

Construction Industry

By Haruo Inoue

The number of high-rise buildings in Shinjuku, one of the major subcenters of Metropolitan Tokyo, is still increasing. Upon seeing the cluster of skyscrapers, most people are undoubtedly impressed by the economic vitality that these buildings imply. But it should not be forgotten that the buildings are top-class artistic creations, the cream of Japan's architectural technology.

The technology concentrated here is of the highest level. The buildings are, of course, lower than the skyscrapers in the United States, but they are in no way technologically inferior, especially considering the restrictions of location and space. Japanese buildings are said to be built over an "underground bomb" made of the earth's crust with multiple live faults. In contrast, the ground in Manhattan, New York, on which stands the world's second tallest building, the 419-meter World Trade Center, is of solid rock bed. The area is not subject to earthquakes.

Construction of a building on such a hard foundation, without any precautions for earthquakes, requires pillars only half the size of those needed in Japan. This is particularly true in Hong Kong, where the ground is even more solid than in New York. Not only are construction costs lower but the technological problems are also far fewer.

It can thus be seen what sophisticated technology is used in the construction of Japan's high-rise buildings, built on ground that is soft and earthquake-prone.

Japan's modern construction technology, represented by such high-rise buildings, also extends to civil engineering projects that are on the highest technological plane. These include construction of the Shinkansen, or bullet train railway line, high-speed motor expressways, dams and tunnels.

Gaining credibility as a modern industry

Before arriving at this point, however, the construction industry had to surmount a number of rigors. It is only about 30 years ago that it began to be respectfully referred to as the "construction industry." Before that, it was held in somewhat low esteem

and those involved in the business were commonly called "*doken-ya*" (civil engineering operators) or simply "*ukeoi-shi*" (contractors). The industry was included in the category of miscellaneous businesses.

But the construction industry moved steadily toward modernization. Although some old influences remain in parts of the industry, it has since the 1950s achieved modern organizational strength with the development of the Japanese economy, and is today one of the leading basic industries of Japan. In particular, following the first "oil shock" in 1973, the construction industry led the way in efforts to relieve unemployment and to stimulate the Japanese economy. Its economic importance has been rising steadily.

The number of licensed construction contractors (until 1971 they were merely registered) as of March 31, 1983 totaled 514,000. Of this number 7,994 are licensed by the Construction Minister and 506,053 by prefectural governors, which means that the latter account for 98.4% of the total.

In fiscal 1971 the number of construction contractors posted a sharp increase of 52.9% over the year before, as a result of the rush to register before the changeover to the license system in 1972.

Construction growth still on the rise

The further increase in the number of construction contractors since 1974 is believed to be partly due to the entry of new contractors into the field, but also to the rising awareness among previously established contractors that a license is indispensable for carrying on business. This can be surmised from the results of a survey showing the narrowing gap between the number of construction contractors and the number of licensed construction contractors.

In the past few years, the number of construction contractors has still been rising, but the rate of growth is on a downward trend. In fiscal 1982 it remained practically unchanged at 0.6%.

Licensed contractors by capital show that "individuals" in 1983 accounted for 50.6% and companies capitalized at ¥10 million (\$40,000 at the rate of \$1=¥250) or less,

38.2%. Including those capitalized at ¥100 million (\$400,000) or less, the total comes to 99.3%. Small- and medium-size contractors are overwhelmingly in the majority.

Classified by capital, the number of individual contractors is declining, while that of companies capitalized at ¥10 million to ¥100 million is rising.

Also, according to the Statistics Bureau of the Prime Minister's Office, the number of construction contractors totaled approximately 550,000 in 1981, a big gain of 11.1% over 1978. This is far higher than the growth in the number of manufacturing businesses, which registered an increase of only 3.7% over 1978.

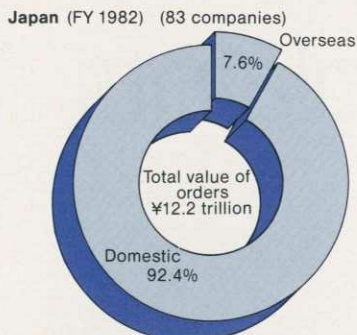
In 1981, "special construction contractors" (42.3%) accounted for the largest number of construction businesses followed by "general construction contractors" (38.6%). Third was "facilities construction contractors" (19.1%).

Summarizing the above, the number of construction contractors registered a relatively large growth up to 1977, with the exception of the period immediately following the first oil crisis. They consisted chiefly of general and facilities construction contractors capitalized at ¥100 million or less with around 100 employees. It can be conjectured that the growth was due in large measure to the license system taking root, as can



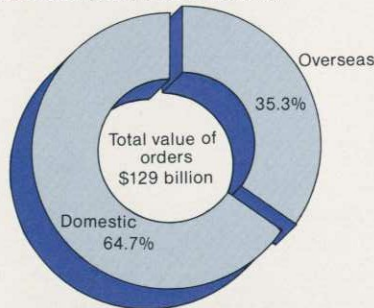
The skyscrapers in Tokyo's Shinjuku area represent the cream of Japan's architectural technology.

