TRENDS FOR DEVELOPMENT OF MECHANISMS TO ENCOURAGE INVESTMENTS FOR RESEARCH-DEVELOPMENT AND TECHNOLOGY TRANSFERT IN VIETNAM

Dr. Dang Duy Thinh
National Institute for Science and Technology Policy and Strategy Studies

Abstract:

Up to the years 80s Vietnam economy passed its development in the State center controlled and subsidized mechanism. According to it, the R&D investment and technology transfer is assigned to the State, every activity being conducted according to the State plans without any policy and mechanism to encourage other economic sectors to participate in R&D investment and technology transfer.

Since the years 80s, as result of the "Doi Moi" policy, the economic activities of Vietnam are gradually shifted toward the socialism oriented market mechanism. According to it, in S&T field, the State promulgates various mechanisms and policies to encourage and push up economic sectors, particularly industrial businesses, to do R&D investments and technology transfer. These measures include the aspects of organization, taxation, credit, venture capital mobilization, human resources, material basis and other measures in order to increase technological capacities, competing powers and capacities to produce new products and new technologies for social development, particularly for industrialization-modernization of the country.

1. Measures and policies to encourage R&D investments

1.1. Legal and institutional measures

Since the years 80s the economic activities in Vietnam get shifted toward the socialism oriented market mechanism. According to it, the State promulgates various mechanism and policies to encourage and push up economic sectors in the society, particularly industrial businesses, to do R&D investments and technology transfer. The most important ones of them include: Decision No. 175/CP dated 29th April 1981 by the Council of Ministers on conclusion and implementation of economic contracts in scientific researches and technical implementation, Decision No. 51-HDBT dated 17th May 1983 on set-up of the Fund for S&T development and shift of public research institutes under control of businesses. Particularly, in 1999, the Government had promulgated Decree No. 119/1999/ND dated 18th September 1999 on encouragement of businesses to invest for S&T (reduction and exemption of income taxes for R&D contracts, pilot productions, supports for businesses to do R&D projects); the S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law regulating many applications of reduction and exemption of corporate income taxes, value added tax and import-export tax for R&D activities of businesses; the Law on Technology Transfer promulgated in 2006 regulating favors, reduction and exemption of taxes for technology transfer activities; the High Tech Law - 2008 regulating the Fund for venture investment, favors for R&D activities, technology transfer in high tech fields; the Corporate Income Tax Law promulgated in 2008 regulating favors and reduction and exemption of taxes for high tech business establishments and S&T businesses; and the VAT Law promulgated in 2006 regulating the reduction and exemption of taxes for R&D activities and pilot production.

1.2. Measures to promote R&D investments

1.2.1. Measures of organization and economic contracts

The organizational measures could become policy tools to have direct impacts to encouragement of R&D investments. Public S&T organizations themselves, once suitably organized, could do their own R&D investments and could conclude R&D contracts with other businesses and, by this way, they can attract R&D investments from businesses. The businesses, once suitably organized, could do themselves R&D investments and implement R&D activities or conclude R&D contracts with R&D organizations and, by this way, they can increase R&D budgets for their businesses. In this approach we can evaluate the impacts of organizational measures toward encouragement of R&D investments in Vietnam during the recent time.

a. Encouragement of R&D investments by businesses through direct and contractual relations with S&T organizations

In 1959, the State Science Committee had been established with functions defined for consultancy, management and research activities including the fields of social sciences, natural sciences and technical sciences. Various research institutes were established and operated according to the Soviet model. The Vietnamese Institute of Social Sciences was established in 1965 and the Vietnamese Institute of Sciences was established in 1975 as branches separated from the State Science Committee. They become the autonomous S&T organizations specially assigned for scientific research tasks. From early years of 60s the Government gradually established many science-techniques institutes under management of ministries to carry out researches for production development of ministries, for creation of new technologies and technology transfer to producing enterprises according to established plans. In this period the State owned industrial and agricultural enterprises were established to carry out production-business activities.

