

早稲田商学第 394 号
2 0 0 2 年 9 月

High Cost Structure in the Japanese Economy under Globalization*

Masanori Yokoyama

Abstract

Japan has a dual economic structure between efficient manufacturing (traded goods sectors) and inefficient services (quasi-traded goods sectors), which is commonly referred to as the high cost structure. The main Japanese manufactures have comparative advantages through high productivity, while many services have little international competitiveness because of low efficiency and various regulations restricting economic activity. The structural distortion makes Japanese prices rather expensive by international standards. Now that all industries including manufacturing and services are in global competition, it is necessary to design structural reforms in order to correct the high cost structure and make the Japanese economy adjust itself to globalization.

1. Introduction

The Japanese economy must adapt itself to economic globaliza-

* I am grateful to Dr Marcus Rebick (Nissan Institute of Japanese Studies, University of Oxford) for his suggestive comments and this research is assisted by Tokui's Fund of School of Commerce, Waseda University

tion. Economic globalization means that the home market structure in the national economic framework shifts to that in the transnational economic framework. In other words, globalization makes the market mechanism spread on a worldwide scale. This change is mainly accelerated by expansions in the overseas activities of enterprises. The manufacturing industries (traded goods sectors) have already faced global competition in maintaining high price-competitiveness through improvements in productivity. On the other hand, the service industries have been treated as non-traded goods sectors transacted only in the home market until now. But the globalization has changed this situation. Now services are also in the same global competition as manufacturing. In other words, the globalization has transformed services from non-traded goods to quasi-traded goods. The quasi-traded goods are defined as traded goods internationally transacted on a small scale, and in these sectors competition between home companies and foreign ones can be prompted by mutual expansions of inward and outward foreign direct investment (FDI). Services have problems in that they have only low efficiency in global competition.

Japan has a structural distortion or the inefficient resource allocation in the supply side commonly referred to as the high cost structure. Recently, the high cost structure of the Japanese economy has been discussed domestically for several years¹. Reforms of structural distortion have been dealt with as a policy issue². A rise in the relative price of quasi-traded goods to traded goods, caused by a fall in the relative productivity of quasi-traded goods, brings about the high cost economy. The high cost structure is a dual structure between efficient manufacturing and inefficient services. It is known that there are many kinds of regulations in services, which restrict enterprises to

1 See, for example, Kosai (1996) (1997), Nakatani (1997) and Fukao (1997).

2 See MITI (1999).

enter new business and fix transacted quantities and prices. Regulations have the effect of isolating the Japanese market from the foreign markets and globalization.

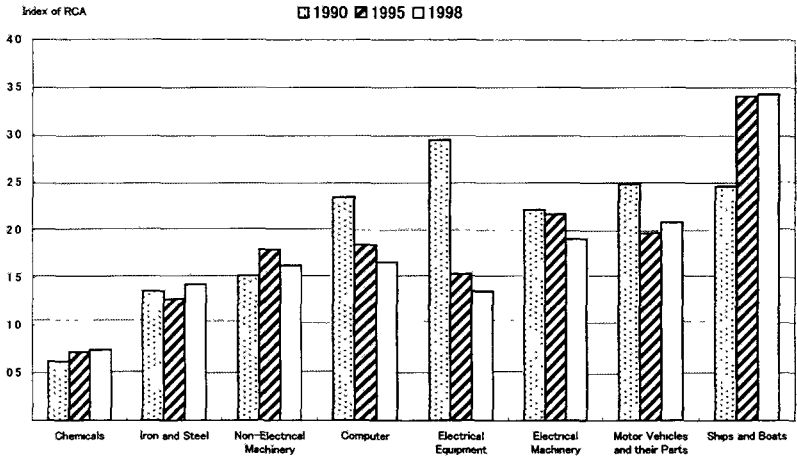
The main purpose of this paper is to think about the Japanese high cost structure empirically and theoretically and then investigate policies to solve the structural problems. We approach the economic structural problems and show the policy prescription for resolving them in focusing on the supply side of the Japanese economy. Section 2 shows changes of the Japanese trade structure. We examine trends in comparative advantages of the Japanese manufactures. Section 3 explains the domestic industrial structure under globalization. We examine what the high cost economy is and why it arises. Section 4 shows the theoretical mechanism of the high cost economy. We theoretically consider why it happens. Section 5 presents what is necessary to revise the high cost structure.

2. Trade Structure and Efficient Manufacturing

2-1 Comparative advantages of the Japanese manufactured goods

First, we inspect comparative advantages of Japanese manufactures by using the indices of Revealed Comparative Advantage (RCA) developed by Balassa (1965). Figure 1 shows the RCA indices of main manufactures in the 1990s. When the RCA index of a good is more than 1, Japan has a comparative advantage on the good. Figure 1 suggests that Japan has comparative advantages on the following main manufactured goods; iron and steel, non-electrical machinery, computers, electrical equipment (television, radio, telecom equipment and household appliances), electrical machinery, motor vehicles and their parts, and ships and boats. For computers and electrical equipment, however, the indices have declined. This signifies that these goods are losing price-competitiveness. Chemicals have little price-competitiveness, but the index has gradually risen.

Figure 1 Revealed Comparative Advantage



Note: Index of RCA = $(X_{ji}/X_j)/(X_{wi}/X_w)$

X_{ji} : export of good from Japan, X_j : total export from Japan

X_{wi} : export of good from the World, X_w : total export from the World

Source: *Yearbook of International Trade Statistics*, UN

Second, we investigate sources of comparative advantage from the relation between changes in labour productivity and those in domestic prices. On the assumption that the levels of productivity and price in the rest of the world are constantly given, the domestic prices or the relative prices of the Japanese goods to foreign goods are cheaper as the home productivity is higher. Table 1 denotes the annual average changes in labour productivity, domestic prices, and production of main economic activities in the 1990s. It is observed that the domestic prices fall with a rise of productivity in chemicals, electrical equipment and machinery, and transport equipment. Of course we have to consider changes of the foreign productivity and prices in the determination of comparative advantage. Roughly speaking, however, the comparative advantage sectors tend to have low domestic prices backed by high labour productivity.