Fig. 1 Ratio of Overseas Construction Projects to Total Value of Orders



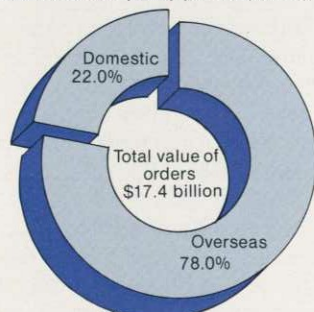
Source: Construction Ministry's "Survey of Construction Project Orders (83 companies)"

United States (1982) (400 companies)



Source: ENR (April 28, 1983 issue) "Ranking of 400 Top U.S. Construction Companies by Value of Order"

Republic of Korea (1982) (27 companies)



Source: ENR (July 21, 1983 issue) "250 Top International Contractors"

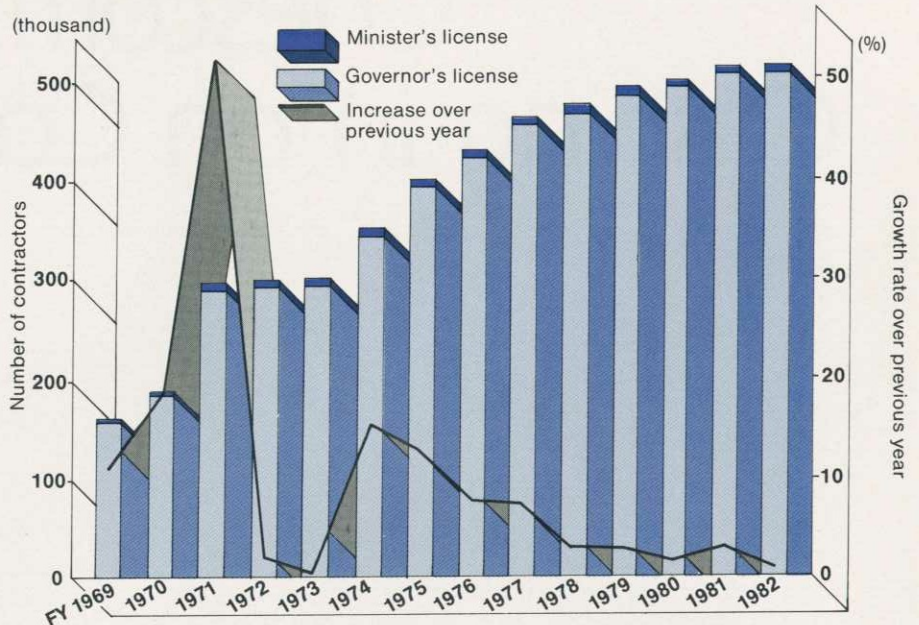
be seen from the narrowing of the gap between the number of construction contractors and that of licensed contractors shown in Fig. 3.

Construction—a big employer

In 1982, the number of people working in the construction business totaled 5,410,000, accounting for 9.6% of all workers in industry. The average age of construction industry workers in 1980 was 40.2 years for men and 41.0 years for women.

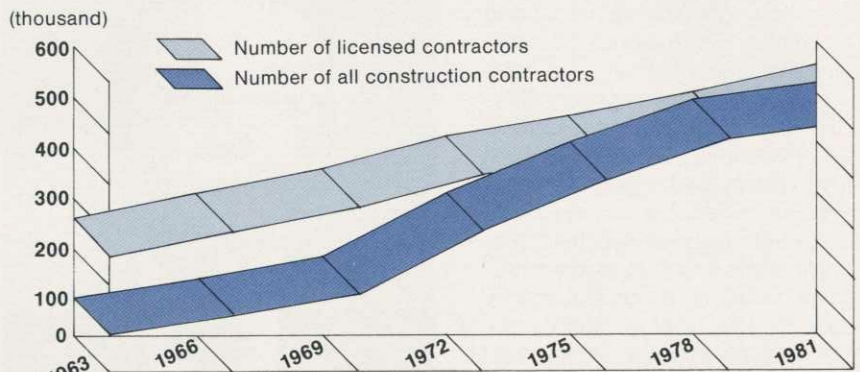
The net labor movement rate by age of construction industry workers shows an increase in all age brackets 60 years and younger. The increase is particularly high among the young workers. There is an inflow of labor into the construction industry from other industries, the rate of increase being higher among women than

Fig. 2 Number of Licensed (Registered) Construction Contractors



Source: Construction Industry Section, Planning Bureau, Ministry of Construction
Note: Figures are for each fiscal year end.

Fig. 3 Statistical Survey of Number of Construction Contractors



Sources: "Statistical Survey of Contractors," Statistics Bureau, Prime Minister's Office, and Construction Industry Section, Planning Bureau, Ministry of Construction

Notes:
1. Number of contractors is, in principle, as of July of each fiscal year.
2. Number of licensed contractors is as of the end of each fiscal year.

men, especially among the middle-aged. It can be said that the construction industry has absorbed a large number of workers throughout the period from 1955 to 1980.

Building an international construction industry

The construction industry has established itself firmly in the domestic market and is now beginning to look overseas. Although there has been a sharp increase in the volume of orders for construction projects abroad, it is small compared to that received by American and South Korean contractors.

In fiscal 1982, for instance, the ratio of the major construction companies' overseas orders to all orders was only 7.6%. Even the statistics of the Japan Federation of Construction Contractors, Inc., consisting of 43 large contractors, shows that overseas

orders in fiscal 1982 accounted for only 8.4% of total orders.

In contrast, in the case of the United States, the ratio of overseas orders is 35.3%, on the basis of statistics covering 400 companies. The percentage rises to 42% (1982) when the number of companies is limited to the top 100. The overseas activity of South Korean construction companies is well known, the ratio of the overseas orders of the top 27 contractors being as high as 78%. In recent years, South Korea's domestic construction market has been expanding at a rapid pace, and the ratio of overseas orders is gradually declining; however, overseas project orders will definitely continue to be the mainstay of the South Korean construction industry.

As investment in domestic construction is slowing down in Japan, overseas construction orders could be part of construction industry in future.