 per cent (p. 87); domestic manufacturing 60 per cent (p. 90). Also, see Crawcour, *loc. cit.*

TABLE 1. 1874: Value of Agricultural Products (%)

Rice	62.8
Wheat and barley	11.0
Soy beans	3.3
Other cereals	3.8
Potatoes and vegetables	5.1
Fruits	1.0
Special (*tokushu*) crops[a]	12.3
Others	0.7
	100.0

[a] Special crops are largely cash crops, such as cotton, silkworms, indigo, tobacco, etc. Among the other crops there was, of course, also a certain proportion of cash crops.

Source: Yamaguchi Kazuo, *Meiji zenki keizai no bunseki*, p. 6.

To eliminate one possible ambiguity at the outset, it must be understood that with the exception of mining, "other" or *genshi* output is largely agricultural or agriculture-related. "Other" is divided into these subcategories:[18]

Value of wood and wood products	53.5%
Value of marine products	26.6%
Value of mining products	14.0%
Value of animal products	3.7%
Total	97.8%

It is therefore correct to say that roughly 70 per cent of gross physical production was what is usually termed primary.

The distribution of major crops is shown in Table 1, and it contains few surprises. Rice was overwhelmingly important in agriculture, and consequently also in the general economy: it accounted for about 38 per cent of the value of all nonservice output.

With the *bussanhyō* of 1874 it is also possible to get a breakdown of manufacturing values as shown in Table 2. We are dealing here with a rather typical premodern manufacturing pattern, and only a few points require explicit comment. Textiles and food together accounted for over 70 per cent of total manufacturing output. Items classified under heading

[18] Yamaguchi, *op. cit.*, Yamaguchi's calculations have been corrected with respect to animal products, because stock instead of flow values were used. Yamaguchi's original percentages are: Wood and wood products, 44.1 per cent; Marine products, 22.1 per cent; Mining products, 11.5 per cent; Animal products, 22.7 per cent.

VII—here called "capital equipment"—carry only moderate weight. The two most important manufactured items were the production of cloth and the brewing or distillation of alcoholic beverages (mostly *sake*). Cloth accounted for 15.5 per cent of all manufactured products and for 4 per cent of all physical output; alcoholic beverages were 16.8 per cent of manufacturing and 5 per cent of physical output. In fact, these two commodities ranked in importance immediately after rice, barley, and wheat. Among types of textiles, cotton goods led by wide margin (63.3 per cent), followed by silk (26.7 per cent), mixed cottons and silks (8.0 per cent), and linen and others (2.0 per cent).

Very little of this production took place in factories or even in sizable manufactories. In 1874 the typical enterprise was small, used little wage labor, and frequently represented a form of rural by-employment.

TABLE 2. 1874: Structure of Manufacturing Output

I. Textiles 27.7%	V. Utensils 7.7%
Cloth	Ceramics
Dyed products	Lacquer ware
Ready-made clothes	Cabinets
Raw silk	Wooden utensils
Silk wadding	Boxes
Cotton thread	Tubs
Footwear	Metal containers
II. Food Products 41.9%	Reed and bamboo products
Alcoholic beverages	Misc. items and toys
Shōyu (soy sauce)	Grass products
Miso (bean paste)	VI. Paper Products 5.2%
Manufactured tea	Paper
Salt	Stationery
Sugar	Books and printing
Other foods	Ink and paints
Other beverages	VII. Capital Equipment 5.9%
III. House Accessories 1.7%	Misc. machinery and tools
Mats	Fertilizer
shoji screens	Ships
IV. Lamp Oil and Candles 6.3%	Nets
	VIII. Medicines, etc. 3.6%
	Medicines
	Drugs
	Cosmetics
	Others

Source: Yamaguchi, *Meiji zenki keizei no bunseki*, p. 14.

TABLE 3. 1873 & 1875: Breakdown of Gainfully Occupied Population

Occupation	1873		1875	
	No. of Workers	%	No. of Workers	%
Agriculture	15,320,367	77.97	15,656,621	77.20
Manufacturing	688,964	3.55	748,596	3.70
Commerce	1,289,070	6.56	1,357,956	6.70
Misc. work	1,805,180	9.19	1,922,380	9.50
Fishing	3,558	0.01	27,206	0.01
Servants	445,242	2.26	417,534	2.00
Govt. officials	19,658	0.10	32,237	0.16
Priests	5,522	0.02	12,703	0.06
Soldiers	27,248	0.13	54,740	0.27
Teachers	8,565	0.04	12,141	0.06
Doctors	24,918	0.12	33,849	0.16

Source: Yamaguchi Kazuo, "Meiji jūnen-dai no shokugyōbetsu kaisōbetsu jinkō kōsei" (Occupation and Class Structure of the Population during the Second Decade of the Meiji Era), *Keizaigaku kenkyū*, No. 13, p. 36.

There were some notable exceptions such as the mechanical silk-reeling mills belonging to Matsudaira and Ōno, or the government mill at Tomioka, and the Satsuma mechanized cotton-spinning mill at Sakai—all founded before 1874. None of this, however, represented the average picture. This is borne out by the geographical distribution of manufacturing.

Both cloth weaving and especially *sake* brewing, the two most important industrial products, were widely distributed throughout the entire country, implying small units of production.[19]

Bussanhyō contains no information about tertiary production, and knowledge concerning this sector remains sparse well into the 1930's. Nevertheless, there may be some value in citing the results of one of the earliest breakdowns of the gainfully occupied labor force. For this we refer to Table 3, originally compiled by Hirano Gitarō for the years 1873 and 1875. His results are not above suspicion. The method by which the classification was obtained is unknown, and obvious errors are present. How else can one explain the ninefold increase in the number of fishermen

[19] What Paul Mantoux said about Great Britain before the Industrial Revolution seems to apply also to Japan in the 1870's: "One thing strikes us at once, namely, the great number of industrial centres and their dispersion, or rather their diffusion, over the whole country. The fact is more striking for us as nowadays, under the factory system, the opposite is the case. Each industry is highly centralized and controls a limited area in which its productive power is concentrated." *The Industrial Revolution in the Eighteenth Century*, Jonathan Cape, London, 1955, p. 49.

in two years? No doubt there must also have been unsatisfactory reporting of part-time and domestic occupations. During the Tokugawa and early Meiji periods, for example, fishing was primarily a local occupation in which home consumption was prominent. Consequently in both the *bussanhyō* and the Hirano survey this rather important economic activity does not pull its proper weight. And yet, for the most part, these figures are reasonable. They are consistent with the earliest national income estimates showing 12 per cent of the gainfully occupied population engaged in services. They are also consistent with the general economic level of Japan at that time: an overwhelming majority of farmers, relatively small numbers in manufacturing and commerce and government, and a rather large number of servants. One word of caution about the doctors: they were practicing non-Western medicine.

All this pertains to the first half of the 1870's. Was it any different in the 1860's or 1850's? Most probably not. Crawcour's estimates of the structure of national income in the 1860's (divided into agriculture, manufacturing, and services) tallies almost exactly with the results for the late 1870's.[20] There is no evidence which suggests that the industrial structure was changing rapidly any time before the 1880's. An economy whose agriculture remained heavily concentrated on rice growing, and whose industries were largely handicrafts catering to local needs—this remains an accurate description for the century preceding MEG.

None of this, however, should leave the impression that the Japanese economy was in a state of stagnation during the last hundred years of Tokugawa rule. Economic growth (to be sure not *modern*) could and was occurring—the opinions of many Japanese Marxists notwithstanding—and even though rates of progress were low, over long periods they cumulated into significant achievements. Recently, some economic historians have been impressed with the magnitude of changes in the first half of the nineteenth century. A number of factors are frequently discussed in this connection: growth of output in agriculture, commercialization of agriculture, diffusion of traditional industries, and the establishment by certain *han* (clans) of some Western industries. All these factors were present, but there remains room for differences of emphasis and interpretation.

Take the problems related to agriculture. Two of the most prominent Western students of Japanese history have, of late, suggested a revisionist point of view. T. C. Smith in his *Agrarian Origins of Modern Japan*[21] showed that the agriculture of certain regions became more productive during the late Tokugawa era. He cannot show similar increases in the

[20] Crawcour, *op. cit.*, Table 2.

[21] Stanford University Press, Stanford, 1959.

TABLE 4. Proportion of Crops Marketed in the Early 1870's (%)

Rice	15–20
Coarse grains, beans, potatoes	5–10
Industrial crops	80–90
Vegetables	20–30
Fruit	20–30
Total (All crops)	25–31

Source: Yamaguchi, *Meiji zenki keizai no bunseki*, p. 42.

national averages because adequate statistics are not available. There may be, and in our opinion there were, significant differences between regions and national averages, and these differences must be taken into account; they form areas for potential development. The same sort of problem comes up in connection with commercialization of agriculture. Crawcour feels that in the 1860's agriculture over most of Japan was basically commercial, that is, that the bulk of farm produce was grown for a market rather than for consumption by the cultivator.[22] This raises many questions. How do we properly define the commercial proportion of agriculture? This is not an unimportant consideration in Japan where the peasant, under the Tokugawa, had to deliver an average of 30–40 per cent of his rice crop in the form of taxes in kind to the daimyo. To be sure, a great deal of tax rice eventually reached the market because daimyo and samurai sold it to obtain cash, but from the point of view of the peasant this was not rice grown for commercial purposes. After all, if the grower had had a choice, he might have himself consumed a great proportion of the tax rice. Yamaguchi's calculations, shown in Table 4, which exclude tax rice from the commercialized segment, do not give a picture of an agriculture in which the bulk of produce reached the market. Most important, however, is the matter of regional differences. Unquestionably there were regions in the first half of the 19th century in which commercial agriculture predominated, such as Kinai and Tōsan. Just as clearly there were regions, perhaps larger in number, where subsistence farming was average practice, such as Kyushu, Shikoku, and Hokuriku. We need only point out that at present, long after World War II, about 75 per cent of agricultural output reaches the market, and this should place the premodern period in perspective.[23]

[22] "It seems safe to say that in Japanese agriculture as a whole over half and probably nearer two-thirds of output was marketed in one form or another [during the 1860's]." This *includes* tax rice. Crawcour, *op. cit.*

[23] "The rate of commercialization of agricultural products rose from 62 per cent in 1952 to 75 per cent in 1960." Ogura Takekazu (ed.), *Agricultural Development in Modern Japan*, Japan FAO Association, Tokyo, 1963, p. 93.

Turning now to the diffusion of industry, a few more lines from another Crawcour article are appropriate:

> Industry had become widely diffused throughout most of Japan by the mid-19th century. This diffusion rather than any great technological progress was the main feature of industrial development in traditional Japan. At the beginning of the Tokugawa period in the early 17th century, when the mass of the population still lived by subsistence farming and demand for most industrial products was practically confined to aristocrats and feudal courts, industry was mostly of the craft type and existed only in a few centres such as Kyoto, and the castle towns. By the mid-19th century, however, industries, once the jealously guarded preserve of groups of craftsmen under imperial or feudal patronage had spread widely through towns and villages over most of the country. This spread was closely connected with the spread of the commercial economy.[24]

To a certain extent, this "diffusion" is analogous to the undermining of craft guilds in Europe, and the rise of cottage industry and the putting-out system.[25] In effect, it supports the notion of increased rural by-employments, also noticed by Smith and Japanese observers. It is evidence of changes in methods of production, but not of a transformation of the industrial structure.

