

Capital, natural resources, labor and technology are four factors of production. All nations, regardless their level of development or political regime, need capital for their industrialization. The importance of capital to the industrialization is obvious.

The industrialization process in Asian NICs from the 1960s has changed these countries basically, from purely agricultural

economies (such as South Korea, Taiwan) or underdeveloped economies (Hong Kong, Singapore) to industrialized countries which play noticeable roles in the world economy.

Among the causes of their success, the most remarkable ones are employment of capital, especially foreign capital; and application and diffusion of foreign technology introduced by foreign direct investment.

Recently, Vietnam's

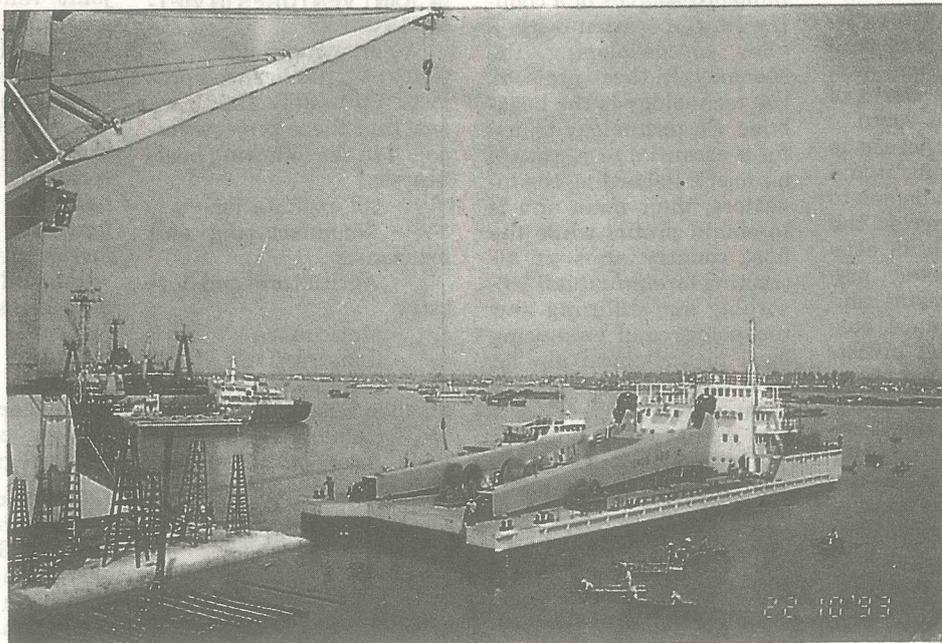
open-door policy has attracted the attention of foreign investors. In the first seven months of 1995, after the lifting of the US embargo, there were 223 foreign investment projects with total registered capital of US\$ 4.227 billion. From the promulgation of Law on Foreign Investment in 1987 up to now, there were 1,190 valid projects with total registered capital of US\$15.513 billion. Over 800 companies from some 50 countries and territories invested directly in Vietnam. Some US\$4 billion have been spent on these projects. Over 50,000 laborers were employed by these foreign companies, many others are working in local businesses supplying services to these projects. SCCI estimates that in 1995 some 400 projects with total capital of around US\$8 billion will be licensed.

One of ways of developing the economy in Vietnam is to encourage domestic investment along with foreign direct investment. The speed of foreign investment is on the increase, especially in 1995. These projects are distributed nationwide. Improved conditions for foreign investment have attracted many big investment projects.

Due to foreign invest-

# THE ROLE OF FOREIGN INVESTMENT AND TECHNOLOGY TRANSFER IN ECONOMIC DEVELOPMENT IN VIETNAM TODAY

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ment and technology transfer, Vietnam technological ability was improved remarkably. Many joint ventures and local factories have ability to absorb advanced technology and produce a lot of new products. Many new factories with modern technology have made their appearance (oil exploitation; assembling car, motorbike, electronic products; producing new materials, etc.). Receiving high wages, laborers working at foreign companies had chance to improve their skill and change their working habit.

Foreign investment, however, isn't a magic wand that changes our potentialities into money at once. In the past seven years, it has provided us with many painful lessons. According to a survey carried out by Vietnam Institute of Labor Protection of 727 machines and 3 production lines in 42 factories, 76% of machines and equipment surveyed was produced in the 1950s and 1960s, over 70% of them has completed amortization, 50% was renewed, 20% was assembled with parts of different kinds. One of the causes of revocation of 207 projects in the past seven years was the ignorance of Vietnamese parties about their partners. In the period 1993 - 1994, 95 cases of withdrawing in joint ventures with US\$ 5.817 million and VNĐ4.809 billion worth of damage were discovered.

In addition, there is no coordination of central and local government bodies to inspect and supervise the realization of projects, estimate the imported machines and equipment, and business performance, etc.