Table 1 Annual Average Changes of Labour Productivity, Domestic Prices and Production in the 1990s

(%)

| | Productivity | Domestic Prices | Production |
|-------------------------------------|--------------|-----------------|------------|
| Industries | 1.016 | 0.211 | 1.422 |
| Manufacturing | 2.273 | -1.080 | 0.507 |
| Chemicals | 2.960 | -1.878 | 2.073 |
| Iron and Steel | -0.305 | -1.655 | -2.553 |
| Non-Electrical Machinery | -1.124 | 0.151 | -2.296 |
| Electrical Equipment and Machinery | 9.712 | -6.826 | 7.841 |
| Transport Equipment | 1.935 | -0.281 | 1.188 |
| Services | 0.698 | 0.649 | 2.247 |
| Construction | -3.921 | 1.717 | -2.834 |
| Electricity, Gas and Water Supplies | 1.230 | 0.652 | 2.338 |
| Wholesale and Retail Trade | 2.185 | -0.438 | 3.219 |
| Finance and Insurance | 3.996 | -0.611 | 3.262 |
| Real Estate | 1.677 | 1.715 | 2.007 |
| Transport and Communications | 1.837 | -0.785 | 2.725 |
| Service Activities | 0.086 | 1.247 | 2.684 |

Source: *Annual Report on National Accounts*, Economic and Social Institute, Cabinet Office, Government of Japan

The reason why electrical machinery keeps a comparative advantage is that the labour productivity drastically goes up and the domestic price substantially falls. When we look at changes in production, we can understand that electrical equipment and machinery are now leading the Japanese economy. But it is hypothesized that an improvement in productivity and a decline in domestic price are focussed in the electrical machinery sectors having the high RCA index, while productivity goes down in the electrical equipment sectors where the RCA index greatly decreases. Electrical equipment is a sector in which other Asian countries have rapidly pursued Japan, so a deterioration of the RCA index reflects a movement in the export origin of goods from Japan to other Asian countries. An increase in productiv-

ity and a decrease in domestic prices occur in transport equipment (particularly automobiles) and chemicals. The RCA index has still been high in transport equipment (motor vehicles, and ships and boats). And chemicals are gaining comparative advantage with a gradual amelioration in the RCA index. Furthermore, these sectors are leading the Japanese economy with expansions in production. Iron and steel keep a high RCA index with a fall in domestic price, but productivity and production diminish together. Though non-electrical machinery including computers has statistically held comparative advantage, the RCA index of computers has notably fallen. This is mostly due to a decrease in productivity and production, and a rise in domestic price.

Productive factors move from low productivity sectors to high productivity ones. In other words, the specialization progresses through industrial adjustments. The production shares rise in high productivity sectors. The share of production in electrical equipment and machinery to total production in manufacturing sharply increased from 12.35% (1990) to 23.21% (1999). In the same period the shares of transport equipment and chemicals only rose from 9.47% to 9.82% and from 7.82% to 8.93%, respectively. In contrast, the shares of non-electrical machinery, and iron and steel respectively fell from 11.93% to 8.93% and from 5.76% to 4.46%. The structural shifts have influence on the trade structure through specialization.

2-2 Trade structure in Japan

Next we take up the changes in the Japanese trade structure. A drastic yen appreciation against the US dollar after 1985 should have effects of putting a brake on the surge in exports from Japan. The yen appreciated against the dollar from $\$1 = ¥ 238.5$ (1985) to $\$1 = ¥ 113.9$ (1999). However, if the export quantum index is 100 in 1985, that is 141.3 in 1999. The main manufacturing industries have com-

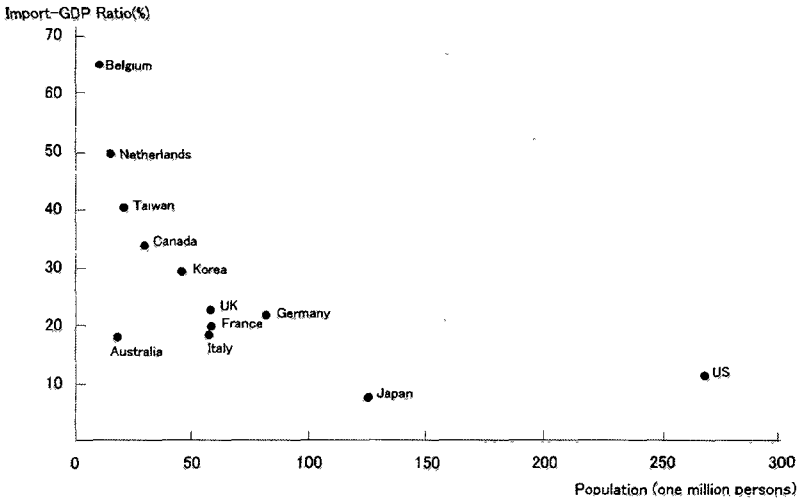
parative advantages and the export quantities have increased in spite of a yen appreciation. The reason why exports have augmented despite a steady yen appreciation is that other Asian countries, namely ANIEs (Asian Newly Industrializing Economies: Korea, Taiwan, Singapore and Hong Kong), ASEAN4 (Thailand, Malaysia, Philippines and Indonesia) and China, have experienced high economic growth. An increase of production in these countries has promoted an expansion in exports of Japanese capital equipment including electrical and non-electrical machinery, and transport equipment. In fact, exports of capital goods have continued to hold comparative advantages, and the main destination of exports from Japan has shifted to other Asian countries since the late 1980s. The share of Asian countries in Japan's exports has gone up from 24.1% (1985) to 40.5% (2000). In contrast, the share of US, which is the nation occupying the biggest position in Japan's exports, has declined from 37.6% (1985) to 29.8% (2000). Exports of capital goods have been facilitated by expansions of FDI from Japan to other Asian countries, because outward FDI has been accompanied with exports of capital goods used for production in the invested countries.