Some scholars have attributed considerable importance to the establishment of Western industries by a few *han*. Since these were frequently connected with a desire to produce armaments, Norman went so far as to suggest that the "normal" pattern for an industrial revolution was reversed in Japan, with heavy industry preceding the development of light industry.[26] Smith takes a more temperate view:

> . . . the Meiji Government owed much to the Tokugawa and *han* governments. It was not obliged to begin the process of industrialization from scratch. When the new government took power, it was already the prospective heir to several iron foundries and numerous scattered furnaces for smelting iron ore, a mechanized spinning mill, an important coal mine, scattered facilities for shipbuilding and repair, and a modest but substantial merchant marine. Not the least benefit of its inheritance was a group of persons who had acquired invaluable technical and managerial experience in starting these enterprises and upon whom it could draw for help. Thus by the end of the Tokugawa period

[24] E. S. Crawcour, "The Japanese Economy on the Eve of Modernization," *The Journal of the Oriental Society of Australia*, Vol. 2, No. 1 (June 1963), 37.

[25] See David S. Landes, "Technological Change and Industrial Development in Western Europe, 1750–1914," *Cambridge Economic History*, Vol. VI, Cambridge University Press, Cambridge, 1964, pp. 276–278.

[26] E. Herbert Norman, *Japan's Emergence as a Modern State*, Institute of Pacific Relations, New York, 1940, pp. 125–126. Alexander Gerschenkron has suggested a similar pattern of development for Germany and Russia. But conditions in these countries—especially as they pertain to the labor supply—were very different. See *Economic Backwardness in Historical Perspective*, Harvard University Press, Cambridge, Mass., 1962, Ch. I.

the first and in some ways most difficult step in industrialization had already been taken, that of overcoming inertia and making a start.[27]

No one will deny that these developments could have had an influence on subsequent growth, and Smith in emphasizing the training of even a few future leaders has placed the issue in the proper context. At the same time, isolated islands of modernity existed and exist in most backward countries; these should not be confused with the beginnings of an industrial revolution, the error made by Norman. A few spinning mills and iron foundries cannot be said to change the industrial structure of a country with a population of some 30 million people.

We conclude that in 1868 the industrial structure of Japan was not undergoing rapid transformation. There were changes, but their pace was slow and their impact highly limited.

Relation of Modern Scientific Thought and Technology to Industry

In the 1860's there was almost no modern technology or industry in Japan; consequently, modern scientific thought could not possibly have been involved in most of the productive process. Modern education and technology started to develop in earnest only in the 1870's and thereafter, and yet things are not quite so simple as that. Let us cite another couple of sentences from Smith: "Industrialization began earlier and proceeded more rapidly in Japan than elsewhere in the Far East. One of the reasons for this was that knowledge of the West, and particularly its technology, was more advanced in Japan than elsewhere almost from the beginning of Western intercourse."[28] Smith stresses the level of Dutch Studies (*rangaku*) spearheaded mainly by some of the largest *han:* Satsuma, Chōshū, Saga, Tōsa, and Mito. He notes that some of the schools in the early nineteenth century had surprisingly wide curricula, sometimes including astronomy, geography, physics, metallurgy, English, German, French, and Russian—in addition to Dutch. Smith also observes that some schools even operated laboratories with experiments in photography, cotton spinning, sugar refining, the plating of metals, and the manufacturing of acids, alcohol and glass. A few of the laboratories also built experimental models of reverberatory furnaces, steamships, and telegraph systems.

Our inclinations would be to discount these developments rather heavily as far as their relation to MEG is concerned. The examples are isolated, and while they may testify to considerable intellectual ferment within an extremely restricted sphere of society, this is not the stuff of which industrial revolutions are made. It would be almost like saying that

[27] Thomas C. Smith, *Political Change and Industrial Development in Japan: Government Enterprise, 1868–1880,* Stanford University Press, Stanford, 1955, p. 12.

[28] *Ibid.,* p. 1.

Leonardo da Vinci's experiments were a sign of the beginnings of the industrial revolution!

Even if the *han* factories and laboratories were of limited impact there existed an element of much larger importance in late Tokugawa society—namely the level or stock of education. This was a "given" for the new regime, and may have played a vital role in the eventual adoption of modern scientific thought and technology. There are, in fact, many reasons for believing that Japan's stock of education—and human capital—was unusual by international standards.

The British sociologist R. P. Dore has examined some of these questions in a recent paper entitled "The Legacy of Tokugawa Education."[29] His opening sentences provide the theme: "Japan, we are frequently told in these days of growing punditry on the course and causes of economic development, is 'different.' And there is by now a growing awareness that one of the ways it differs from most other late-developing countries is in starting its career of forced-pace modernization with a widespread and well-developed tradition of formal institutionalized education."[30] One must ask questions both about the kind and amount of formal education that went on in premodern Japan. Dore believes that at the end of the Tokugawa era every samurai was capable of reading and writing his own language and most of them knew some Chinese as well. Public provision for formal education was limited to the samurai class, but the lower orders, still according to Dore, provided very well for themselves.

> In the towns a good proportion of the population could read and write Japanese. Parents bought such education for their children, voluntarily and with hard cash, from teachers who derived their total income from fees. In country districts, paternally disposed richer villagers did a great deal to supplement the operations of an otherwise private-enterprise system. At a very rough estimate it would seem that by the time of the Restoration forty to fifty per cent of all Japanese boys, and perhaps fifteen per cent of girls were getting some formal schooling outside their homes.[31]

If these estimates are to be accepted, they suggest a spread of literacy greater than in most currently underdeveloped countries, and greater than in any European country at a comparable stage of development, with the exception of Holland and Prussia. Certainly England and France were quite far behind.

There are independent estimates which tend to confirm Dore's conclu

[29] In Marius B. Jansen (ed.), *Changing Japanese Attitudes Toward Modernization,* Princeton University Press, Princeton, 1965, Ch. iii. By the same author, see also *Tokugawa Education,* University of California Press, Berkeley, 1965, Ch. x. Also Herbert Passin, "Education and Economic Growth in Japan, 1850–1912" (mimeo.).

[30] Cited, with permission, from a preliminary version of Dore's paper.

[31] *Ibid.*

sions.[32] Late Tokugawa Japan had five major types of schools, with different functions and aims. Most important by far were the *terakoya* (Buddhist temple schools) operated on a private pay-as-you-go basis mainly for the benefit of commoners. The curriculum was normally confined to the local version of the three R's, and the period of attendance ran from three to seven years. (Women were not excluded, and samurai children sometimes attended.) In 1868 there were 12,000 to 13,000 *terakoya* with a total enrollment of 837,000 pupils. (Slightly more than 21 per cent of the students were women.)

A second type of school were the *hankō* or *han* schools. These had, in about 1868, about 85,000 pupils, mostly members of the *bushi* or samurai[33] class, although commoners were not always entirely excluded. (In fact, very few commoners attended.) *Hankō* were operated with public funds, and were designed to give an education to the upper classes. They were institutions of a somewhat higher level, and stressed subjects beyond the three R's: martial arts, Confucian learning, and sometimes even "modern" subjects. Some *han* made use of local *terakoya* and then transferred *bushi* pupils to *hankō* for purposes of higher education. Others forbade *bushi* children to enter *terakoya* and thus the *hankō* became more inclusive schools. Richer *han* had more children in school—this correlation is quite clear.

Some *han* also operated so-called *gōgaku*—really rural-based schools, specializing in secondary education and designed to be a bridge between *terakoya* and *hankō*. These, at the same time period, enrolled about 42,000 pupils.

There were also *shijuku*—private schools of higher education—with an enrollment of 107,000 and *bakufu* schools with about 70,000 pupils. What these particular schools really represented is hard to say. The former were forerunners of some of Japan's leading private universities, and the latter were irregular schools and a kind of adult education or indoctrination program operated by the shogunate.

Altogether, the totals for 1868 looked like this:

Terakoya	837,000 pupils
Hankō	85,000 "
Gōgaku	42,000 "
Shijuku	107,000 "
Bakufu gakkō	70,000 "

Total: 1,141,000 students in some sort of formal school.

[32] Sano Yōko and Hasegawa Tsuneo, "Estimated Number of Pupils in All Japan, 1864–1867 and 1868–1870" (Unpublished research report of the Keio University Institute of Industrial Relations).

[33] The term *bushi* is a synonym for samurai. Japanese historians generally prefer the former term.

These estimates are consistent with Dore's opinion that 40–50 per cent of the boys and 15 per cent of the girls received some formal schooling. Let us assume that the total population in 1868 was 34 million. For that time we do not know the age distribution—this information becomes available only in 1920. In 1920, 12.25 per cent of the total population was in the 5 to 9 age group (12.4 per cent of the men, and 12.1 per cent of the women). During the late Tokugawa this age group must have accounted for the bulk of school attendance because of the overwhelming importance of *terakoya*. If we apply the 1920 age distribution to 1868, the result is 4 million people in the age group 5 to 9—approximately 2 million males and 2 million females. Fifty per cent of the males and 15 per cent of the females would be slightly above our calculation of national school attendance. Given the nature of these "guesses," however, the correspondence is close enough.

The amount of formal education is one thing; the kind of formal education is another matter. We may take it for granted that the bulk of education concentrated on imparting the simplest skills—a minimum level of literacy. Higher education was characterized by excessive formalism in the form of memorization of Chinese classics, although sometimes modern subjects were taught. What good can this stock of education do for a country seeking economic growth? In this connection, Dore makes four points.

About the general impact of formal education, he says: "The picture was patchy; feudal separatism had produced wide regional differences in the spread of education and the prevailing enthusiasm for it. But the exceptional thing, compared with other societies at a comparable stage of economic development, is that the average level was so high. The ideological transition to an ambitious knowledge-seeking and qualification-seeking society had not only begun; it was well under way."[34] In other words, the rather widespread system of formal education ensured a positive attitude towards the process of deliberately acquiring new knowledge and also helped instill in the minds of most citizens the possibility of individual and national improvement.

Secondly, the content of samurai (leader) education had frequently moved out of the rut of Chinese learning.

Thirdly, the previous spread of education—together with its moral basis—made the concept of universal elementary education speedily acceptable in Japan. (In many countries this was not the case.[35]) By moral basis is meant the Confucian notion of acquiring "virtue" through education—in essence, in order to understand one's station in life. This was equally important for all orders of society.

[34] Dore, "The Legacy of Tokugawa Education," p. 102.

[35] Dore, *Tokugawa Education*, pp. 297–298.

And finally, Dore presents the following intriguing idea:

> Whatever might be said about its effects on curiosity . . . , the traditional education may have prepared its products for the acceptance of new knowledge in another way . . . . Had the Tokugawa schools been mainly concerned to "teach people to think", had they encouraged the free play of ideas between teacher and pupil on a footing of near equality, there might have been many more steamships whose boilers were ruined by men who thought they could run them by the light of pure reason before they got instructions in how to keep them filled with water.[36]

That is to say, in a backward country, discipline and docility may be more important than creativity, *when technology can be imported!*[37]

No doubt all of the assets described above helped in the eventual achievement of MEG. In 1868, however, they were largely potential forces.

International Contacts

> There is a saying that when one is besieged in a castle, to raise the drawbridge is to imprison oneself and make it impossible to hold out indefinitely; and again, that when opposing forces face each other across a river, victory is obtained by that which crosses the river and attacks. It seems clear throughout history that he who takes action is in a position to advance, while he who remains inactive must retreat. Even though the Shogun's ancestors set up seclusion laws, they left the Dutch and the Chinese to act as a bridge [to the outside world]. Might this bridge not now be of advantage to us in handling foreign affairs, providing us with the means whereby we may for a time avert the outbreak of hostilities and then, after some time has elapsed, gain a complete victory?