Foreign direct investment without technology transfer will produce no desirable effect on the economy. Technology transfer should be considered as the main target of the task of attracting foreign investment. Foreign technology will contribute to improvement of Vietnam techno-

logical ability and help us industrialize and modernize the country. We will analyze some obstacles to the technology transfer in the following.

### I. RELATIONSHIP BETWEEN FOREIGN INVESTMENT AND TECHNOLOGY TRANSFER

At present, receiving and transferring a new technology is usually attached to an investment or joint venture. As we know, the act of investing aims at obtaining income or profits. In making a decision on investing, approving or cancelling a project, the investor should study a lot of information about market, price, risk degree, profitability, etc.

Investment is an act involving risk because in fact, it's an act of buying unrealized potentials. Therefore, in order to obtain some profits, investment should be carried out systematically according to a strict process from evaluating, feasible studying, making techno-economic thesis, negotiating and contracting, transferring technology and equipment, installing and building, operating and transferring, etc.

Nowadays, investment is a way of diffusing new technology by realizing projects. The project is a plan to bring natural and human resources of a country into operation with a view to developing the economy. In these projects, the technology is the backbone. So technology transfer is essential to success of a project. Regarding the investors, their main aim is to obtain profits while the host country aims at attracting foreign capital; absorbing and diffusing new technology and enhancing local technological ability, and then inventing new technology.

According to business circle, investing in technology transfer is profitable, because:

- Technology is a special commodity and hard to estimate its price, especially its "software". There-

fore, in many cases, a technology could be sold at a very high price but both parties could earn profits as usual.

- A common and garden technology in one country could be a new one in other country, so it could be transferred at a profit.

Technology transfer, in spite of its high profit, could lead to loss on the deal if the receiver doesn't know how to cope with possible troubles. So the receiver should try hard to foresee all possible risks. Foreign experience shows that American technology is labor - saving one, European technology is material-saving one while Japanese counterpart is labor-intensive, imperfect but cheap and suitable to developing countries.

The receiver should know his/her need and requirements in order to choose the most appropriate technology. The receiver has the right to demand to be provided with all necessary information about the transferred technology. Foreign experience shows that without know-how, necessary information and after-sales services, technology transferred couldn't produce intended results.

### II. INITIAL ESTIMATE OF TECHNOLOGY TRANSFER IN JOINT VENTURES IN VIETNAM TODAY

Surveying fields of activity of 1,190 licenced projects (up to July 1995), we saw that these projects engaged in the following businesses:

- Oil exploitation
  - Manufacturing and mechanics
  - Agriculture and forestry
  - Mariculture
  - Construction
  - Commerce and maintenance service
  - Hotel and restaurant
  - Transportation and warehouse
  - Finance, credit
  - Consultant service
  - Cultural, sport, health caring services
- The most attractive

fields are manufacturing, hotel, restaurant, tourism and oil businesses.

Due to foreign capital, technology and managerial skill, many Vietnam industries are making good progress, some industries are adapting themselves to the modern technology level of the world (such as telecommunications, oil business, electric and electronic products, informatics and many light industries).

Most foreign investors coming to Vietnam showed goodwill and obey Vietnam's law but some others came here to deceive Vietnamese parties, such as Vinasa Joint Venture in Cần Thơ, Saigon - Vewong, Pan-Viet, or Kiên Giang Canned Food Joint Venture. Recently, 13 foreign invested joint ventures have been evaluated. We learned that the foreign parties had overvalued their imported equipment and machines by US\$14 million.

The number of joint ventures introducing new technology is small, most of them brought to Vietnam old equipment and machines and they considered joint ventures formed jointly with Vietnamese parties as a dustbin for their obsolescent machines and production lines. Contributing their share in joint ventures with these machines and equipment, they made a big profit at once before the joint venture came into operation.

We should try our best to correct our mistakes in receiving these old technologies. Besides fraudulent acts done by certain foreign investors, however, we should accept that Vietnam lacks many condition favorable for technology transfer.

The following are some shortcomings of Vietnamese parties in receiving foreign technology.

#### 1. Quality of the labor force

Of the working population of 30 million people, only some 3.4 million workers have received vocational education of differ-

ent levels (20% had university degrees, 35.5% completed secondary education, the rest were trained workers). Thus, trained laborers represented only 5.5% of the Vietnam population, or 11% of working population. This percentage is lower than the world, and the region, on average. That is why there is a permanent shortage of skilled workers in EPZs and foreign invested joint ventures.