The Japanese import structure has shifted from vertical trade to horizontal trade. The past Japanese trade pattern was vertical trade or inter-industry trade, that is, industrial supplies were mainly imported and then manufactured goods made from them were exported. However, the share of manufactured goods increased from 31.7% (1986) to 61.1% (1999). The structural transformation is due to a yen appreciation after 1985 and expansions of outward FDI. These factors have contributed to an increase in imports of manufactures. For example, if the import quantum index is 100 in 1985, that is 227.8 in 1999. Japanese imports have expanded even under the long depression of the 1990s. This signifies that yen appreciation has stimulated import demand. Furthermore, imports are increased from other Asian

nations accepting Japanese FDI. The US share in Japan's imports only rose from 17.3% (1985) to 18.9% (2000), while the share of other Asian nations was up from 24.3% to 41.9% over the same period. This change is chiefly due to an increase in the imports of cheaper manufactures produced by the Japanese enterprises in other Asian nations.

Structural changes from vertical trade to horizontal trade prove that the Japanese manufacturing is adapting to globalization. The past vertical trade was based on the national economic framework. The vertical trade was grounded on the economic structure of the "full-set type" or "self-circulation type", namely, an economic structure where all kinds of manufactures are domestically produced through inputs of imported industrial supplies. The horizontal trade, however, can be part of a transnational economic framework, or economic globalization. This trade pattern is built on an economic structure put in the transnational economy through strong global economic linkages and interdependence based on an increase in mutual exchanges of manufactures.

Japan has eliminated trade barriers to accelerate these structural changes. Average tariff rates on imports in Japan are the lowest in the world. But it is politically and journalistically argued that the Japanese market is still closed to foreign enterprises. It is said that the low dependence on imports (Import-GDP ratio) is a sign of the closed nature of the Japanese market. The Japanese Import-GDP ratio is certainly low. However, import quantities have continued to expand. It is necessary to verify whether there is a correlation between the low dependence on imports and market barriers. According to Figure 2 showing Import-GDP ratios in main countries, it can be understood that the Import-GDP ratio depends on the size of nation. We use the level of population as an indicator of country size. As the population grows, GDP tends to expand. Figure 2 suggests that the Import-GDP ratio diminishes if the population is large.

Figure 2 Relation between Rate of Dependence on Imports and Size of Nation

Source: *Comparative Economic and Financial Statistics*, Bank of Japan

The large countries have enough domestic demand for enterprises to do the mass production. In this occasion the domestic demand is almost covered by the domestic production. As a result, the large countries don't need to depend on imports to satisfy the domestic demand. As the country size is small, the market scale is so small that the domestic demand can't be satisfied with domestic production. Therefore, the small countries are compelled to have high Import-GDP ratios.

Moreover, it is generally argued that domestic demand diverges and the Import-GDP ratio rises as per-capita GDP increases. Though the developed nations have the similar level of per-capita GDP, their Import-GDP ratios are different. Country size has influenced the degree of dependence on imports. The diversified domestic demand is compensated for by mass-production of almost all kind of manufactures in the large countries. Thus the Import-GDP ratio has a tendency to be low in the large countries. This is the reason why the ratios in the

US and Japan are low. However, it is predicted that the recent expansions of manufactures with structural changes from vertical trade to horizontal trade necessarily put upward pressure on the Japanese Import-GDP ratio. It is probably unreasonable to link the low dependence on imports in Japan with barriers to the Japanese market. There is also an argument that the Japanese import level is almost normal from the international viewpoints though there still remains protectionism³. Of course the Japanese government has still protected some sectors including agriculture by using Non-Tariff Barriers (NTBs), and it goes without saying that this trade protection limiting their imports and decreasing national welfare should be abolished⁴.

3. Inefficient Services and the High Cost Economy

3-1 Dual structure between traded goods and quasi-traded goods

As mentioned above, industrial adjustments have advanced with a movement of productive factors from low productivity sectors to high productivity sectors in manufacturing, where high productivity sectors hold comparative advantages. Roughly speaking, manufacturing industries are rather efficient. We should, however, integrate both manufacturing (traded goods sectors) and services (quasi-traded goods sectors) in order to think about the economic structure. Here we will explain that the Japanese high cost structure has appeared with expansions in inefficient service industries.

First we take up the transformation of the Japanese economic structure. Tables 2 and 3 show GDP and employment respectively classified by economic activities. They show a contrast between a contraction in manufacturing and an expansion in services. It is evident that the service industries are given considerable weight in the

3 See, for example, Saxonhouse (1993) and Drysdale (1995).

4 See Sazanami, Urata and Kawai (1995).

Table 2 GDP classified by Economic Activities

(% , at constant 1995 prices)

| | Manufacturing (Traded Goods) | Services (Quasi- Traded Goods) | | | | | | | |
|------|------------------------------------|---|-------------------|--|----------------------------------|-----------------------------|----------------|--|-----------------------|
| | | | Constru- ction | Electricity, Gas and Water Supplies | Wholesale and Retail Trade | Finance and Insurance | Real Estate | Transport and Communi- cation | Service Activities |
| 1990 | 24.3 | 66.1 | 10.6 | 2.7 | 12.4 | 5.4 | 11.4 | 6.6 | 17.0 |
| 1991 | 24.7 | 66.8 | 10.2 | 2.7 | 13.2 | 5.4 | 11.4 | 6.7 | 17.2 |
| 1992 | 24.0 | 67.8 | 9.8 | 2.7 | 13.9 | 5.5 | 11.6 | 6.8 | 17.5 |
| 1993 | 23.0 | 68.3 | 9.6 | 2.6 | 14.1 | 5.4 | 12.0 | 6.8 | 17.8 |
| 1994 | 22.5 | 69.0 | 9.1 | 2.7 | 14.6 | 5.9 | 12.1 | 7.0 | 17.6 |
| 1995 | 23.0 | 68.8 | 8.2 | 2.7 | 15.2 | 5.9 | 12.0 | 7.1 | 17.7 |
| 1996 | 23.2 | 68.4 | 7.9 | 2.8 | 15.3 | 5.6 | 11.8 | 6.9 | 18.1 |
| 1997 | 23.6 | 68.7 | 7.6 | 2.8 | 15.4 | 5.8 | 11.8 | 7.1 | 18.2 |
| 1998 | 22.4 | 69.7 | 7.4 | 2.9 | 15.1 | 5.8 | 12.0 | 7.4 | 19.1 |
| 1999 | 22.4 | 69.8 | 7.3 | 2.9 | 14.5 | 6.3 | 12.2 | 7.5 | 19.1 |