These are the words of the Lord of Hikone, Ii Naosuke, written in 1853.[38] In the perspective of the long run, the senior councilor of the shogun made a great deal of sense, but for the next twenty years or so reestablished international contacts were to bring their share of grief to Japan. A bridge can be used for coming and going, and the arrival of the foreigner in Japan—especially after an absence of over 200 years—upset well-established political and economic routine in no small way.

Of all the attributes of MEG which have been considered, only the presence of international contacts was fully developed by the time of the Restoration. Commodore Perry arrived in 1853, and returned the next year to sign the Treaty of Kanagawa. This led to the establishment of an American consulate general in 1856, headed by Townsend Harris, followed by the United States-Japan Commercial Treaty of 1858. Similar arrangements were made with Great Britain, Russia, France and the

[36] Dore, "The Legacy of Tokugawa Education," pp. 109–110.

[37] An idea not infrequently stressed by Gerschenkron; see *op. cit.*, Ch. i.

[38] Cited in W. G. Beasley, *Selected Documents on Japanese Foreign Policy*, Oxford University Press, London, 1955, p. 117.

Netherlands. Foreigners were given the right to set up missions, to trade in certain specified ports, and were given extraterritorial protection. In addition, by arrangements concluded in 1865, Japan's power to levy tariffs was restricted: import duties could be no higher than 5 per cent ad valorem.

Diplomatic and economic arrangements were concluded during the 1850's. Trade and other economic activities began at the very end of that decade, but did not reach moderately sizable quantities until the 1860's. (For example, in 1859, total commodity exports and imports out of the three major trading ports—Yokohama, Nagasaki, and Hakodate—amounted to 1.9 million dollars. In 1867 the figure was 29.6 million dollars.[39]) It is very difficult to give a brief assessment of the immediate economic consequences of an open Japan. As seen with Japanese eyes, it must have been a mixed blessing. On the positive side, the leaders of Japan—at any rate those interested in change—must have realized that the possibility of economic modernization was uniquely tied to the expansion of exports and imports. Japan needed to import the know-how and commodities of the more advanced countries, and this required both diplomatic contact and exports with which to purchase foreign goods and services. Furthermore, Japan was no pauper. She had articles which foreigners wanted to purchase—for example, silk, tea, and fish-oil,—and a not inconsiderable bullion reserve. In the beginning, business was quite good, and the balance of trade was generally favorable until the Restoration; after that it turned sharply negative.

It is equally easy to point out the less pleasant aspects of foreign economic contact. Foreigners were a disruptive element in Japanese society. Their mere presence caused unrest, civil war, and armed retaliation by the Western powers. Cheap foreign imports ruined some traditional industries, such as cotton growing, and the behavior of foreign merchants created resentment. It was not easy to swallow extraterritoriality or the management of exports and imports by foreign hands; the feeling was strong that the foreigners absorbed more than their fair share of profits. The following quote from an official government report written in 1884 gives an idea of the emotions prevailing at that time concerning the "battle of foreign trade":[40]

> Foreign merchants who came to our nation in the early years were never those who commanded large sources of capital. One can say that they were

[39] Hugh Borton, *Japan's Modern Century*, The Ronald Press Co., New York, 1955, p. 57.

[40] Japan, Ministry of Agriculture and Forestry, *Kōgyō iken*, pp. 113–114. However, see also John McMaster, "The Japanese Gold Rush of 1859," *The Journal of Asian Studies*, Vol. XIX, No. 3 (May 1960), who feels that foreign profits in bullion speculation have been much exaggerated.

a lot of cunning tricky speculators. They took advantage of our people's lack of knowledge of the actual condition of foreign trade. . . . Since then, the number of foreign merchants who have come to our nation has increased month by month and year by year, and now conditions are such that they have formed a residential area resembling a walled-in castle. At present there are in residence several hundred foreign merchants who support their families without inconvenience. They can do this because of the profit margins which they earn as go-betweens. It may be said that they are subsidized by our manufacturers and merchants. . . . The first commodities through which foreign merchants gained enormous profits were pure gold and silver coins. Next came silkworm egg-cards, silk, tea and other miscellaneous commodities. Imports began with medicines, followed by ships, machines, armaments, iron tools, and eventually cotton cloth, sugar, petroleum and miscellaneous items. We needed imports more than the foreigners needed our goods, and therefore they were stronger. In addition, both imports and exports required the services of foreign merchants in the port cities. It is natural then that most profits fell into their hands.

The Givens in Comparative Perspective

The state of the Japanese economy from the point of view of eventual MEG is comprehensible primarily in comparative terms. Japan is perhaps the classic example in economic history of a move into industrialization from an "in between" position. She was not so far along economically as the early industrializers of Western and Central Europe or the U.S.A. in their preindustrial phases, nor was she so backward as most of the countries of Asia and Africa today. This is an important point because of its relationship to the applicability of the Japanese experience to current problems. We shall pursue it briefly in accordance with a few generalizations proposed some years ago by Kuznets.[41]

The present-day developed countries of the world, before they began to industrialize in the eighteenth and nineteenth centuries, were by contemporary standards relatively advanced. They had experienced fairly sustained growth, were politically independent, and had all been participants in the intellectual, political, and geographical revolutions which engulfed Europe between the thirteenth and sixteenth centuries. Currently underdeveloped countries find themselves in a very different position: the great intellectual movements have passed them by; for centuries many of them had neither grown nor enjoyed political independence, and by contemporary standards they are backward. Where does one place Japan? Squarely in between these (ideal type) extremes. Japan was, by 1868, one of the oldest independent nations of the world. Although not affected by the major intellectual trends of the Western world, and undoubtedly

[41] Simon Kuznets, "Underdeveloped Countries and the Pre-industrial Phase in the Advanced Countries" in A. N. Agarwala and S. P. Singh (eds.), *The Economics of Underdevelopment,* Oxford University Press, Bombay, 1958, pp. 135–153.

relatively backward by the standard of the second half of the nineteenth century, she nevertheless did not wallow in economic (or cultural) stagnation before the Restoration. Even Japan's relative backwardness must be treated carefully; the gap between the advanced and backward countries is much larger today than it was in the 1860's.

An accepted index of economic development is the proportion of labor force active in agriculture. Even though the measurement of this quantity poses fantastic problems, most investigators would agree that when the Western European countries began to industrialize they had a markedly lower percentage of the population engaged in agriculture than is now found in currently underdeveloped countries. For example, there is an estimate which places the proportion of the active agricultural population of France in 1789 at 55 per cent.[42] Gregory King suggests a level of 60 per cent for England and Wales in 1688.[43] More generally, Kuznets suggests that the older countries of Western Europe had reduced agricultural occupations to about 60 per cent by the first quarter of the nineteenth century, but that this took place earlier in England, France, and the Netherlands. Similar levels were achieved in the middle of the nineteenth century by the Scandinavian countries, the United States, Australia, and New Zealand. In contrast, most of Asia and Africa at present have upwards of 80 per cent of their populations gainfully employed (or underemployed) in agriculture. From this we may infer that per capita income levels in the older countries were relatively high before industrialization, because average productivity levels were higher in nonagricultural occupations. In this comparison, the national figures tell us that Japan resembles more closely the underdeveloped world: approximately 80 per cent of her gainfully occupied population was agricultural and, by inference, her per capita income levels were probably relatively low. Yet this conclusion cannot be accepted in an overly simplified manner. The figures for Japan tend to overstate the agricultural population,[44] and, to the extent that they do, the levels of per capita income are understated. It is impossible to measure the bias or to say whether this bias influences other countries to a similar degree. All we can do is to suggest great caution in interpreting the meaning of the 80 per cent actively engaged in agriculture. At the very least we would say that Japan was in an "in between" position.

The emphasis changes, however, when total population and population growth are considered. Two things stand out about the early industrializers: their total populations were rather small, and the natural rates of increase were moderate before the industrial revolution. For example,

[42] J. C. Toutain, *La Population de la France de 1700 à 1959,* I.S.E.A., Paris, 1963, p. 125.

[43] Cited in Kuznets, *op. cit.,* p. 143.

[44] But this holds for the statistics of all countries.

the population of England and Wales was between 5½ and 6 million in 1700 and had reached 9 million by 1800. France's population between the same ten years grew from approximately 19 million to 30 million.[45] None of the pioneers of industrialization were giant repositories of people in the manner of China, India, and Indonesia, nor did any of them have rates of natural population growth close to the biological maximum. Japan's population of about 30 million was large but not gigantic, and her population was increasing rather slowly—in this again she resembled faraway Europe more than her closer cultural and geographical neighbors.

HOW THE GIVENS WERE CHANGED

In this section we shall examine some of the forces which led to the beginning of modern economic growth in 1886, and which began with the Meiji Restoration of 1868. Since the specific facets of a large topic which may be singled out for closer inspection are largely a matter of personal predilection, a few introductory remarks explaining our choices may be necessary. What follows begins with the Restoration and is in the main confined to two aspects of government activity: its principal socioeconomic institutional reforms and the creation of a modern financial and banking base in Japan.

Why the Restoration has been chosen as a symbol of the beginning of Japan's modernization has already been touched upon. There are dates similar to 1868 in world history—1066, 1776, 1789 and others—all forming major turning points. Eighteen hundred sixty-eight, however, is much more than a symbol. It is also a real beginning: the beginning of the end of the vacillation and confusion which had characterized Japanese policy ever since the foreign threat first materialized. Imperial Restoration ended the two and one-half centuries of rule by the Tokugawa family, brought to the throne a new emperor (Meiji), and, most important, catapulted into power a new group of determined young leaders—Okubo, Kido, Iwakura, and others—who shared the view that Japan would have to modernize or go under. It was not the end of confusion, disputes, vacillations, and temporary setbacks, but it was the beginning of the end.[46] The real end, as far as economic policy is concerned, comes only with

[45] For England and Wales: B. R. Mitchell and Phyllis Deane, *Abstract of British Historical Statistics,* Cambridge University Press, Cambridge, 1962, p. 5. For France: E. Levasseur, *La Population Francaise,* 3 vols., Paris, 1889–1892, Vol. III, table facing p. 232.

[46] See, for example, Sidney Devere Brown, "Okubo Toshimichi: His Political and Economic Policies in Early Meiji Japan," *Journal of Asian Studies,* Vol. XXI, No. 2 (Feb. 1962), especially 184.

Matsukata's deflationary policies in the 1880's, and the years of transition are really the history of the government's trying to gain control over an explosive situation.

Primary focus on government activity during transition can be justified. Comparative economic history tells us that countries beginning industrialization in a setting of relative backwardness require leadership and strong action to get started. More or less spontaneous modern economic growth may have been the case in Great Britain, but it is difficult to find elsewhere. Government, and to a greater or lesser degree private or semi-private banks, supplied the necessary push in Prussia and Russia. This alone would warrant a close look at what the government was doing in Japan, but the situation goes deeper than that. The genesis of Japanese industrialization naturally coincides with events which affected other aspects of society: a new political system, a new class structure, and participation in international affairs. Especially during the years of transition, when changes came in rapid succession, the private sector—individuals without a policy—played a less active role. It tried to keep its head above water in a stormy period, and this alone was no easy task, but the main impetus for action had to come from the government. None of this means that in viewing a century of modern economic growth one should ascribe all success to government and a minor and inactive role to the private sector. It does mean, however, that in the very early stages of growth government performed the more important tasks.

