

**Table 4**

Agriculture: Tohoku's Share of National Output — 1988

Product	Percentage of Total Japanese Output
Rice	25
Fruit	20
Vegetables	15
Livestock	15

**Table 5**

Share of Industrial Shipments by Sector — 1988

Industry	Percentage of Total Japanese Shipments
Electrical Machinery and Equipment	25.5
Foodstuffs	15.1
Machinery	5.6
Metals	5.5
Chemicals	5.5
Ceramics	5.0
Lumber, Wood Products	3.7
Pulp and Paper	3.6

### Forestry and Fisheries

Iwate supports a large forest industry. In 1989, the prefecture accounted for over 25 per cent of the region's wood harvest (21 per cent of the national total). Coniferous stands comprise approximately 60 per cent of Iwate's forest resources, and in the late 1980s, the planting/felling ratio stood at about 94 per cent.

Tohoku's long Japan Sea and Pacific Ocean coastlines are dotted with large deep-sea and coastal fisheries as well as aquaculture operations. Among the major species landed are tuna, bonito, sardines, mackerel, saury, cod, and squid. Aquaculture products include scallops (Aomori), oysters and laver seaweed (Miyagi) and freshwater trout and carp.

The Sanriku, which lies north of Sendai, is the region's most productive fishing ground. All but one of Tohoku's 10 major fishing ports are located here. In 1989, the total catch at all 10 ports weighed in at

1.9 million tons. The previous year, the value of the region's total catch was ¥343 billion, about 17 per cent of the national total.

### Energy, Mining and Manufacturing

There is mining of lead and zinc in Akita, copper and iron in Iwate and tungsten in Fukushima. Of these, only zinc (34 000 tons in 1989) and iron ore (60 000 tons in 1989) production exceed more than a few thousand tons annually.

Niigata is Japan's largest source of oil and natural gas. In 1989, it supplied 79 per cent of the country's oil and 60 per cent of all gas production. Akita's oil production was 122 029 kL in 1989, second only to Niigata. Akita and Yamagata squeezed out 300 million metres of gas. Coal production is no longer significant in the region.

Electrical goods and food products are the focus of Tohoku's secondary activities. In 1988, regional shipments of manufactured goods were valued at ¥14.2 trillion, just over 6 per cent of the national total. Table 5 gives a breakdown of industrial shipments by sector.

Sendai alone has over 2 000 factories, far more than are found in Sapporo or Fukuoka. Most manufacturing plants are small operations, and with the exception of Niigata and Aomori, electrical machinery accounts for approximately 30 per cent of all production in each prefecture. Lumber and wood products take second place in Akita, while chemical products are Fukushima's second largest industry. Food products are the top industry in Aomori and claim second place in Iwate, Yamagata and Miyagi. Niigata has the highest production ratio of fabricated metals (aluminium and steel).

Table 6 describes the main products generated by Tohoku's manufacturing community.

### Retail and Distribution

Sendai is by far the largest distribution centre in Tohoku, and the city's wholesale trade is the fifth highest in the country. In 1988, Sendai's 16 500 retailers employed 128 561 workers and recorded a turnover of ¥9 billion (excluding restaurants). The city's wholesale turnover is approximately eight times the retail figure, and accounts for nearly 40 per cent of Tohoku's entire wholesale trade. In 1985, Sendai captured approximately 10 per cent of total regional sales.

Although Sendai, unlike Tokyo and Osaka, has little power in the import decision-making process, the city serves as an increasingly powerful regional