Source: *Annual Report on National Accounts*, Economic and Social Research Institute, Cabinet Office, Government of Japan

Table 3 Employed Persons classified by Economic Activities

(%)

| | Manufacturing (Traded Goods) | Services (Quasi- Traded Goods) | | | | | | | |
|------|------------------------------------|---|-------------------|--|----------------------------------|-----------------------------|----------------|--|-----------------------|
| | | | Constru- ction | Electricity, Gas and Water Supplies | Wholesale and Retail Trade | Finance and Insurance | Real Estate | Transport and Communi- cation | Service Activities |
| 1990 | 23.1 | 60.4 | 9.6 | 0.6 | 17.2 | 3.3 | 1.5 | 5.6 | 22.6 |
| 1991 | 23.2 | 60.9 | 9.7 | 0.6 | 17.1 | 3.2 | 1.5 | 5.6 | 23.2 |
| 1992 | 23.0 | 61.5 | 9.9 | 0.6 | 17.1 | 3.2 | 1.5 | 5.6 | 23.6 |
| 1993 | 22.2 | 62.6 | 10.1 | 0.6 | 17.3 | 3.2 | 1.5 | 5.7 | 24.2 |
| 1994 | 21.4 | 63.6 | 10.3 | 0.7 | 17.4 | 3.2 | 1.5 | 5.7 | 24.8 |
| 1995 | 20.6 | 64.6 | 10.4 | 0.7 | 17.6 | 3.2 | 1.5 | 5.8 | 25.4 |
| 1996 | 20.3 | 65.1 | 10.5 | 0.7 | 17.8 | 3.1 | 1.4 | 5.9 | 25.7 |
| 1997 | 20.1 | 65.7 | 10.6 | 0.7 | 17.7 | 3.0 | 1.4 | 5.9 | 26.4 |
| 1998 | 19.4 | 66.5 | 10.3 | 0.7 | 17.9 | 3.1 | 1.5 | 5.8 | 27.2 |
| 1999 | 19.0 | 66.8 | 10.3 | 0.7 | 18.1 | 3.0 | 1.4 | 5.9 | 27.4 |

Source: *Annual Report on National Accounts*, Economic and Social Research Institute, Cabinet Office, Government of Japan

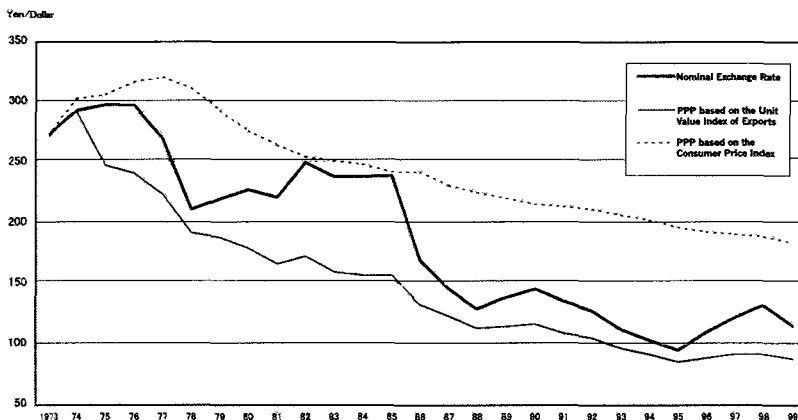
Japanese economy. Tables 2 and 3 suggest the following. Firstly, the shares of both production and employment have fallen in manufacturing. None the less, the manufacturing industries are more efficient than the service industries. Secondly, however, services are inefficient in spite of rises in the shares of both production and employment. The rate of decrease of production is less than that of employment in manufacturing. On the other hand, the rate of increase of production is less than that of employment in services. In other words, the productivity growth in manufacturing is higher than that in services. The Japanese economy has had a more inefficient structure grounded on services year by year.

We now investigate a gap of productivity between manufacturing and services in detail. See Table 1 again, which shows the annual average changes of labour productivity, domestic prices and production in manufacturing and services in the 1990s. It is obvious that productivity in manufacturing is higher than that in services. Domestic prices fall with higher efficiency in manufacturing. They rise in services, although productivity goes up in the 1990s. This symmetry means that services are more inefficient than manufacturing. In particular production in inefficient services expands more than that in efficient manufacturing. The high cost structure in the Japanese economy originates from relatively large expansions of production in inefficient services.

The sectors of wholesale and retail trade, finance and insurance, and transport and communications have a rise in productivity and a fall in domestic prices, so they are rather efficient in services. Communication services, however, have a reduction in domestic price (-5.230% , annual average changes in the 1990s) and an expansion of production ($+10.735\%$), but transport services have a rise in domestic price ($+1.350\%$) and a decrease in production (-0.419%). Thus, an upturn of productivity and a fall of domestic prices in transport and

communications are supported by strong improvements of productivity in communications. An unreasonable relation between an improvement of productivity and a rise of prices is seen in the sectors of electrical, gas and water supplies, real estate, and service activities. Moreover, construction services have had a fall of productivity in the 1990s. These inefficient sectors account for around 60% in total services' production and employment in Tables 2 and 3. Low productivity in these sectors has had a large effect of pushing up prices of services and is a main cause of the high cost structure of the Japanese economy. Government activities also bring about the high cost economy. The government has tried expansions of domestic demand by spending on public works to overcome the depression in the 1990s. Tables 2 and 3 suggest that expansionary fiscal policies have contributed to the absorption of employment in construction services where production has diminished. At the same time prices in public services including electrical, gas and water supplies are officially regulated and determined by the government's permission. Therefore, swollen government activities are a factor leading to the Japanese high cost economy.

