

A Study on Technological Progress in the General Machinery Industry in China

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This thesis examines the development of the general machinery industry in China from 1949 to 1990s. In so doing, it highlights the factors involved in the technological progress (TP) and the underlying mechanism in realizing it.

Based on theoretical research, the thesis first presents the general form of technological progress mechanism (TPM), including enterprise activities, R&D activities outside the enterprises, educational activities, and the governmental support policies.

The thesis then examines the effects of the changes in technological policy since the economic reforms took place in China. In so doing, it points out that the governmental role in Chinese TPM has shifted from "control" to "support".

By examining the history of general machine industry up to 1980s, the state of progress in 1990s, and also the state of technology transfer over the period of 50 years since 1949, the thesis confirms that there existed a shift in the TPM in 1990s.

The thesis then reports the case study of the machine tool industry so that it can focus enterprise activities in the TPM. Five factors for TP in machine tool industry have been identified. They are ①the governmental support policies, ②technical tie-up with foreign enterprises, ③absorption of foreign technologies, ④new product development and ⑤cooperation between industry and universities.

The thesis also examines intellectual property system with special emphasis on the 2nd amendment of year 2000 Patent Law as the system forms a legal basis for promoting TP.

In conclusion, the thesis claims that the TPM of the general machinery industry made a great shift in 1990s. As a matter of fact, it is still changing to the structure so that it can adapt to the market economy system, and the improvement of the function itself is identified as an important factor behind the TP.