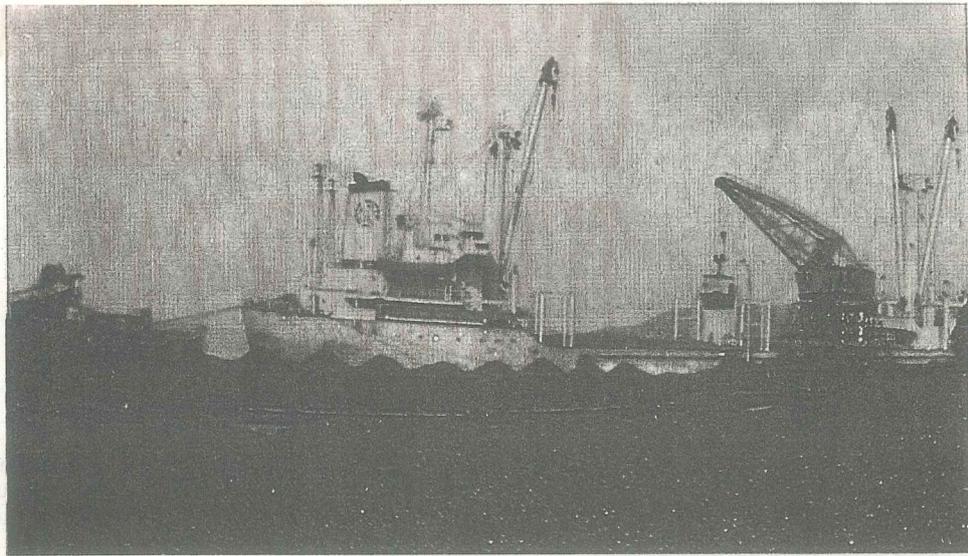
Obviously, the labor force in Vietnam is of low quality. The Government should pay a lot of attention to training the human resources without delay with a view to meeting the requirements of the industrialization process.

The army of trained laborers isn't distributed evenly among economic sectors. The public sector employed nearly 13% of the labor force but 86% of trained laborers worked in this sector, while 70% of national working population is doing farming business, and this business attracted only 7% of trained laborers.

Moreover, the unemployment rate of trained laborers is 12%, twice as high as the unemployment rate of untrained laborers (5.8%). This is also a problem we should study seriously.

The current birth rate in Vietnam is 2.1% a year, that is, there is an increase of around one million laborers in the labor force, whereas the capacity of the state education system seems to be on the decrease. The ratio of 20 university students to 10,000 people is very low in comparison with other countries in the region. The problem of illiteracy is widespread. Many elementary school drop-outs have become illiterate again.

Thus, in the near future, there is hardly any improvement in the Vietnam labor force. This is a major obstacle to our ability to receive new technologies.



## 2. Level of existing equipment

Although the industrial output is increased remarkably in recent years, the majority (62%) of equipment and machines are old. They were produced in the 1950s. In the period between 1975 and 1995 only 3% of equipment and machines in state enterprises was renovated.

New machines designed by Vietnamese engineers represented only 8%, 34% was supplied by the CMEA countries, and 58% by the others. Generally, our technological ability is poor, and only 50% of industrial capacity came into use (in many cases, this percentage reduced to 30%). Only 45% of industrial processes was mechanized, power and raw material consumption is always twice or thrice as high as the world average. Manufactured goods only reached 70% of standard required for local consumption and 15% of standard for export. In fact, machines have replaced only 7% of manual labor in afforestation service, 2.5% in building site, 15% at ports and railroad stations.

With equipment and machines of such a level, it's difficult to absorb foreign technology, no matter whether it is transferred on part-by-part basis or in full.

## 3. Managerial skill

In working in partnership with foreign investors, just because of many causes, the Vietnamese party usually contributes only a small percentage (around 30%) to the capital stock of a joint venture, so in the management the Vietnamese party usually plays a minor role. This situation has led to many disastrous consequences. Moreover, Vietnamese personnel working in joint venture didn't have necessary managerial skills and they have been tricked a lot of times by foreign party (in production management, installing the production line, changing marketing strategy, etc.)

## 4. Lack of information

We speak a lot of technology transfer but lack reliable information about necessary technologies. After 10 years of opening door to foreign investment, we have no document dealing with foreign investment projects, foreign production lines and equipment, etc. which can help us realize which ones are appropriate to our existing conditions. Who will supply these documents and when will the Government have plans to make them?

In my opinion, we should systematize all data and information about foreign projects and technologies which are operational

in Vietnam now with a view to making a plan to absorb foreign technology. We must waste no time in building an information network which can publicize the costs of making project along with all economic and technical problems in order to help the public study and make comparison.

When these projects weren't summed up, publicized and supervised scientifically, economic researchers can only collect scattered information with difficulty and can only produce imperfect studies, with the result that the Vietnamese party can't succeed in negotiating with foreign partners.

In short, foreign investment and technology transfer are two parallel processes taking place on increasing large scale. Technology transfer usually attached to the competition in a certain market, so we must hurry because the time has become a matter of great importance. In Vietnam today, the speed of foreign investment is on the increase but the speed of technology transfer is slow. Experience shows that failures in investment usually originate from prolongation, or the waste of time ■