A decline in the relative productivity of quasi-traded goods is relevant to an upturn of the relative prices of quasi-traded goods. Table 1 also shows trends in prices of traded goods, quasi-traded goods and industries in the 1990s. Prices of traded goods have a tendency to fall, which reflects improvement of productivity in manufacturing. However, prices of quasi-traded goods tend to go up. It is owing to that an improvement of productivity can't cover the increase of production cost in services. And prices of industries stay almost stable because the rise in prices of quasi-traded goods is offset by the fall in prices of traded goods. In general the relative prices of quasi-traded goods to traded goods rise not only in Japan, but also in other advanced countries (for example, the US and Germany). Ho

Figure 3 Purchasing Power Parity and Nominal Exchange Rate

Source: *International Financial Statistics*, IMF

wever, the gap between the two prices is bigger in Japan than in other developed nations⁵.

The high cost structure makes Japanese prices high internationally. Figure 3 demonstrates the actual nominal exchange rate (yen/dollar) and the theoretical exchange rate or the Purchasing Power Parity (PPP). The Japanese high cost economy may also be understood from the theoretically measured exchange rate on condition that the benchmark year is 1973 when international monetary system shifted from fixed exchange rates to flexible exchange rates. Figure 3 shows the gap between the PPP on the Unit Value Index of Exports which is equal to prices of traded goods and the PPP on the Consumer Price Index of which a large part is composed of prices of services. Firstly, the former has revalued because of higher efficiency in traded goods. And the actual nominal exchange rate has a similar trend to the PPP on

5 See MITI (1998).

the Unit Value Index of Exports except in the early 1980s when the US government adopted a strong dollar policy. In other words the actual exchange rate and the PPP of traded goods have a tendency to vary correlatively, or the actual exchange rate is easily influenced by the PPP of traded goods. Secondly, the theoretical exchange rate on the CPI (prices of quasi-traded goods) devalues more than the actual exchange rate correlating to the PPP of traded goods. This means that the price level is higher in Japan than in the US. This is why the CPI signifies the living cost for the Japanese people. For example, the actual average exchange rate in 1999 is $\$1 = \text{¥} 113.9$, while the PPP on the CPI is $\$1 = \text{¥} 182.8$. Though the Japanese people faced $\$1 = \text{¥} 113.9$ in name at that time, they were forced to live at the level of $\$1 = \text{¥} 182.8$ in fact. Therefore, the price level in Japan is about 1.6 times as high as that in US (182.8 divided by 113.9 makes 1.6). To put it simply, it is this gap that demonstrates the high cost in Japan. The rise in the relative price of quasi-traded goods to traded goods causes the Japanese price level to be internationally higher.

3-2 What problems does the high cost structure bring about in the Japanese economy ?

The Japanese high cost structure brings about the following problems. First, there have still remained many obstacles in services, particularly in the sectors of electricity, gas and water supplies, finance and insurance, and transport and communication, which can make their prices expensive. These are official regulations that constrain the entry of new competitors, adjust quantities in order to keep the balance between demand and supply, and oblige enterprises to ask for the government's permission in determination of prices. However, there remain few official regulations in manufacturing. Table 1 shows that the productivity of manufacturing in which free economic activities are allowed improves more than that of services in which there have

still remained many regulations⁶. Regulations have treated efficient enterprises and inefficient ones in the same sectors equally. As a result, they can be the obstacles that defer competition among enterprises. At the same time they prevent foreign enterprises from entering the Japanese market. The government usually adopts policies giving a helping hand to inefficient companies, which leads to the high cost economy or internationally higher prices in Japan. Of course the government has implemented deregulation in some sectors, for example, in electricity supplies and communication services. Deregulation in electricity supplies has induced the entry of new competitors and reduced prices. And deregulation in communication services has prompted a rise in productivity and cost reductions through technology advances, and created new investment demand. Relaxing restrictions is necessary for services to raise efficiency through competition.

Second, the service industries are behind in adjusting themselves to globalization. This problem is related to the first one. The manufacturing industries are adapting to globalization in keeping high productivity. Globalization has changed services from the non-traded goods sectors to the quasi-traded goods sectors through global competition. But regulations reject global competition in services. Many service industries have little international competitiveness because of low productivity. Table 4 shows the indices of competitiveness of trade in services. As the index of a service is close to 1, the service gains competitiveness. On the contrary, as the index is close to -1 , the service loses competitiveness. The indices tend to improve in communication services and financial services. We can observe an increase of productivity in these sectors from Table 1. However, insurance services have little competitiveness in spite of

6 Similar verification is demonstrated in Warren (1997) and EPA (1999)

Table 4 Index of Competitiveness in Service Trade

| | Sea Transport (Freight) | Air Transport | | Travel | Communication Services | Construction Services | Insurance Services | Financial Services |
|------|-------------------------|---------------|---------|--------|------------------------|-----------------------|--------------------|--------------------|
| | | Passenger | Freight | | | | | |
| 1991 | 0.10 | -0.71 | 0.25 | -0.75 | -0.43 | 0.24 | -0.03 | -0.89 |
| 1992 | 0.14 | -0.73 | 0.26 | -0.76 | -0.61 | 0.37 | -1.46 | -0.77 |
| 1993 | 0.06 | -0.73 | 0.17 | -0.77 | -0.55 | 0.39 | -0.92 | -0.66 |
| 1994 | 0.02 | -0.73 | 0.14 | -0.80 | -0.25 | 0.36 | -0.75 | -0.50 |
| 1995 | -0.03 | -0.72 | 0.08 | -0.84 | -0.25 | 0.34 | -0.79 | -0.19 |
| 1996 | -0.17 | -0.70 | 0.07 | -0.80 | -0.15 | 0.10 | -0.59 | -0.02 |
| 1997 | -0.13 | -0.64 | 0.18 | -0.77 | -0.11 | 0.18 | -0.71 | -0.18 |
| 1998 | -0.10 | -0.55 | 0.21 | -0.77 | -0.16 | 0.17 | -0.95 | -0.14 |
| 1999 | -0.07 | -0.57 | 0.17 | -0.81 | -0.29 | 0.14 | -1.03 | -0.14 |
| 2000 | -0.06 | -0.61 | 0.11 | -0.81 | -0.17 | 0.19 | -0.84 | -0.21 |

Note: Index of Competitiveness = $\frac{\text{Credit} - \text{Debit}}{\text{Credit} + \text{Debit}}$

Source: *Balance of Payments Monthly*, Bank of Japan

efficiency in the sector of finance and insurance. The index gets worse in sea transport. Air transport for freight has competitiveness, while the indices are always negative in air transport for passengers and travel. Transport services have had a rise in domestic prices and a reduction in production. Construction services have had competitiveness, but the index continues to decline, which is related to a fall in productivity. Roughly speaking, competitiveness is low in services having low productivity or high domestic prices, and low competitiveness in service trade reflects internationally higher prices of quasi-traded goods. Many services have still been located in the national economic framework opposed to globalization.