During transition, government in Japan carried out a multitude of policies. It operated factories, subsidized certain industries, imported technicians, and sent students abroad. It also invested quite heavily in human capital. We will allude to these activities only in passing for two reasons. First, they have been well described elsewhere,[47] and second, they seem to us of lesser long-run significance than institutional reform and financial policies.

Major Institutional Changes Initiated by the Meiji Government[48]

1. One of the first tasks undertaken by the Meiji Government was a reform of the Tokugawa class structure. Until 1869, the population of

[47] For example, Smith, *Political Change and Industrial Development in Japan,* Emi Koichi, *Government Fiscal Activity and Economic Growth in Japan,* 1868–1920, Kinokuniya Bookstore Co., Ltd., Tokyo, 1963; and W. W. Lockwood, *The Economic Development of Japan, Growth and Structural Change,* 1868–1938, Princeton University Press, Princeton, 1954.

[48] In this section we have relied very heavily on Yamaguchi Kazuo, *Nihon keizaishi kōgi* (Lectures on Japanese Economic History), Tokyo Daigaku Shuppankai, Tokyo, 1960, pp. 103–135.

Japan was officially divided into five major groups, in order of precedence: *kuge* (the small and relatively unimportant court nobility), *bushi* (the ruling warrior or samurai class), *nōmin* (the farmers), and finally the *kō-shō-nin* (the commercial and craftsmen groups sometimes called by the collective name *chōnin*). In addition there were also small outcast groups, among whom *eta* were the most numerous. Membership in these classes was determined by birth, and, at least in theory, people could not move from one class to another. There was, in fact, only little upward or downward mobility. We are not entirely certain how the population was distributed among these classes, but there is little doubt about the general order of magnitudes. Approximately 80 per cent of the population were farmers, and the remainder must have been split more or less evenly between *bushi* and *kuge* on the one hand and *chōnin* on the other; roughly 7 per cent *bushi* and *kuge*, and 13 per cent *chōnin*. Each class, with the possible exception of *kuge*, performed a specific economic or administrative task. Farmers provided the nation with essential food and therefore, in keeping with Confucian or more familiar physiocratic prejudices, ranked above the city dwellers who performed "mere" services. Warriors who had fought no battles for over two hundred years were supposed to rule and administer the country, and in return for this were supported by the farmers. Members of the *bushi* class were not permitted to engage in agriculture or commerce—indeed, no member of one class could perform the function of the member of another class.

It must have been obvious soon after the Restoration that this class structure was a major obstacle to modern growth. It was too rigid and froze society in an agricultural mold; it was a wasteful arrangement in that the best educated and most able section of the population was largely underemployed.

Between 1869 and 1871 the government forced through major changes. As a result, three new official classes emerged: the *ka-zoku* (the former *kuge* group and a few top-ranking members of the *bushi* class), the *shi-zoku* (the ex-*bushi* class), and the *heimin* (including all the rest of the population). *Ka-zoku* became the new nobility, an open-ended class which successful businessmen, statesmen, and military leaders could eventually hope to join. Membership conferred no specific economic privileges. *Shi-zoku* was merely a courtesy designation indicating former *bushi* status.

A simple listing of the decrees does not do justice to the resentment, conflict, and confusion which these measures must have caused. For example, in October, 1871, the *Outline of the New Criminal Law* entirely omitted mention of the recognized Tokugawa Era practice that allowed samurai freely to cut down a commoner on grounds of rudeness; persons wearing swords were no longer permitted to ride the ferries in Metropolitan

Tokyo free of charge, and anyone was permitted to ride a horse.[49] An Imperial Edict of 1872 added insult to injury:[50]

> Those who have worn two swords during the Tokugawa regime have been known as *bushi*, and in their bearing they have been obdurate, they have lived at the expense of others, and in extreme cases, they have put people to the sword; their crime being regarded by officials as no offense. . . . No such practice prevailed in ancient Japan. After living a life of idleness for generations, the samurai have had their stipends reduced and they have been authorized to take off their swords so that all strata of the people may finally gain their rights to liberty. By these innovations the rulers and ruled will be placed on the same basis, the rights of the people will be equal, and the way will be cleared for the unity of soldier and peasant.

A final blow came in March of 1876 when, in accordance with a decree suggested by War Minister Yamagata Aritomo, a ban was placed on the wearing of swords.[51] It does not require a great deal of imagination to realize how even slightly conservative *bushi* must have felt about the forcible removal of their main status symbol.

More or less at the same time, between 1868 and 1873, other administrative and economic changes gave meaning to the new class structure. Farmers, craftsmen, and city dwellers were permitted to move freely within the country (see below) and to change the nature of their work. Equally important, members of the former ruling classes, the *ka-* and *shi-zoku*, could now participate in agriculture, industry, or commerce. There were a number of other major and minor changes: the *kabunakama*—restrictive guild organizations—were dissolved, and long-term apprenticeship contracts and various forms of hereditary servitude were abridged.

2. Before the Meiji Restoration both internal and external travel and commercial communications were under severe control. Together with the class reform, the government also loosened these restrictions. These measures began in 1868 with the abolishment of *sekisho*, the checkpoints located along all major roads through which one could pass only after proper identification and in possession of the requisite pass. Now it became possible for all citizens to travel freely and to select their place of residence at will. Other measures followed in the next few years, all designed to free the internal market from previous "feudal" restrictions. Among the more effective, were the end of the *tsuru* system which had prevented

[49] But "the practice of leniency under criminal law for the peers and persons of samurai stock was preserved until the end of the year 1881." Ishii Ryosuke, *Japanese Legislation in the Meiji Era*, trans. William J. Chambliss, Pan-Pacific Press, Tokyo, 1958, p. 104.

[50] *Ibid.*, pp. 723–724.

[51] *Ibid.*, pp. 102–103. Swords were permitted as part of dress and police uniforms.

the movement of rice and some other grains across *han* boundaries, and the discontinuation in 1871 of the government-operated horse-relay system along the principal roads. In order to use these horses it had been necessary to secure permits, another restrictive control device.

Restrictions on external economic relations were also lifted during the early years of Meiji. The government opened the ports of Yokohama, Nagasaki, Hakodate, Kobe, Osaka, and Niigata to foreign ships. At the same time, the export prohibitions on rice, wheat, copper, and raw silk were done away with, and foreign trade became nearly entirely free.

3. Owing to the class reform, the former *bushi* class was now permitted to engage in any economic activity. Their energies need no longer be reserved for ruling the country, an activity which only a minority of this class had performed anyway. There remained, however a major problem for the new rulers: how to dispose of the continuing economic burden which the *kuge* and especially the *bushi* (now *ka-shi-zoku*) represented. Under the Tokugawa, *bushi,* were, in some sense, a *rentier* class. Their income derived from rice stipends of widely varying amounts which they received from their respective lords (daimyo). In turn, the lord received his income from taxing the peasantry of his domain, largely by appropriating a share of the rice crop. It was then the lord's responsibility to support his retainers. To call most of these retainers *rentiers* is accurate because, frequently, they no longer performed substantial services in return for stipends. Originally a group of warriors, the *bushi,* by the time of the Meiji Restoration and after 200 years of peace, had lost their function in society. With the Restoration, however, the *bushi* became a financial responsibility of the new government, since it was intent on abolishing daimyo rule and responsibility. Approximately 6–7 per cent of the population were members of the *bushi* class, and continuing their stipends consumed about 30 per cent of ordinary government revenue in 1868 and 1869.

How the government actually unburdened itself of this great financial and social burden is an incredibly complicated story. Simple repudiation of *bushi* economic claims was impossible, and a final settlement was not reached until 1876. The details which led up to the settlement need not concern us now, although we will return to this subject later. In essence, the stipends were abolished, and as compensation the former aristocracy received government commutation bonds. Approximately 313,000 heads of households were involved, and the average payment amounted to ¥548. Altogether the settlement cost the government over ¥170,000,000 in bonds, and over ¥730,000 in cash. These sums were not small for either party—let us recall that per capita product at that time was only slightly above ¥18. But on the whole, the advantage was clearly on the side of the government and the nation. Japan had, through the bonds, divested

itself of a perpetual obligation, and subsequent inflation considerably lightened the burden of the bonds. The old aristocracy was—in the short run at least—appeased, and for some the transformation to the new conditions was eased. Most of them, it must be said, did not have much luck with their bonds. Inexperience in business and in handling money in general wiped out much of their capital in relatively short order.

4. Perhaps the major institutional reform of Meiji times took place in the realm of agriculture. Agriculture had in Tokugawa times been the main source of national revenue, and it was to retain this position throughout the Meiji era. (It was not, it must be added, an adequate source of national revenue. Throughout most of the Meiji period the government had to indulge in considerable deficit financing, as we shall see in the next section.) That is why the institutional changes in the agricultural sector were of extreme importance.

The feudal land tax, which operated before the Restoration, was mainly based on payments in kind, the rate varying with different *han* and in accordance with the state of the harvest. Its incidence fell most heavily on the rice crop. From the point of view of a government interested in fostering MEG, this was an inefficient arrangement. Meiji leaders wanted a uniform national tax which was both monetized and unrelated to the state of the harvest.

Reform began gradually in 1870, and by 1873 the major outlines of the settlement were clear. We can only summarize the very major issues and solutions. First of all, land tax payments were made payable to the central government instead of to the *han,* and payment in kind was turned into a uniform money payment. As a consequence, the major tax revenues of the government no longer depended on the price of rice (as it did when collections were made in kind), and the farmers were placed in closer contact with the money economy. Secondly, the land tax was levied directly on landowners—they were the ones who were held responsible for the payments. At the same time, in 1872, the Tokugawa prohibition against land sale was abolished. (This applied also to urban land.) Thus, the Tokugawa peasant-cultivator was transformed into an owner-cultivator to whom land titles were issued, and who could transfer and sell his land at will.[52] A modern system of private property had been established.

Thirdly, whereas the feudal tax had been imposed on the harvest,

[52] Of course this only applied to peasants who could establish ownership rights to the land. Although exact figures are not available for this period, it is generally conceded that tenancy was relatively widespread. Quantitative estimates usually show about 30 per cent of the arable land cultivated by tenants. For example, see M. Fesca, *Beiträge Zur Kenntniss Der Japanischen Landwirthschaft,* Berlin, 1890, Vol. I, p. 158, and Japan FAO Association, *A Century of Technical Development in Japanese Agriculture,* Tokyo, 1959, p. 29.

the new land tax was based on the value of land. This involved a number of steps. The output of specific fields was converted (for an average period) from quantity units (*koku*) into money. Certain expenses, such as seeds and fertilizers, were deducted from the money value of output, and the remainder was considered the farmers' rent from the land. This remainder or rent was capitalized at rates of interest that usually lay between 4 and 6 per cent, a procedure which yielded rather high land values. On the one hand, the deductible expenditures were usually underestimated by the farmers; on the other hand, the rate of interest used for capitalization purposes was on the low side.

The actual tax rate was initially established at 3 per cent of assessed valuation—on a national basis. In addition, farmers were obliged to pay a surtax to local authorities amounting to 30 per cent of the land tax payment. It has been estimated that the tax and surtax, at first, amounted to 34 per cent of the rice crop, and therefore represented no radical departure from average feudal levels. This is a complicated and controversial issue; Tokugawa tax rates varied widely over time and place, and under these circumstances an average level is not meaningful.[53] It does, however, seem safe to assume that initially there really was no radical departure in either direction. However, the early Meiji rates were not maintained. In 1877 the land tax was lowered to 2.5 per cent of land value and the local surtax was reduced to 20 per cent. Even greater relief was provided, in later years, by a secular inflation which significantly lightened the burden of assessed valuation.

