

## ANNEXURE I

### FISCAL AND OTHER INCENTIVES FOR TECHNOLOGY INTENSIVE EXPORTS IN SELECT COUNTRIES

According to a recent report entitled “Policy Measures for Accelerating Technology Related Exports in Select Countries” brought out by Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Government of India. It has been revealed that countries like Australia, Japan, China and South Korea have announced a host of measures to encourage their R&D and technology exports. These include (i) 150 per cent tax concession for encouraging R&D (in Australia), (ii) encouraging export of technology based produces through a liberal FDI policy both within the country and outside and organizing specialized trade fairs (by China), (iii) setting up of Technology Development Promotion Fund thereby granting grants and tax benefits for promoting R& D by the private sector (by Republic of Korea)

Countrywise major steps taken by these four countries to promote their technology exports and R&D efforts are as under

Country	Major steps taken by the countries to promote their technology exports and R&D efforts
Australia	<ul style="list-style-type: none"><li>• 150% tax exemption on R&amp;D (the concession allows companies incorporated in Australia to deduct 150% on the expenditure incurred on R&amp;D)</li></ul>
China	<ul style="list-style-type: none"><li>• High level of technology exports through attractive policy of attracting inflow of FDI</li><li>• Greater use of Internet media to enhance technology exports</li></ul>
Japan	<ul style="list-style-type: none"><li>• Displaying technologies available in China on Online</li></ul>

<p>Republic of Korea</p>	<ul style="list-style-type: none"> <li>• Grant of high rate of subsidies and grant-in-aid for R&amp;D</li> <li>• Grant-in-aid for R&amp;R in 19956 was to the tune of 101.8 billion yen.</li> <li>• Setting up of Technology Development Reserve Fund System for promoting R&amp;D</li> <li>• Tax credit for expenditures on technology and human resource development</li> <li>• Tax exemption for R&amp;D investment by private firms.</li> </ul>
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Details of the fiscal and other incentives announced by these countries to promote their R & D efforts and technology exports are given below.

## **1. AUSTRALIA**

### ***Tax Concession for Research and Development***

The 150 per cent tax concession for Research and Development (R & D) which commenced from July 1985 is the major Programme in the Government's package of measures to encourage R & D in Australia.

The concession allows companies incorporated in Australia, public trading trusts and partnerships of eligible companies to deduct up to 150 per cent of eligible expenditure incurred on R & D activities when lodging their corporate tax return. This effectively reduces their after tax cost of R & D to 50.5 cents in the dollar at the 33 per cent corporate tax rate.

The concession is broad-based, being available to the majority of companies undertaking R & D in Australia. The concession is market-driven, being structured in a manner which is neither industry-oriented nor product-oriented, allowing individual companies to determine both the specific area of innovation and direction of their R & D activities.

Expenditure eligible under the concession at 150 per cent includes salaries, wages and other overhead costs which are directly related to the company's Australian R & D activities: contract expenditure: and capital expenditure on R & D plant and equipment (over three years). Expenditure on acquiring or acquiring the right to use technology for the purposes of the company's own R & D activities is 100 per cent deductible.

The R & D projects must satisfy the adequate Australian content requirement. In addition the results of the R & D must be exploited on normal commercial terms and to the benefit of Australia.

## **2. CHINA**

Export promotion through FDI is one of the key reasons for the desire of the Government to attract FDI, particularly as FDI can help to channel capital into industries that have the potential to compete internationally; the global linkages of TNCs can facilitate their access to foreign markets. The export share of foreign affiliates in total Chinese exports increased from a negligible in 1978 to 27.5 per cent in 1993, with even higher shares in electronics, machinery, footwear, toys, travel goods, textiles and clothing. Given that the absolute volume of total exports by China has also been increasing substantially, this is a remarkable achievement.

By assiduously implementing the related processes of attracting the FDI inflow, industrial transformation through establishment and up gradation of new industries, solution of environment related problems, reforming the funding system and the administrative structure, establishing the technology market and exports promotion, China has achieved a spectacularly high level of technology export capability.

### ***Technology Export Via Internet***

In line with the latest trend of increasing international competitiveness, China has been taking concrete steps to exploit the latest Information Technology resource, namely the Internet medium. The potentials of technology exports are very effectively showcased by China using this medium with the avowed purpose of promoting the volume of technology exports. Some of the more significant steps initiated by China in this regard are outline below:

China's Ministry of Foreign Trade and Economic cooperation (Moftec) plans to link the nation's first virtual technology export market to the Internet via the "made-in-china" commodity market net launched recently. Moftec has granted approval to over 2,00 businesses and research institutes to display their technology on the Online "China Technology Fair" which will be introduced on

August 12 in the Ministry's official website, according to the China International Electronic Commerce Center (CIECC), the server. The organizer expects the site to offer some 3,000 technology items.