Third, all industries are forced to domestically use more expensive services as intermediate goods. Table 5 summarizes the relation between inputs and outputs by classification of economic activities. The ratio of inputs of services to total inputs is about 50% in services and has had a tendency to rise. This means that the development of a particular service sector expands the other service sectors. Table 5

Table 5 Input and Output classified by Economic Activities

(%)

| | Manufacturing | | | Services | | |
|----------------------------------|---------------|--------|------|----------|--------|------|
| | 1990 | 1995 | 1999 | 1990 | 1995 | 1999 |
| Input/Output | 64.9 | 62.9 | 62.4 | 37.1 | 35.2 | 34.4 |
| Input of Services/Output | (11.0) | (11.3) | — | (18.8) | (18.4) | — |
| Value Added/Output | 35.1 | 37.1 | 37.6 | 62.9 | 64.8 | 65.6 |
| Compensation of Employees/Output | 17.8 | 20.2 | 20.6 | 29.7 | 31.7 | 31.2 |

Source: *Annual Report on National Accounts*, Economic and Social Research Institute, Cabinet Office, Government of Japan

also suggests that services belong to labour-intensive sectors in which the ratio of wages to outputs is relatively high. According to the Heckscher-Ohlin theorem, wages are relatively higher compared to capital rental in Japan where there exists an abundance of capital. Therefore, since high wages can't be covered with low productivity in services, the high cost economy emerges. As the H-O theorem shows, Japan now has comparative advantages on traded goods (capital-intensive goods) and comparative disadvantages on quasi-traded goods (labour-intensive goods). The important problem is, however, that there is a possibility of hollowing-out in the Japanese manufacturing if the high cost structure continues to be ignored. The ratio of inputs of services to total inputs is around 20% in manufacturing and has tended to go up. Higher levels of services used as inputs in other sectors will decrease the price competitiveness of Japanese manufactured goods. There is an objection to this point⁷. According to this argument, the manufacturing industries maintain comparative advantages even though they use expensive services as inputs, and hence the high cost structure of the Japanese economy isn't a significant economic problem.

7 See Yoshitomi (1996) (1997).

However, the Japanese manufacturing enterprises don't always use costlier services made in Japan as intermediate goods under globalization. They can demand cheaper services in foreign countries through overseas production. As outward FDI expands in efficient manufacturing, there will remain only inefficient services domestically, and then the Japanese economy will possibly experience the hollowing-out in manufacturing and the technological decay⁸. It is inevitable and natural that Japanese manufactures will lose the price-competitiveness with the catching-up of ANIEs and ASEAN4. The base of economic structure shifts from manufacturing to services with economic development. Hence, Japan will have to develop efficient and upgraded services which will be able to succeed to the position of comparative advantage after manufactures.

4. Theoretical Mechanism of the High Cost Economy

We now explain the theoretical mechanism of the Japanese high cost economy. Of course NTBs restrict imports of agricultural products and have effect of raising the price level. But the effect of protectionism on a rise in the price level is small because the agricultural sector occupies only 2% in total production. The main element leading to the high cost economy is the relative expansion of inefficient services.

We take up a two-country model, namely Japan and the US. Let us suppose that both the Japanese people and the American people have the same preference or the same consumption structure. Let: P = the general price level in Japan, P_T = the home price of traded goods,

⁸ The hollowing-out is generally defined as a fall in price-competitiveness of home goods and a reduction in manufacturing accompanied by expansions in outward FDI, and the development of the service economy. Especially, the technological decay is often discussed in this problem

P_Q = the home price of quasi-traded goods (an asterisk superscript will indicate foreign variables). We assume that the general price level is simply determined on the basis of the linearly homogeneous Cobb-Douglas function of the first degree⁹. Then the price levels in Japan and the US are respectively indicated as follows.

$$(1) \quad P = P_T^a \cdot P_Q^{1-a}$$

$$(2) \quad P^* = P_T^{*a} \cdot P_Q^{*1-a}$$

where the constant a is positive but less than 1, and is equal to the elasticity of the general price with respect to the price of traded goods, that is, the change in the general price level brought about by the change in the price of traded goods. On the other hand, the constant $(1-a)$ is the elasticity of the general price to the price of quasi-traded goods.

International arbitrage of traded goods is realized under global free trade. And if the nominal exchange rate (yen/dollar) is denoted by e , the following expression about international arbitrage is introduced.

$$(3) \quad P_T = eP_T^*$$

Furthermore, the following relation is derived by resolving the simultaneous equations from the expressions (1)~(3).

$$(4) \quad e = \left[\frac{\left(\frac{P_T}{P_Q} \right)}{\left(\frac{P_T^*}{P_Q^*} \right)} \right]^{1-a} \cdot \frac{P}{P^*}$$

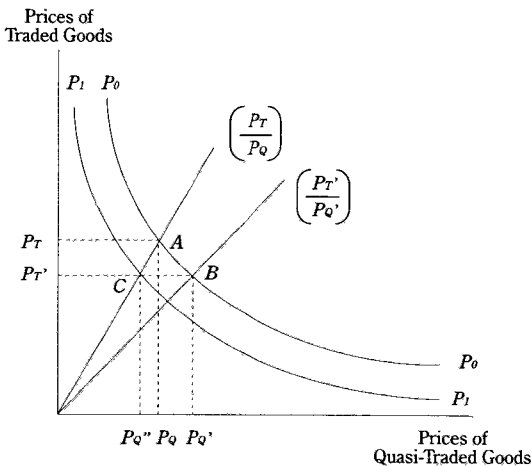
The expression (4) shows how the PPP is determined. The level of exchange rate theoretically depends on the general price level in Japan and the US, namely P and P^* , and the relative price of traded