5. Another problem confronting the government during the earliest years of Meiji related to currency and banking.[54] Before the Restoration, the state of the currency—both coins and paper money—was chaotic. Many types of coins were in circulation; their relative value fluctuated considerably; and calculating proper rates of exchange and assuring wide acceptability of the coins was a major problem as well as a full-time occupation. The Meiji government established its mint in 1869, and began to issue national coins at that time. Old Tokugawa coins and monetary units were abolished, and in their place a decimal system was adopted, creating the Yen, Sen, and Rin. By 1874 the unification and adoption of new coins was more or less completed. Much the same fate awaited the some 1600 varieties of Tokugawa paper money in circulation at the time of the Restoration. These were generally retired by 1880.

The government also attempted to encourage the establishment of a modern banking system, and some aspects of this development will be

[53] See W. G. Beasley, "Feudal Revenue in Japan at the Time of the Meiji Restoration," *Journal of Asian Studies,* Vol. XIX, No. 3 (May 1960).

[54] On this general subject see Hugh T. Patrick's excellent essay, "Banking in the Early Stages of Industrialization: Japan, 1868–1914" (mimeo.).

discussed in the next section. It may, however, be desirable to be explicit about an obvious point: Tokugawa Japan had nothing resembling a modern banking system. To be sure, there were pawnbrokers (large and small), money changers, and money lenders, and their activities were typically preindustrial. They specialized in consumption loans at relatively high rates of interest, and to some extent in short-term business loans and "court finance" if we can attach that label to their relation with the *bushi* class. How could it have been otherwise? The development of a modern banking and credit system arises as a response to the needs of modern economic growth and not vice versa. In Japan, we may consider the formal beginnings of a modern banking system to be the National Bank Act of 1872 which eventually led to the establishment of over 150 banks largely founded with capital supplied by *bushi* commutation bonds. We now turn to this subject.

FINANCIAL ASPECTS OF TRANSITION

Some of the terminology currently in use by analysts of economic planning can be of help in achieving a better understanding of governmental policies and problems in Meiji Japan. Five concepts are especially appropriate: objectives, targets, resources, means of implementation, and boundary factors.[55]

Objectives

The long-run objective of the new government was to maintain and, if possible, increase the power and prosperity of the Japanese nation. This required modern economic growth which can therefore also be called a long-term objective. As a short-run objective, the government had to create the conditions which made MEG a realistic possibility. The latter implied negative and positive action: first the abolition of certain hampering institutions, followed by the creation of minimum conditions which would permit MEG to begin.

Targets

This term is used to designate certain specific short-term objectives. As we shall try to show, two must have had top priority during transition, and both were financial: the creation of a sound budget system, together with modern currency and banking institutions. It is a characteristic of Japan's transition that the reaching of these targets involved considerable trial and error—perhaps not such an uncommon phenomenon in early phases of industrialization.

[55] The use of these concepts was first suggested by Ohkawa Kazushi.

Resources

Action is only rarely costless. To carry out its economic objectives and targets, the government required funds. As we have previously pointed out, in spite of severe resource limitations Japan was not a pauper nation. The central authorities had four principal sources of funds in the very late 1860's: inherited assets from the Tokugawa, foreign borrowing, increases in domestic output, and redistribution of the income flow and capital stock. There was much overlapping between these categories, and yet each one is a bit different. Inherited assets mean the stock of funds—private and public—on which the government could somehow lay its hands. For example, there existed a big hoard of specie; Japan exported ¥23.7 million of gold and silver during 1868–1871.[56] Domestic borrowing, forced or voluntary, were methods employed to tap this resource. Foreign borrowing was limited by the uncertain credit worthiness of a "new" nation, and perhaps even more by Japan's own fear of domination by Western Powers. Increases in domestic output (if achievable) and redistribution of current income and assets had to rely on the power to tax. Two general considerations characterized all of Japan's resources. For one thing, they were limited; for another, most credit items were accompanied by debits. The latter was especially true of inherited assets. There were, as will be discussed in detail, very heavy, inherited, pre-Restoration liabilities.

Means of Implementation

Limited by available resources the government had to select means of implementation which were both "economic" and "feasible." Feasibility raises a particularly interesting set of problems. In analyzing historical problems we sometimes tend to forget how much things have changed. What is possible for a government today was frequently out of the question in the nineteenth century, and when we talk of the relative importance of government in Meiji Japan this cannot be forgotten. From the end of the Tokugawa until now Japan has always been an essentially free economy. The government could and did at times plan, act as an entrepreneur, subsidize, favor, discriminate, etc. Its powers of direct control, however, were limited; it had to work by economic means within the market and not by direct decree as in some underdeveloped countries today. Japan's situation as a free market economy affected means of implementation. Specifically it meant that currency and banking manipulations were both means and ends. It was necessary to work through the note issue and

[56] An estimate made by Y. Horie, "Japan's Balance of International Payments in the Early Meiji Period," *Kyoto University Economic Review,* Vol. 24, No. 1 (April 1954), cited in Hugh T. Patrick, "External Equilibrium and Internal Convertibility: Financial Policy in Meiji Japan" (mimeo.).

banking regulations in order to achieve a sound flexible money supply and a responsive banking system. This program of implementation, however, led to a variety of shocks in the economy, resulting in inflation and deflation. Both were the direct consequence of government programs designed to stimulate the beginnings of MEG.

Boundary Conditions

We have already suggested that government activity was circumscribed by some economic limitations such as the need to economize resources and the necessity to work within a free market. There were other limitations as well, and these, usually of a somewhat broader nature, are referred to as boundary conditions. With the financial targets kept in mind, any number of boundaries must be considered during the 1860's and 1870's. Of extreme importance was the element of time; targets had to be reached within a reasonable number of years because delays would have made more serious internal and external threats. Japan felt that simply to maintain her independence a considerable increase in national power based on a modern economy was an absolute necessity. If this could not be accomplished in time, foreigners might decide that the Japanese melon was also ripe for slicing. Time was equally precious at home, for here too inaction might have given the opposition a chance to regroup. Many powerful segments of the population were, or believed they were, adversely affected by the Restoration. There were those who had remained loyal to the House of Tokugawa. There were samurai who saw their privileges abolished and who could visualize no future in the rapidly changing new society. There were merchants whose close ties to the *bakufu* now spelled ruin. Forces of discontent were widespread, and only the speedy initiation of a new program (of course not entirely confined to the economy) could maintain the Meiji government in power.

What has been said indicates that the power balance between government and antigovernment forces was a delicate matter, and this formed another boundary closely related to but separate from the question of time. Time means that things had to be done in a hurry: ". . . that great delays in industrialization tend to allow time for social tensions to develop and to assume sinister proportions."[57] Power balance meant that too much hurrying might prove dangerous. If the new government moved too rapidly in any one direction it might thereby mobilize antigovernment forces. The pace of change had to be just right.

Choice among a variety of possible economic policies was also restricted by Japan's somewhat unusual status in the world community. Western Powers had taken away tariff autonomy, and the great majority

[57] Gerschenkron, *op. cit.,* p. 28.

of exports and imports were in the hands of foreign merchants. According to the provisions of the 1868 treaty with the United States, Japan was committed "to a system of free international trade, unrestricted inflow and outflow of gold and silver, and unrestricted domestic circulation of foreign gold and silver coins comparable to Japanese coins."[58] Convertibility was a *virtual imperative.*

The years of transition, as might be expected, were none too peaceful, and this formed the final boundary. When the Meiji Government assumed power in 1868, memories of civil strife and foreign intervention were fresh. Satsuma and Shimonoseki had been attacked by Westerners in 1863–1864, and in 1865–1866 the Tokugawa had fought a civil war with the Chōshū clan. In 1877 the last and most dangerous challenge came with Saigō's Rebellion. Minor incidents arose with alarming regularity. The new government had to control a restless country and potentially aggressive foreign states. Measures of control entailed outlays which were sometimes in competition with expenditures designed to further economic development.

This is the framework. Let us now see how it fits the events of history.

Passive Stability, 1868–1876. Japan's period of transition into modern economic growth, short as it was, forms two distinct subperiods: an interval of passive stability from 1868 to 1876, and an interval of great shocks from 1876 to 1885. During the earlier subperiod, in spite of chaotic political and social conditions, the economy remained remarkably stable as evidenced by the very moderate fluctuations of commodity prices. By contrast, between 1876 and 1885 Japan was shaken by sharp inflation and deflation. This contrast deserves attention. It seems to us that stability was a product of relative governmental passivity combined with an essentially preindustrial economy. The ferment of the late 1860's and early 1870's was primarily institutional and did not greatly affect the daily economic life of the people. Stability was followed by great shocks, reflecting not only stronger actions of the government, but also stronger reactions of the economy to the new policies.

Tokugawa Keiki, the last shogun, relinquished power in November 1867. On January 3, 1868, the formal Imperial Restoration took place. In August 1871 the clans (*han*) were abolished by Imperial Decree. In 1872 Japan's first railroad line, linking the 18 miles between Tokyo and Yokohama, was completed. This somewhat random listing of events should serve to indicate the fullness of these years; the new central government which assumed power with the Restoration was not at all well prepared to shoulder the burdens. It had no systematic financial program and meanwhile was saddled with heavy burdens by the departed Tokugawa. Many of the difficulties, as usual, had to do with expenditures and revenues. Large sums were needed to vanquish rebellious remnants of Tokugawa

[58] Patrick, "External Equilibrium and Internal Convertibility."

loyalists, to provide annual pensions for the former warriors since this obligation had now been assumed by the central authorities, and also to service the considerable debts (domestic and foreign) of the clans. Sources of funds were limited, and the financial position of the Meiji Government was unenviable; from September 1868 through December 1872, total expenditures were ¥148.3 million against revenues of only ¥50.4 million.[59] Given the level of administrative inexperience which must have prevailed, one wonders how the government managed to survive.

Three main methods were employed by the government to meet its early deficits: the issue of paper notes (¥68.4 million were in circulation by 1872), loans from well-to-do merchants (the government owed them ¥23.2 million in 1872), and foreign borrowing (this liability stood at ¥4.9 million in 1872).[60] The new note issue was inconvertible and took its place side by side with already existing *han* currency. Popular confidence in the eventual success of these procedures was limited, as shown by the rapid depreciation of government notes vis-à-vis specie. Meiji paper notes began life at discounts of 55–60 per cent relative to specie. Initially some inflation occurred, but by 1870 the situation was well under control. Inflationary pressure abated, while the government's announcement of its intention to redeem notes in the near future stemmed the tide of depreciation. By 1872, also, the government was actively redeeming clan currency with its own notes at market rates, a significant step in the direction of currency unification.

Quantitative information for these years is, of course, scanty, but what exists is consistent with the interpretations offered here. The facts themselves are quite clear. Their interpretation is another matter. Why did the considerable increase in inconvertible note issue not bring about inflation? We can only suggest a few possible explanations. Between 1868 and 1872, Japan's total deficit in her international accounts has been estimated at ¥30.2 million, and this must have created a downward pressure on the price level because the deficit had to be covered by export of specie (a very rough estimate because there exists no exact record of the outflow of gold and silver to foreign countries). We also speculate that the velocity of circulation might have been declining—in some senses the economy was still too backward to respond in the expected manner.