Experts say that many Chinese companies and businesses have the capability to export technology, but are nonetheless often perplexed by the lack of information, high costs, the lack of sales channels and unclear market positioning.

Moftec notes the vast potential to increase the export volume for key technological products, such as computers and telecommunications, electronic and biological products, which currently account for a mere 5.3 per cent of China's total exports. Officials from the Moftec Science and Technology Department, host of the Online Fair, are placing great hope on the fact that the electronic business system will enhance the efficiency of transmitting information and will reduce the cost of data exchanges.

The goal of the "China Technology Fair", another E-business project sponsored by Moftec, centers on reducing costs while greatly expanding market recognition of domestic technology. Foreign experts point out that E-business, a method of "deals done via electronic mail", takes full advantage of a shorter trade process and the prompt response from the market and customers.

Moftec has announced that all import and export businesses will be required to apply to the CIEMCE for quota certificate by the year 2000. The Ministry completed extensive testing of an application network in east China's Shandong Province last October, with assessment completed and the system accepted at the end of May. The CIECC established in 1996, in China's sole nationwide network for the E-business network for foreign trade linked to the Internet.

The above contemporarily modern steps taken by china pragmatically have markedly added a new dimension to increased technology exports.

### **3. JAPAN**

Public-sector (central and local government) investment in research and development has increased steadily, with an emphasis on basic research, large-scale projects, and improvement of research and development infrastructure. In FY 1995, the budget was 2.9 trillion-yen, a substantial increase of compared with the previous year. This is thought to reflect a larger-than-ordinary-year increase in the science and technology budget under the FY 1993 economic stimulus package. With the passing of the Basic Law For Science and Technology legislation in November 1995, efforts are being made to double government investment into research and development as early as possible with a view to making Japan a country of scientific and technological creativity.

Under this law, necessary measures are being taken to promote effective use of funds in a manner that is matched to progress in research and development. The Science and Technology Agency is promoting research and development in Japan through expansion of a flexible budget for the promotion and coordination of science and technology. This budget amounted to 18.5 billion yen in FY 1995, an increase of 19 per cent in comparison with the previous year. In order to allocate research funds in an effective manner, the heads of national research institutes select themes related to priority basic research under the budget, with a view to creating innovative technological seeds. Emergency research is also being carried out in order to flexibly and accurately respond to emergency situations that occur during the fiscal year.

The Ministry of Education, Science, Sports and Culture is expanding subsidies to coffer Grant-in-aid for scientific research in areas of particular importance with respect to academic research trends, with the aim of further advancing

excellent, creative, leading research at universities and other institutions. This grant-in-aid in FY 1996 was 101.8 billion yen, and increase of 10.2 per cent in comparison with the previous year.

The Ministry also set up a public participation system through special government corporations in order to make maximum use of the research and development capacities of universities and national research institutes, which play a major role in the area of basic research, and to enhance science and technology as intellectual property.

Based on current trends, private sector investments in R&D are expected to rise. In light of this, the government is making it more attractive for the private sector to increase investments through the implementation of the following tax measures and programmes:

- Tax Deductions on Experimental and Research Expense Increments.
- Exemptions under the Tax Programme for Promoting R&D of Basic Technologies.
- Cooperative Development for Industrial Technology for the development and commercial application of new technologies.
- Credit guarantee programmes.

STA has recognized that good treatment of research personnel is a prerequisite for retaining capable researchers and for allowing them to reach their full potential. As a result, the starting salaries of researchers with bachelor degrees were improved by 1.2 per cent, and those with doctoral degrees by 1.5 per cent.

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#### Promotion through Preferential Taxation and Financial Provisions

Tax benefits within the national taxation system include The Tax Deduction on Experimental and Research Expense Increments, instituted in FY 1967. This program has been a major factor in encouraging the expansion of private sector research activities based on independent and innovative efforts. This allows corporations to deduct from their tax assessment 29 per cent of the incremental increase over their previous highest expenditure for research. The Law of Temporary Measures of Facilities business Innovation has been in effect since April 1995. With approval under Article 15 of this Law, it is now possible to make a 100 per cent tax deduction from the amount exceeding maximum testing and research expenditure from FY 1993. These two systems are alternatively applied to the private sector.

Another preferential tax measure, adopted in FY 1985, is the Tax Program for Promoting R&D of Basic Technologies which exempts businesses from a few of the acquisition case of assets, such as equipment and facilities, purchased for the conducting R&D in the basic technology areas.

Another measure of this type adopted in the same year is The Tax Deduction for Strengthening the Technological which exempts businesses from a few of the acquisition case of assets, such as equipment and facilities, purchased for the purpose of conducting R&D in the basic technology areas.