9 In this case we take up traded goods and quasi-traded goods as final consumer goods. Therefore, there is a defect that we don't treat quasi-traded goods as intermediate goods.

goods to quasi-traded goods in Japan and the US, that is, (P_T/P_Q) and (P_T^*/P_Q^*) . If we suppose that the general price level in the US is constant, a rise in the Japanese general price level (a rise in P) causes a yen depreciation against the dollar (an increase in e). In contrast, a fall brings a yen appreciation against the dollar. If the general price level in Japan doubles, the exchange rate also doubles. Moreover the prices of traded goods and quasi-traded goods double together, and the relative price remains unchanged. This is a property of the linearly homogeneous Cobb-Douglas function of degree one.

Figure 4 illustrates the relation between the general price, the price of traded goods and the price of quasi-traded goods from the expression (1). The vertical and horizontal axes denote the price of traded goods and that of quasi-traded goods, respectively. The curves drawn there represent the combinations between the price of traded goods (P_T) and that of quasi-traded goods (P_Q) that maintain a constant general price level (P). It is named the Price Stability Curve. The

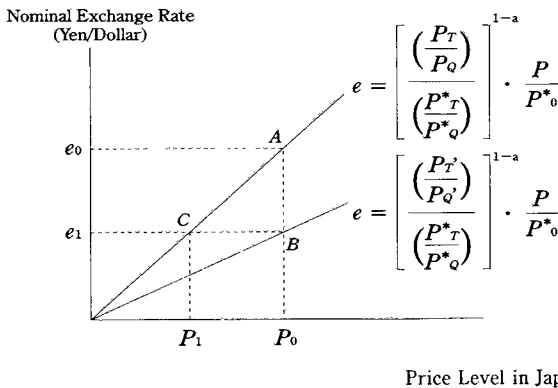
Figure 4 Price Stability Curve



price stability curve has the same characteristics as an indifference curve. (a) each price stability curve corresponds to each general price level. (b) The price stability curves have negative slopes. (c) The curve further out to the right shows the combinations between prices of traded goods and those of quasi-traded goods that yield a higher general price level. (d) The curves can't intersect each other. (e) The curves are convex to the origin.

Table 1 shows that the general price level, which is almost equal to the prices of industries, has had a stable transition in the 1990s, and that a rise in the prices of quasi-traded goods and a fall in the prices of traded goods have occurred in the same period. These changes are diagrammatically represented by a shift from the point A to the point B along $P_0 P_0$ in Figure 4. The relative price of quasi-traded goods to traded goods increases from (P_T/P_Q) to (P_T'/P_Q') despite the stable general price level. On the presupposition of this relation, we can discuss the mechanism of the high cost economy from Figure 5 by drawing an equation (4). The vertical and horizontal axes in Figure 5 respectively indicate the nominal exchange rate (e) and the general price level in Japan (P). Now the price level in the US (P^*) is

Figure 5 Theoretical Mechanism of High Cost Economy



assumed to be unchanged. At the same time the American prices of traded goods and quasi-traded goods also remain constant. Then a straight line is given to plot the expression (4). The slope depends on the relative prices of traded goods to quasi-traded goods in Japan and the US. If the Japanese price level is put at the level of P_0 , the exchange rate will be determined at the level of e_0 . The exchange rate e_0 is consistent with the PPP.

Why is there a gap between the actual exchange rate and the PPP? Why does the high cost economy arise? We reconsider a shift from the point A to the point B in Figure 4. A rise in the relative price of quasi-traded goods to traded goods decreases the slope of the straight line in Figure 5. Even though the general price is maintained at the level of P_0 , a rise in the relative price of quasi-traded goods causes a movement from the point A to the point B in Figure 5 and a change of the exchange rate from e_0 to e_1 . Thus the yen appreciates against the dollar in spite of the stable general price level. As a result, the Japanese price level P_0 is higher at the new level of e_1 . This is the theoretical mechanism of the high cost economy. The Japanese high cost economy results from a rise in the relative price of quasi-traded goods or a fall in the relative productivity of quasi-traded goods.

Raising efficiency in quasi-traded goods sectors redresses the high cost structure. If the quasi-traded goods sectors have an improvement of productivity at the same rate as the increase of productivity in the traded goods sectors, the relative price of quasi-traded goods is unchanged at the level of (P_T/P_Q) or (P_T'/P_Q'') and the general price falls from the level of P_0 along the curve $P_0 P_0$ to the level of P_1 along the curve $P_1 P_1$ in Figure 4. These transitions are represented as a shift from the point B to the point C in Figures 4 and 5. Then the actual exchange rate would coincide with the PPP at the level of e_1 through a decrease in the general price accompanying a reduction in the price of quasi-traded goods. The Japanese high cost economy

would disappear.

5. Towards Correction of the High Cost Economy

The high cost structure results from a dual structure between efficient manufacturing and inefficient services. Now the manufacturing industries have high price-competitiveness supported by high productivity and accommodate globalization, while a large part of the service industries have little international competitiveness because of high cost or low productivity. However, it is inevitable that the Japanese manufactures will lose comparative advantages with the catching-up of ANIEs and ASEAN4. It is a fact that they have continued to lose comparative advantages over the long run. The service industries will have to be more efficient to take over the position of comparative advantage from the manufacturing industries. What is necessary to reform the high cost structure in Japan? And how does the Japanese economy adapt itself to globalization?

Firstly, it is necessary to develop human capital in the service industries and to realize the efficient human resource allocation. Services are labour-intensive, so internationally high wages in Japan inevitably create a high cost economy because of low productivity, and reduce the international competitiveness of services. Services could overcome the high cost through the growth of human capital. For example, we can say that expansions in communication services and financial services mainly rely on improvements in productivity through the growth of human capital. These sectors particularly employ labour forces with much intelligence. The intelligent labour-intensive sectors have higher productivity than the general labour-intensive sectors. These sectors yield the large value added with high productivity that can compensate for the high cost of labour.