[59] Emi Koichi and Takamatsu Nobukiyo, "Meiji ikō zaisei shūshi no sukei, 1868–1929" (A Survey of Tax Revenues and Expenditures since Meiji), Hitotsubashi University, Institute of Economic Research, Rockefeller Project Preliminary Report, Number D18. (Hereafter cited as Hitotsubashi D18.)

[60] Currency figures from Ōuchi Hyoe (ed.), *Nihon keizai tōkei-shū* (Collected Japanese Economic Statistics), Nihon Hyōronshinsha, Tokyo, 1958, pp. 194–195. Figures for loans from Kimura Motokazu, *Conditions for Direct Taxation and Other Essays,* The Science Council of Japan, Tokyo, 1958, Ch. iii, p. 73.

TABLE 5. Passive Stability (I)

	Wholesale Price Index (1868 = 100)	Interest Rate (%)	Government Paper Money (Million ¥)	Total Inconvertible Notes in Circulation (Million ¥)	Specie + Convertible Notes to Total (%)
1868	100.0	14.0	24.0	65.4	75.1
1869	123.0	14.0	50.1	94.4	66.2
1870	109.4	13.5	55.5	103.2	62.1
1871	113.2	13.8	60.3	108.5	57.0
1872	104.5	14.6	68.4	102.7	53.1

Source: The wholesale price index and interest rates are cited in Tsuru Shigeto, *Essays on Japanese Economy*, pp. 150–151. The interest rate is the annual average for loans between ¥1000 and ¥10,000 in Tokyo. Government paper money and total inconvertible notes from Ōuchi, *Nihon keizai tōkei-shū*. Specie and convertible note ratio to total from Patrick, "External Equilibrium and Internal Convertibility."

So far we have dealt with the first half of the stable years. From 1873 to 1876 things continued in a similar vein, even though the government inaugurated somewhat stronger policies aiming in the direction of previously described targets. These were the years of land tax implementation, of paper money redemption, and of the foundation of national banks. Perhaps the most successful of these policies was the land tax. It was put into effect speedily and effectively, and certainly by 1875 the government had assured itself of large revenues from the agricultural sector. Currency and banking policies did not move forward equally smoothly.

Redemption of paper notes proceeded only slowly owing to a variety of difficulties. The government offered bonds in exchange for its notes, but these carried unattractive interest rates. Bond interest was 6 per cent whereas the market rate was above 10 per cent. Another method was tried with the creation of the national banking system in 1872. It was hoped that the banks would create a money supply responsive to the requirements of industrialization. More specifically, however, the desire was to reduce the quantity of inconvertible government notes and to replace these by convertible national bank notes. There was also the expectation that the new banks might help to reduce the high rate of interest. What actually happened is well summarized by Allen:[61]

> According to the Regulations issued in 1872, a national bank was to deposit Government paper money equal to three-fifths of its capital with the Treasury, and to hold gold equivalent to two-fifths of its capital as a reserve. The Treasury handed to the banks Paper Money Exchange Bonds bearing 6% interest in return for the notes deposited with it, and the banks were then permitted to issue their own notes redeemable in gold up to the amount of the security which they possessed. In this way it was expected that part of the Government's inconvertible note issue would be replaced by notes convertible into gold, and that effective banking machinery to serve the needs of the new economic system would be brought into being. The operations of these banks, it was also hoped, would lead to a fall in the rate of interest which, since 1868, had apparently ranged between 13 and 14% per annum.
>
> These expectations were not realized. Only four national banks were established under these regulations . . . . Their actual note issue never exceeded 2,300,000 yen. The reasons for the failure of this experiment are not difficult to discover. The relatively low rate of interest paid on the Government bonds, which the banks received in exchange for the Government paper money deposited with the Treasury, made investment of this kind unprofitable. Further, the banks found difficulty in keeping their notes in circulation. Since these notes were convertible into specie, whereas the Government paper money of the same face value was at a discount, merchants who had to pay for imports naturally found it profitable to present the bank notes at the issuing bank and so to obtain gold for their foreign payments. In this way the national banks were drained of their reserves.

[61] G. C. Allen, *A Short Economic History of Modern Japan*, George Allen & Unwin, Ltd., London, 1946, p. 38.

In fact, the supply of government paper notes continued to rise because deficits remained large and revenues were too small. By June 1876, ¥105 million were in circulation. The source of the trouble can be easily identified in Table 6. Despite increases in revenues, fiscal problems were still far from solved. In essence they all revolved around the burden of transfer payments, namely the burden of the former *bushi* stipends. A high ratio of transfer payments reflected the continuing influence of the

TABLE 6. Government Current Expenditures and Transfer Payments

	(1) Total Current Expenditures (Central & Local) Million Yen	(2) Transfer Payments Million Yen	(3) Ratio 2/1
1872 (Jan.–Dec.)	45.1	16.1	35.3
1873 "	53.3	18.2	34.1
1874 "	67.6	34.3	50.4
1875 (Jan.–June)	60.8	32.5	53.3
1875 (July–June)	62.5	25.4	40.6
1876 "	51.1	17.9	35.1

Source: Hitotsubashi D18.

TABLE 7. Passive Stability (II)

	Wholesale Prices (1868 = 100)	Interest Rates (%)	Total Inconvertible Notes in Circulation (Million ¥)	Tokyo Wholesale Prices: Rice (*koku*)	Ginned Cotton (60 kg.)	Iron (100 kg.)
1873	95.8	12.8	104.5	¥4.80	¥26.80	¥11.27
1874	101.5	12.9	98.9	7.30	23.52	12.02
1875	95.4	11.8	101.9	7.13	21.92	11.0
1876	111.9	12.1	109.1	5.13	21.12	9.14

	Government Paper Money (Million ¥)	Specie + Convertible Notes to Total (%)
1873	88.3	44.7
1874	101.8	42.4
1875	100.6	41.2
1876	105.1	40.3

Source: See Table 5. Tokyo wholesale prices from Ōuchi, *Nihon keizai tōkei-shū*, p. 254.

premodern distribution of income. This burden had to be eliminated before the government could fruitfully concentrate on modern economic growth.

And yet—notwithstanding the unsettled currency and banking problems, continued increases in government spending, the expenses of the Saga Rebellion and Formosa expedition of 1874—there was still no inflation. Instead, government notes actually reached par with specie in June of 1876, and some commodity prices even showed a certain amount of "softness."[62]

We must again ask, why so little upward pressure on prices? One definite anti-inflation factor continued to be the international trade deficit; ¥31.8 million in gold and silver flowed out of Japan during this period. Two other somewhat more speculative factors may be added. The land tax, which had to be remitted in money, no doubt raised the transactions demand for money, and at the same time output—especially marketed output—of the traditional industries rose vigorously.

We can now summarize the major points of this period of passive stability. The economy remained stable in spite of preliminary policies in the direction of the two specified targets: the budgetary and the currency

[62] Perhaps the prevailing world depression also exercised some downward pressure on Japanese prices.

and banking reforms. As far as resources went, the government depended heavily on inherited assets. Issuance of large quantities of inconvertible paper notes without the creation of disorder, loans from merchants, outflow of gold and silver—all were relying on the political and economic stock left by the Tokugawa. One should not, of course, ignore the role of foreign borrowing and increased output in resource mobilization, but at this stage we would rather stress the inheritance.

To be sure, the inheritance had good and bad features. Government was plagued by an exorbitant level of transfer payments, and these were a direct liability passed on by the old regime. In a broader sense, the weight of this burden was a symptom of even more serious boundary factors. The power balance between supporters and enemies of the Meiji rulers remained precarious, and the biggest and final armed challenge was yet to come. Time was needed to consolidate the central government's strength, in particular the nine years between 1868 and 1876. Furthermore, it would be incorrect to give the impression that economic passivity adequately describes all governmental activity. Capital formation in the form of social overheads and model factories had begun, but investments were still below 10 per cent of budgeted expenditures.

Great Shocks, 1876–1885. The calm ended very suddenly. Two events, closely linked in origin and consequence, rocked Japan in 1876 and 1877. First came the compulsory commutations of *bushi* stipends. After attempting a variety of voluntary schemes without sufficient success, the government finally decided that a sterner compulsory measure was needed to lift an intolerable burden. Stipends were replaced by commutation bonds (*kinroku kōsai*) amounting to ¥172.9 million, and carrying interest rates of 5, 6, 7 and 10 per cent. Compulsory commutation was followed within less than a year by what the Japanese call the Seinan War and what Western writers have usually referred to as the Satsuma Rebellion. The importance of this conflict is widely recognized. It was a last desperate attempt to gain power by those who opposed the new regime. It also was the first victory of a newly created conscript army largely manned by peasants over the old knightly class. It was a rebellion led by one of Japan's most romantic heroes, Saigō Takamori, who took his own life in bitter defeat. Saigō's fellow rebels, mostly former Satsuma warriors, had many grievances, and one of them was a profound dislike of compulsory commutation. The civil war was won by the government, but only at considerable cost. Its entire army of 32,000 men, plus a reserve of 10,000 men, and numerous national police had to be committed before Saigō was driven to *seppuku* at Kagoshima in September of 1877. Expenditures were also high. To pay the bills, the government was forced to issue another ¥27 million in notes and to borrow ¥15 million from the Fifteenth National Bank.[63] To repeat once more, not only were the war

[63] Kimura, *op. cit.*, p. 78.

TABLE 8. Great Shocks (I)

	Gov. Paper Money (Million ¥)	National Bank Notes (Million ¥)	Total (Million ¥)	Increase (Decrease)	Specie & Convertible Notes to Total (%)
1876	105.1	1.7	106.9		40.3
1877	105.8	13.4	119.1	12.2	35.2
1878	139.4	26.3	165.7	46.1	25.6
1879	130.3	34.0	164.4	−1.3	25.7
1880	124.9	34.4	159.4	−5.0	23.4
1881	118.9	34.4	153.3	−6.1	19.1

Source: See Table 5. National Bank notes from Ōuchi, *Nihon keizai tōkei-shū*, p. 194. Total notes and deposits from Fujino Shōzaburō, "Kaheiryō, Māshyaru no 'k', yokin kaitenritsu no suikei, 1877–1940" (A Survey of the Quantity of Money, Marshall's 'k', and the Turnover-Rate of Deposits), Hitotsubashi University, Institute of Economic Research, Rockefeller Project Preliminary Report Number D13. (Hereafter cited as Hitotsubashi D13.)

and capitalization of pensions connected causally, there were also events of similar origin. Both were costly and necessary expenditures to wipe out feudal privileges and antigovernment ferment.

It could have come as no surprise to the authorities that compulsory commutation was extremely unpopular with the ex-clansmen. Voluntary commutation had gotten nowhere in 1874 and for good reasons; after a few years, the value of these pensions bonds was discounted by 40–50 per cent. Motives for resistance to these schemes go all the way from concrete economic self-interest to deep psychological feelings. To begin with the concrete, interest rates attached to the commutation bonds (voluntary and involuntary) were too low. One could, perhaps, argue that the pension bonds should have been issued at market rates of approximately 12 per cent rather than at average rates much closer to 5 per cent, but this would have made commutation more than twice as expensive and was not a realistic possibility. Even at the low interest rates, servicing the bonds ate up 26 per cent of total government expenditures between 1877–1880.[64] A greater burden could not be assumed.