Another measure of this type adopted in the same year is The Tax Deduction for Strengthening the Technological Foundation of Small-and Medium-scale



Enterprises. This programme, which may be selected as an alternative to The Tax Deduction on Experimental and Research Expense Increments, allows small-and medium-sized enterprises to deduct from their assessment a maximum of 6 per cent of their overall research expenditures every tax year. Other tax systems in effect include a tax deduction for joint research promotion which allows a 6 per cent deduction on expenditures for joint research by private sector with national research institutes (established in FY 1993); and a tax deduction for joint research promotion which allows a 6 per cent deduction on expenditures for joint research by private sector with universities, etc. involving the dispatch of researchers to the universities based on contracts or agreements (established in FY 1995).

Similar preferential tax provisions to The Tax Programme for Promotion R&D of Basic Technologies and The Tax Deduction for Strengthening the Technological Foundation of Small-and-Medium-scale Enterprises were adopted as special measures in local taxation structures and provide for reductions in the standard taxation determined by the corporate residential tax rate.

### ***Promotion through Funding and Loans***

To promote research activities in the private sector, fiscal investment and loan system for technology development are implemented by various government-affiliated organizations. The following section introduces some of the main examples.

## **4. KOREA**

### ***Fiscal Measures and Policies***

#### ***Development of Incentive Policies***

Most industrialized economies have incentive policies for promoting technological innovation, and the Korean government has implemented various kinds of support measures and systems since the early 1960s. The first measure involved deducting or exempting from corporate tax FDI accompanied by technology related requirements. During the 1970s, most measures aimed to promote or facilitate technology transfer rather than internal R&D. During the 1980s, the list of measures was considerably expanded or modified; this upsurge coincided with the activation of in-house private sector R&D. The government's industrial policy also shifted from promoting IT to promoting in-house R&D, and resulted in the enactment of the Industrial Development Law, which marked a turning point by moving from sectoral support to functional support.

Recently, incentives have been directed towards the construction of S & T infrastructure and the development of human resources. Further, in accordance with the WTO's subsidy rule industrial policy emphasises R&D support, while reducing conventional sectoral support.

### ***Major Instruments of Incentive Policy***

Incentive measures have their basis in the Technology Development Promotion Law and the Industrial Development Law. Under these laws and a few others, private firms engaged in R&D activities receive tax privileges and financial support. Broadly, Korea, like OECD Member countries, largely uses grants and tax credits to promote private R&D. The ratio of government financial support to Business R&D expenditures has been less than 5 per cent since 1991. The various incentives measures can be classified into three major categories: tax incentive system, financial incentive system, and government procurement.

### ***Tax Incentive System***

### ***Technology Development Reserve Fund System***

This system, introduced in 1973, is a rather complex incentive plan. It requires firms to keep a certain proportion of income for R&D investment. The amount actually used for this purpose is included as a loss when calculating corporate income. Specifically, the reserve fund is up to 3 per cent of total sales for the current year and must be used within three years. After that, the amount remaining in the reserve fund should be included in profit. There is thus a penalty for the part of the fund not spent within the designated period. Industry sectors that must reserve funds are manufacturing, construction, mining, computer processing, military supply, and machine engineering. The reserved funds can be invested in all activities related to technology development, including assimilation of imported technology, acquisition of technology information, training of technical personnel, operation of research facilities, and donation to research institution.

### ***Tax Credit for Expenditures for Technology and Development of Human Resources***

Broadly, there are two ways to apply for tax credit for expenditures on technology and development of human resources. One is to apply for 50 per cent tax credit for expenditure over and above the average expenditures of the previous two years. The other is to request a 5 per cent tax credit for current year expenditures. Relevant expenses for the tax credit include personnel cost for researchers and technical staff patent registration and maintenance fees, provisions for the amortisation of capital investments in or leasing of fixed and current assets for carrying out R&D, etc.

### ***Other Tax Incentive Programmes***

Other tax incentive programmes include tax deductions and special depreciation, including tax exemption for R&D investment by private firms.

Deductions are allowed as direct tax exemption, tax deduction, or tax-base deduction. A variety of tax incentive programmes are available for such R&D activities as training technicians, purchasing experimental devices and samples, employing foreign personnel, and building research labs. Further, as an indirect incentive scheme, special depreciation is allowed for assets invested in R&D.

### *Government Procurement*

Procurement policy is an indirect incentive to R&D activities by private firms, in that it can provide a guaranteed market for the developed product. Two systems involved are the “prior notice system” and the “general tendering system”. Under the former, procurement items for the coming three years are announced in advance so that private firms can initiate R&D to meet the requirements. The announcement is made by ministries, local governments, and government investment institutions. The items to be procured include computers, electronics, railway carriages, experimental and health devices, and precision machines. The tendering system is used in the contractual process, and technological performance, as well as price and quality, is considered as a critical factor.