Secondly, it is necessary to carry out the structural reform of the Japanese economy as a policy agenda. There is a contrast between

manufacturing with high productivity and services with low productivity, which is due to a gap between manufacturing with few regulations and services with many regulations. Deregulation would contribute to improvements of efficiency in services. According to the effects of economic structural reforms calculated by MITI and Sanwa Research Institute & Consulting Corporation (2000), deregulation in services would play the role of expanding GDP by 2.38% through raising the productivity and creating new demand. In particular these effects are larger in communication and information services, financial services and medical services, where intelligent labour is utilized. For example, economic reforms in communication and information services, financial services and medical services would increase GDP by 1.48%, 0.34% and 0.38%, respectively. Deregulation is an effective policy to revise the high cost structure through a rise of efficiency in services.

Thirdly, it is necessary to abolish barriers to trade in services from an international viewpoint. According to another calculation by MITI (2000), the liberalization of trade in manufactured goods would make Japan's GDP expand by only 0.07%, while that of trade in services would increase it by 2.95%. On the other hand, the US's GDP would expand by 0.02% through trade liberalization in manufactured goods, whereas it would increase by 1.51% through that in services. The effects of elimination of service barriers on an expansion of GDP in Japan are the biggest in the world. This suggests that Japanese services are more inefficient and higher internationally. Of course deregulation to trade in services would also bring about an increase in inward FDI which would prompt competition between Japanese companies and foreign ones. Economic globalization, which is partly lead to by trade liberalization in goods and services, will contribute to the international arbitrage of prices not only of traded goods but also of quasi-traded goods. And the arbitrage of labour-intensive quasi-traded goods will lead to the global equalization of wages and the most

efficient resource allocation in the world economy as the H-O theorem proves.

Thus all industries including manufacturing and services will end up in global competition. In this sense the structural reform through trade liberalization in services will also have the effect of correcting the high cost structure of the Japanese economy. Time has come when the Japanese economic system should turn from outward oriented system, which is particularly based on expansions of exports of manufactured goods and outward FDI, to inward oriented system, which aims at expansions of trade in services and inward FDI through deregulation.

Now the Japanese economy is deflationary, but expensive. Exclusive two targets, stopping falling prices through creation of inflation and reducing production cost through a rise in efficiency, must be consistent by adopting policy assignments. Even in the short term, the quantity effects, namely real expansions in production with improvements in productivity by means of economic reforms and deregulation, should essentially be given priority rather than the price effects, namely the creation of inflation through increases in money supply. Lower prices give a blessing to those who are not worried about losing their jobs from a microeconomic viewpoint. However, people who have been dismissed are conservative about consumption, and those who expect prices to fall postpone spending. Therefore, in the weaker Japanese economy, deflation leads to a decrease in profits of companies from a macroeconomic viewpoint. Now adjustments for inflation in the short run are urgently needed to stop prices from falling. In the case of many goods and services where the demand is elastic to a change in prices, however, both real GDP and nominal GDP would increase in the long run with an improvement in productivity leading to cost reductions, because the effect of an expansion in quantities is greater than that of a fall in prices. As a result, almost all the consumers would

gain more benefits from much lower prices, and companies will also obtain greater profits from the positive effect of expansion in production as opposed to being negatively effected by falling prices.

References

- Balassa, B. 1965. Trade Liberalisation and "Revealed" Comparative Advantage, *The Manchester School of Economic and Social Studies*, 33 (2), pp. 99-123
- Drysdale, P. 1995. The Question of Access to the Japanese Market, *Economic Record*, 71(214), pp. 271-283
- Economic Planning Agency (EPA), Government of Japan. 1998. *Economic Survey of Japan*, Tokyo
- Fukao, K. 1997. *Kudoukarongi ni Hisomu Oinarugokai* (Misunderstanding in Discussion about Hollowing-Out in the Japanese Economy), *Ronso Toyo Keizai*, No. 6, pp. 132-138
- Kosai, Y. 1996. *Bonekikuroji Endaka no Jidai ha Owatta* (The End of Period of Trade Surplus and Yen Appreciation), *Ronso Toyo Keizai*, No.3, pp. 30-39
- Kosai, Y. 1997. *Watashi no Nihonkeizai Koukosutoron Bengo* (My view on the High Cost Structure of the Japanese Economy), *Ronso Toyo Keizai*, No.5, pp. 224-231
- Ministry of International Trade and Industry (MITI) 1998 and 2000. *White Paper on International Trade*, Tokyo
- MITI. 1999. Strategy for Revitalizing Industries, February, at <http://www.meti.go.jp>
- MITI, and Sanwa Research Institute & Consulting Corporation. 2000. *Keizaikouzaikaku no Koukashisan nitsuite* (On Trial Calculation of the effects of Economic Structural Reforms), November, Tokyo
- Nakatani, I. 1997. *Koukosutokeizai ga Kaeta Nihonkeizai* (Turn in the Japanese Economy Triggered by the High Cost Structure), *Ronso Toyo Keizai*, No.5, pp. 232-235
- Sazanami, Y., S. Urata and H. Kawai. 1995. *Measuring the Costs of Protection in Japan*, Institute for International Economics, Washington D. C.
- Saxonhouse, G. R. 1993. What does Japanese Trade Structure Tell Us about Japanese Trade Policy?, *Journal of Economic Perspectives*, 7 (3), pp. 21-43
- Yoshitomi, M. 1996. *Nihon Koukosutokezairon no Nanten* (Some Faults in Discussion about the High Cost Structure of the Japanese Economy), *Ronso Toyo Keizai*, No.4, pp. 34-40
- Yoshitomi, M. 1997. *Itansetsu ha Seitoukaron heno Murikai ga Genin* (Discussion about the High Cost Structure of the Japanese Economy as Heterodoxy), *Ronso Toyo Keizai*, No 6, pp. 144-151
- Warren, T. 1997. The Political Economy of Reform in Services in Japan, *Pacific Economic Papers*, No. 270, pp. 1-23