There were additional problems. The quantity of pension bonds which any head of household received varied according to his pre-Restoration status. Former daimyo, for example, were given considerable fortunes; the same was true of other high-ranking *bushi*. Ex-*bushi* of lower rank ob-

[64] Hitotsubashi D18.

TABLE 9. Great Shocks (II)

	Wholesale Prices (1877 = 100)	Interest Rate (%)	Paper Money/ Silver[a]	Commodity Prices (Yen) Rice (*Koku*)	Ginned Cotton (60 kg.)	Iron (100 kg.)
1877	100	10.0	1.033	5.34	21.12	8.39
1878	108	10.4	1.099	6.39	20.0	8.39
1879	130	12.0	1.212	7.96	21.28	8.67
1880	148	13.1	1.561	10.57	23.84	8.20
1881	164	14.0	1.696	10.59	33.76	8.39

[a] In 1878 the silver yen became legal tender with the government adoption of the bimetallic standard. Therefore, paper money/silver represents the rate of paper note depreciation vis-à-vis silver.

Source: See Tables 5 and 6. Paper money/silver ratio from Hitotsubashi D13.

tained only small sums, and many felt that they had been unfairly treated. Perhaps the psychological burden was the most serious of all. After forced commutation all semblance of previous privilege had been surrendered by the old ruling class. Not only was government support a thing of the past. Now proud warriors brought up to despise money and trade had to move into a more active economic life or be reduced to even more severe poverty—a poverty which had lost both its gentility and virtue.

The authorities were aware of these problems, but their own ability to act was limited by a set of boundaries. Officially compulsory commutation was justified on two counts. According to Ōkuma,[65] who instigated the policy, pension bonds were designed both to create means for former samurai to find new employment and to stimulate the economy simultaneously, by making available more venture capital, lessening the tightness of money, and (it was hoped) leading the economy into an upswing. These announced intentions, coupled with an obvious desire to lessen the transfer burden, may very well have been sincere. However, the real point is that the policy misfired by precipitating, for a while, a violent inflation which endangered the totality of government targets, and the government itself. It was necessary for the government to create additional incentives to make pension bonds acceptable. These incentives caused a great deal of trouble and illustrate how the latent power of the old aristocracy affected economic policy.

[65] Allen, *op. cit.*, pp. 38–39.

One month before the adoption of compulsory commutation, in August of 1876, national bank regulations were amended, and it was a device to make pension bonds more desirable. According to the new rules, the specie reserve requirement for note issue was abolished, and national banks were allowed to issue notes against pension bonds deposited with the Treasury up to 80 per cent of their capital. In this fashion, ex-samurai received a ready-made profitable outlet for their bonds; meanwhile the convertibility of notes was sacrificed. Quite suddenly many new national banks were established. There were four national banks in 1874, responsible for a note issue of about ¥2 million. By 1880 their number had reached 148, and the total note issue amounted to ¥34 million, which was the legal maximum. Together with the expenses of the Seinan War, the economy had sustained another large injection of inconvertible paper currency. Only now the Japanese economy reacted very sharply, as Tables 8 and 9 show. Prices in many instances responded in kind.

No one has to our knowledge succeeded in explaining precisely why very similar circumstances precipitated inflation after 1877 but not before. Tsuru believes that the earlier expansionary impulses were "localized owing to the immaturity of the capitalistic milieu within the country," and perhaps one cannot say much more;[66] clearly the impulses had become less localized. The inflation certainly had a number of interesting features; for example, commodity prices rose unevenly. By representing 1877 as 100, we see that in 1881 rice stood at 198, ginned cotton at 160, and iron at 100. Furthermore, there seems to have existed a two-year time lag between the injection of additional inconvertible currency and the rise in prices. Wholesale prices, interest rates, and paper money depreciation all reached peaks in 1881. Actual net increases of paper notes were, compared with those of the late 1860's and early 1870's, relatively moderate: between 1876 and 1880 a rise of ¥60 to ¥70 million, as against an increase of ¥40 to ¥50 million from 1868 to 1872. We must also note that between 1877 and 1881 the foreign trade deficit continued as before, the outflow of gold and silver amounting to ¥38.3 million (though in 1881 it amounted to only ¥1 million).

Among its many repercussions, the inflation particularly affected traditional production—agricultural and related activities. A doubling of the rice price combined with a fixed land tax created large windfall profits for the landowners. They quickly became more prosperous and began investing more actively in diverse small domestic industries. Some even

[66] Tsuru Shigeto, *Essays on Japanese Economy,* Kinokuniya Bookstore Co., Ltd., Tokyo, 1958, p. 125. Patrick also makes the valid point that much of the earlier note issue, between 1871 and 1874, served to replace Tokugawa currency. This might have lessened its inflationary impact. See "External Equilibrium and Internal Convertibility."

turned their attention to the manufacture of import substitutes, largely Western consumer goods. In 1884 the government published a list of 128 newly produced commodities varying all the way from hats and shoe polish to cigarette cases and Western liquor, and concluded that "80 to 90% of these commodities are luxuries, imitating foreign products, and made with imported raw materials. The manufacture of these contributed but little to increase national power."[67] In other words, the inflation was not doing much for industrialization; profits were moving into the wrong hands. In fact, factory industry was experiencing no particular boom in spite of considerable government encouragement. What happened with the cotton-spinning industry can serve as an example. In 1877 the government imported two spinning machines from England and offered them to any enterpriser willing to start a mill. No one accepted. In 1879 the government imported ten additional machines in the hope of forming new spinning mills. Money was also lent to three private entrepreneurs for the purchase of machinery. None of these endeavors was successful during the inflationary period.[68]

In many ways the most adverse effects of the inflation were felt by the government especially because of the fixed proceeds from the all-important land tax. The entire purpose of the tax was endangered. While the real purchasing power of its proceeds was falling drastically, the government had no power to siphon off the landowners' windfalls. A reduction in assessment from 3 to 2.5 per cent of land value in 1877 only aggravated things, and a sharp increase in rates was out of the question. It would have led to too much rural discontent and confusion. A crisis, in large measure the product of the government's own action, was somewhat mitigated by the introduction of new taxes on *sake* and tobacco. But this was not sufficient. Drastic reductions also had to be made in the amounts allocated for the advancement of modern industry; between 1872–1876 and 1877–1880 nonmilitary government investment fell from ¥11.1 million to ¥5.5 million *in current prices.*[69] The plans and ambitions of the Meiji Oligarchs were in difficulties, and some slight efforts were made to regain control of events. It is doubtful, however, whether the seriousness of the crisis was fully understood.

No wonder that the new bureaucrats had been caught by surprise. Up to 1876 the economy had behaved very differently faced with similar provocation. There must also have been disappointment in the results

[67] Japan, Ministry of Agriculture and Forestry, *Kōgyō iken,* p. 109. Obviously the additions to output which the new commodities brought were not considered very valuable by the authorities.

[68] Tsuru, *op. cit.,* pp. 128–129.

[69] Henry Rosovsky, *Capital Formation in Japan, 1868–1940,* The Free Press of Glencoe, New York, 1961, Tables VII–1 and VIII–1.

achieved with the revised national banks. It had been expected that they would contribute materially in the formation of modern industrial capital. This proved to be another miscalculation. Who were the new national bankers? Largely, these were former samurai without business experience, unable to differentiate between commercial and industrial capital requirements. They did only little to further the latter.

Inflation distorted the central government budget and the currency; by 1880 the specie reserves had dropped to 6 per cent of note circulation. The seriousness of economic conditions must be thought of in terms of the key role which the government had to play. If the economic strength of government was sufficiently undermined, the chances for MEG were nil. Significantly enough, foreign observers at this time were extremely pessimistic. With considerable complacency they wrote:[70] "Wealthy we do not think it [Japan] will ever become: the advantages conferred by Nature, with the exception of the climate, and the love of indolence and pleasure of the people themselves forbid it." Or, "The national banking system of Japan is but another example of the futility of trying to transfer Western growth to an Oriental habitat. In this part of the world principles, established and recognized in the West, appear to lose whatever virtue and vitality they originally possessed and to tend fatally towards weediness and corruption." Admittedly this sounds pretty amusing today, but the prediction might have been justified if the government had not been able to assume control.

A country is fortunate when in times of emergency a capable leader is waiting in the wings, or on the *hanamichi.*[71] In October 1881 a most remarkable man became Finance Minister of Japan. He combined firmness and wisdom with a strong belief in financial orthodoxy, and succeeded by 1885 in regaining control of the economic situation. He cleared the decks, and made it possible for modern economic growth to begin. We are referring, of course, to Matsukata Masayoshi (1835–1924), who began his career as a sword-wearing page of Lord Shimazu of Satsuma and ended it as a prince of the new Japan. His life, in many ways, is the story of Japan's awakening.[72] Matsukata's rise to prominence started in

[70] Both quotes are from *The Currency of Japan* (A Reprint of Articles and Reports) published by the *Japan Gazette,* 1882; cited by Allen, *op. cit.,* p. 41.

[71] *Hanamichi:* the "flower way"; a stage passage running through the audience on which important solos are performed in the *Kabuki* drama.

[72] On the career of Matsukata, see *Keizaigaku jiten* (Dictionary of Economics), Heibonsha, Tokyo, 1955, p. 1565; Tsuchiya Takao, *Nihon shihonshugi shijō no shidōshatachi* (Leading Entrepreneurs in the History of Japanese Capitalism), Iwanami shinsho, Tokyo, 1939, pp. 51–74. Also Tokutomi Iichirō, *Kōshaku Matsukata Masayoshi den* (The Biography of Prince Matsukata Masayoshi), 2 vols., Tokyo, 1935.

1868 through the good offices of Ōkubo Toshimichi, a fellow Satsuma clansman and one of the three or four most important leaders of the Restoration. Ōkubo appointed Matsukata governor of Hida Prefecture on Kyushu (presently Fukuoka Prefecture) where, by all accounts, he performed well, and was particularly remembered for the vigor with which he attempted to eradicate *mabiki* (infanticide). In 1871 he joined the new central government in the Financial Section of the Department of Civil Affairs. There, working under Ōkubo, he was active in drafting the land tax reform. Between 1875 and 1878, as a member of the Ministry of Finance, Matsukata's attention was focused on the central economic problems of the day: financing the Seinan War, reform of the fiscal year, national bank promotion, and paper money issues. Opportunity for foreign travel came in 1878 when Matsukata went to Europe as Japan's delegate to the International Exhibition at Paris. The sojourn was not lengthy since Matsukata returned to Japan in 1879, but it had considerable intellectual consequences. In France he encountered and conferred with Léon Say (1826–1896), grandson of Jean Baptiste Say, at that time French Finance Minister and a well-known name in economics and public affairs. Judging by Matsukata's subsequent actions, Say must have also been a persuasive advocate of his own ideas.

One wonders today why Say's ideas managed to appeal to Matsukata. Léon Say was a great believer in free trade, a system with which Japan had to live, but he was also anti-*étatiste,* and felt that it should be the main business of economists "to refute socialist doctrines and to combat the atrocious fallacies implied in all plans of social reform and of state interference of any kind."[73] The exact relationship between Say and Matsukata is not clear, but we can guess that there were other aspects of Say's ideas which particularly impressed the Japanese visitor. Say had been, between 1872 and 1879, "the autocratic ruler of French finances,"[74] and these had been difficult years. Not only did France at this time recover from her defeat at the hands of Prussia, but she also paid a £200 million indemnity to the victor in record time. How was this accomplished, Matsukata might have wondered? One can imagine the general lines of Say's answer: most vital is a sound convertible currency backed by gold; it establishes the credit and respectability of the State. France was able to pay an indemnity to Germany because the domestic and international credit of the State was excellent—all she had to do was to issue bonds, to have people fighting for their possession. Another important principle applies equally to the private and public sectors: live within your means. Govern-

[73] Joseph A. Schumpeter, *History of Economic Analysis,* Oxford University Press, New York, 1954, p. 841.

[74] Article on Léon Say in *The Encyclopaedia Britannica,* Eleventh edition (1910–1911), Vol. XXIV, p. 275.

TABLE 10. Public Finance Under Matsukata

(Unit: Million Yen)

	(1) Current Expenditures	(2) Current Revenues	(3) Gov. Savings (2) − (1)	(4) Gov. Cap. Formation	(5) Surplus (3) − (4)
1881	67.1	101.4	34.3	12.6	21.7
1882	79.1	108.4	29.3	15.8	13.5
1883	83.1	106.5	23.4	15.4	8.0
1884	82.9	108.7	25.8	14.5	11.3
1885	61.1	88.8	27.7	15.9	11.8

Source: Hitotsubashi D18.

ment can tax heavily, and it can borrow, but on current account it should aim at balanced budgets. International bankers approve of convertibility and conservative finance. Japan must follow the general rules of behavior in the civilized world, otherwise she cannot expect to succeed.

Whether or not Say told all or part of this to Matsukata we do not know. We do know, judging by Matsukata's actions, that he believed these ideas and applied them when his hour came. In 1881, with his appointment as Finance Minister of Japan, there occurred a sharp change in government policy: convertibility once again became an aim, and in order to achieve it the government brought about austerity and deflation. Matsukata's policies jolted the economy, precipitating social disorder and political instability, but for five years he stayed on the same road, and by then the original government targets—adequate revenues, sound currency, modern banking—were safely and permanently achieved. The Matsukata deflation was strong medicine, but in our view it had life-saving qualities.

Budgetary reform formed the first prong of Matsukata's attack. A favorite prevailing government policy of establishing and financing model factories and mines was discontinued, and for the most part the existing establishments were sold to private individuals. On the revenue side, taxes on tobacco and *sake* were raised again, and many additional indirect taxes were instituted. A sinking fund was established for the anticipated surplus in order to bring about the redemption of the public debt; in 1880, this amounted to ¥245 million or three times the annual revenue of that year. Redemption was accomplished in ten years. In 1886 the authorities also managed to convert all public bonds carrying rates of 6 per cent and over to new issues at 5 per cent, thereby creating further savings.

In the figures for central and local government expenditures cited in Table 10 we can find some measure of Matsukata's achievements.

For these years the government saved 28 per cent of its current revenues, and after allocating half to the urgent needs of capital formation there still remained a sizable surplus. This was a remarkable achievement of the austerity program, especially because bond interest still amounted at that time to 18 per cent of current expenditures.

These attainments rested on a set of somewhat unusual circumstances. Retrenchment and austerity on the part of the government not only halted the inflation of the 1870's, but also turned the tide towards deflation. Actually this was to be the most severe deflation of modern Japanese economic history, and yet, because of the fixed land tax, it was very favorable to government revenues. Inflation had led to windfalls for the landlords, and now deflation, by raising taxes in real terms, was creating similar windfalls for the public sector. In spite of a sharp decline in the price of rice (see below), tax collection from the land remained constant even though landowners suffered a great fall in disposable income. The government, however, was also actively seeking a larger share of national resources in other sectors of the economy. This becomes clear in Table 11, which compares 1877–1880 with 1881–1885.

Although there were large increases in total taxes, land tax revenues remained more or less the same throughout. Obviously it was non-land taxes that were rising. Comparing 1878–1880 with 1882–1884 we can see that the land tax ratio to the net output of agriculture remained nearly the same (10.6–10.2 per cent), whereas there was a definite increase in the ratio of total taxes to NDP (5.6–8.3 per cent). In fact, between the

TABLE 11. Government Tax Revenues

(Unit: Million Yen)

	Land Tax Revenue	Total Tax Revenue	NDP	NDP of Primary Sector
1877	39.5	51.5		
1878	40.5	54.5	405	248
1879	42.1	59.2	616	397
1880	42.3	59.3	805	536
1881	43.3	66.2	819	524
1882	43.3	70.9	719	426
1883	43.5	70.4	580	328
1884	43.4	71.5	498	245
1885	43.0	56.4	628	350

Source: Land tax from Ōuchi, *Nihon keizai tōkei-shū*, p. 226; total taxes from Hitotsubashi D18; NDP from Ohkawa, *Growth Rate of the Japanese Economy*, p. 247.

two groups of years the land tax declined from 77.2 to 64 per cent of total tax revenues. No doubt, partly as a result of Matsukata's efforts, the tax structure was in process of changing. It is true that proceeds from urban land taxes are included with the totals, and that peasants were also subject to non-land taxes. The main outlines of what was happening are, however, unmistakable. While maintaining the land tax as the major component of revenue, the government was getting increased taxes from non-agricultural sources.

Let us now examine the quantitative indicators of the deflation.

TABLE 12. The Matsukata Deflation

	Interest Rates (%)	Wholesale Prices (1877 = 100)	Tokyo Wholesale Prices		
			Rice (*Koku*)	Cotton (60 kg.)	Iron (100 kg.)
1881	14.0	164	10.59	33.76	8.39
1882	10.1	155	8.81	35.36	7.82
1883	7.9	131	6.31	20.80	7.37
1884	10.1	123	5.29	19.52	5.95
1885	11.0	128	6.61	22.72	6.05
1886	9.1	132	5.99	20.32	5.20

	Quantity of Money (Million ¥)	Paper Notes (Million ¥)	Notes/Silver	Specie & Conv. Notes/Total (%)
1881	192.8	153.3	1.696	19.1
1882	189.9	143.8	1.571	19.9
1883	166.1	132.3	1.264	20.4
1884	164.6	124.4	1.088	20.3
1885	154.7	122.5	1.006	21.5
1886	151.2	136.9	1.000	41.1

Source: See Tables 5, 7, and 9.

These figures reveal what Matsukata's tactics accomplished. A tight money policy decreased the quantity of money by some 20 per cent between 1881 and 1885. Commodity prices fell; rice prices were cut almost in half, and cotton and iron dropped by 25–30 per cent. The general price level dropped to 75 per cent of the 1881 level in 1884. Interest rates also declined, and notes were virtually at par in 1885. On the international scene things were also quite different. From 1881 to 1885 foreign payments were in the black except for a very minor deficit in 1881, the total gain amounting to ¥32.3 million, including a specie gain during 1882–1885 of ¥7.9 million. This was the first such experience since the Restoration, and it was not to be repeated frequently in later years.

All this gave the necessary stability for the creation of a convertible currency and reform of the banking system. Some of these events take us beyond 1885 and the end of transition; an indication of the main happenings will suffice. Based on Matsukata's memorandum of 1882, the Bank of Japan was founded in 1885 and replaced national banks by becoming the bank of issue. Its notes were convertible. National bank reserves were transferred to the Bank of Japan, and the national banks had to make annual payments into a Bank of Japan fund for the purpose of redeeming their previous note issue. Complete redemption of inconvertible government and bank notes took until 1899 and 1904 respectively, but the effects of a working central bank and reformed currency were felt much earlier. Thus, by about 1885/1886 the main targets of the government, first set in 1868, were in hand: a central bank was functioning, currency, purged of inconvertible paper, had become "respectable," and revenues were consistent with expenditures. It took the government nineteen years to accomplish this; from that time the economy was free to move progressively.

Some may feel that we have exaggerated the importance of financial factors and particularly the role of the inflation-deflation sequence. In studies of the economic history of Western countries, it would indeed be a rarity to find specific short-run monetary factors singled out for similar attention. Our emphasis in explaining transition, however, is not primarily monetary. What happened to the money supply and prices was indicative of more fundamental economic forces, and in this sense there can be no question of exaggeration. Let us abandon chronology for a moment and skip into the future.

The point has already been made that the Matsukata Deflation was exceptional in duration and especially in sharpness—this statement is true for the entire period 1868 to 1965: in terms of the General Price Index, post-Matsukata deflations were mild. Quantitatively they looked like this (1934–1936 = 100):[75]

		Price Decline
1890–1891	One year	29.0 to 27.3
1900–1901	One year	44.9 to 40.9
1907–1910	Three years	59.3 to 55.7
1913–1915	Two years	65.4 to 58.2

Price declines between 1886 and World War I were slight and of short duration. Between World War I and today, there existed only one deflationary period. The price level reached a peak in 1920 following the

[75] Hitotsubashi D11.

World War I boom, and it then took eleven years for prices to reach a trough in 1930. This was, compared to the boom, a drop in the price level of 47.5 per cent, even though the trough value (91.3) was still considerably higher than the average price level prevailing immediately before World War I (60).[76] The government never again followed any drastic and prolonged deflationary policy.

Matsukata's deflation was therefore a unique event in Japanese economic history, and a bold attempt to create a setting in which MEG could begin. The inflation which preceded it was equally unique. Post-Matsukata inflations can be traced to a range of circumstances, but generally they stem from credit creation to *modern* industry. In other words, the inflations were part of the *growth* process. This was not the situation in the late 1870's. That inflation was the financial result of disturbances and hindrances to growth which the leaders of the Restoration had inherited. At least in the eyes of the government, Japan was not on the right track in the 1870's, and part of the problem lay in its own actions. Private enterprise needed a more rational and elastic currency, and government had to have adequate revenues; both aims were materially advanced through Matsukata's efforts.

One final point about this entire episode. Matsukata's policies of the 1880's were unpopular with large segments of the population. Farmers suffered special distress, and many were reduced to tenant status after forced sale of their land.[77] A student of the currently underdeveloped world might ask: how did the government get away with it? Two elements must be considered in any answer. To begin with, boundary conditions themselves were subject to change. By the 1880's, those who represented potential antigovernment leadership were very much weaker. The rank and file of the samurai, who had received bonds, were largely ruined by the inflation of the 1870's. The value of their bonds had declined, and most of them had to sell bonds in order to stay alive. One can, perhaps, say that under Matsukata the former samurai had been divided into two groups. One group had sunk to a lower economic level and was trying somehow to make ends meet in an unpleasant and unfamiliar new world. The other group, much smaller to be sure, was rising to higher levels, drawn by the new career opportunities in private business and the bureaucracy. Neither group had the appetite for revolt: the sinking samurai were defeated, and the rising samurai were victorious. Another aspect of government strength, distinct from changing boundary conditions, lies in the differences between the economy and polity. The economy was, as we have said, quite free, but the polity was controlled. Japan was not a democracy,

[76] The same is true of the Matsukata Deflation.

[77] For example, between 1883 and 1887 the proportion of land cultivated by tenants rose from 35.9 to 39.3 per cent. Yamaguchi, *Nihon keizaishi kōgi,* p. 162.

and from the Restoration to the end of transition, each year the military and police power of the state increased. After the Satsuma Rebellion the Meiji leaders were firmly in the saddle. Lastly, we should also take into account an important characteristic of Japanese economic life: the people work hard and continue to produce, no matter what happens. Despite the dislocations occasioned by inflation and deflation, aggregate output almost maintained itself. GDP, in 1934–1936, prices, shows the following annual averages: 1879–1880, ¥2.4 billion; 1881–1885, ¥2.2 billion; 1886–1889, ¥2.9 billion.[78] This was an important asset.

[78] Hitotsubashi D11.