During this time the economic system was organized according to the center controlled and planned model where the State owned S&T organizations operate under administrative mechanism. They are subsidized totally from the State budget and are charged to carry out the State assigned tasks. They are to set up the annual research plans to get the State budget to carry out the tasks assigned from top authorities and return the obtained results of works. Then the ministries are to gather the obtained results and set up the plans for enterprises to apply these results for following years, at the end of every research cycle. All kinds of said-“transversal” relations between enterprises and research institutes were not permitted. Therefore the research institutes and universities get no incomes from businesses. During the years 60s and 70s in North Vietnam, all businesses were State owned (established and controlled by the State). Other economic sectors were not developed. State owned enterprises received production-business duties without R&D activities. They, therefore, had no R&D units, no R&D tasks in any form. The application of new technologies was set up by the plans assigned from higher authorities. The budget for R&D activities came from the State, and then businesses had no responsibility and no investment for any kind of R&D activities, even for their own R&D needs.

In the context of the above presented center controlled and planned mechanism there was no R&D investment from the side of businesses under form of implementation or contracts signed with S&T organizations. From other side, there are also no financial mechanisms to encourage and promote research institutes to do their own R&D investments.

From the early years of 70s, in the context of socio-economic development and reunification of the country, the number of newly established research institutes increased in North and South (from 1975) of Vietnam. The model of organization and management in the both economic and S&T fields remains the one which existed in North Vietnam during the years 60s. There was almost no mechanism and measures to encourage and promote R&D investments in State owned S&T organizations.

From the late years of 70s, in the context of “Doi Moi”, the activities of so-called “hurdle over-crossing” for “transversal” technology transfer (direct transfer of research results from research institutes to businesses or self-organized production implementation, particularly for products which businesses are unable to produce) start to multiply. This trend means the transversal relation between S&T organizations and businesses becomes a necessity and this new trend breaks down the top-down mechanism (center controlled and planned mechanism) which existed long years before. This situation leads to an increase of R&D investments from businesses which are made mainly through direct relations between businesses and S&T organizations.

From the early years of 80s, the Decree of the Fourth Party Congress, particularly Decree No. 37-ND/TU dated 20th April 1981 by the Politburo on the science-techniques policies, created new master orientations for S&T development of the country. For shifting toward the socialism oriented market mechanism, removing the center controlled and planned mechanism in the field of S&T activities and attracting R&D investments from businesses, the Council of Ministers had promulgated Decision No. 175/CP dated 29th April 1981 on conclusion and implementation of economic contracts in science researches and technical implementation. According to it, research institutes, particularly science-technique-technology research institutes are permitted to conclude economic contracts with businesses for realization of science-technique-technology orders made by businesses on basis of negotiated prices. This policy measure of the State opened the transversal relations between businesses and research institutes, and by this way promoted R&D investments from businesses. The S&T organizations, once permitted to conclude contracts for R&D, get proactive in their R&D activities. They are now more close attached to production activities and have their own incomes for investment of their own R&D activities.

b. Shift of research institutes under businesses - the creation of the direct investment mechanism of businesses for their R&D activities.

In order to increase the R&D investments from large businesses and enlarge the functions of R&D organizations to be more attached to production activities, the Council of Ministers had promulgated Decision No. 51-HDBT in 1983 to shift specific research units (for specific narrow fields) under management of related companies and joint enterprises.

Guideline No. 199-CT dated 25th June 1988 by the Council of Ministers on improvement of the network of technical R&D organizations had decided the gradual shift of research institutes attached to actual types of products under management of joint enterprises, companies and corporations (for example, Institute of Paper and Cellulose, Institute of Glass and Ceramics were shifted under the related companies or corporations). In Decision No. 782/QD-TTg dated 24th October 1996 on financial measures for reshuffle of R&D organizations the Prime Minister had decided the application of shift of all applied research institutes under management of businesses (for example, Institute of Industrial Chemistry, Institute of Tool Machines and Equipment, Institute of Vegetable and Fruit, etc.)

As results, many tens of research institutes were shifted under management of businesses and the State cuts down gradually the subsidizing budgets and this move had pushed up the flow of R&D investments from businesses. Accordingly, businesses have to become users of these R&D organizations and have to invest further R&D activities for these R&D organizations for production-business activities of the businesses themselves.

Decree No. 10/2002/ND-CP dated 16th January 2002 by the Government on the financial frame applied to profit public organizations would increase the self-management (autonomous) status for public service organizations, and particularly Decree No. 115/2005/ND-CP dated 5th September 2005 by the Government regulating the self-management mechanism of public S&T organizations (self-managed operational costs) pushed S&T organizations to conduct R&D activities oriented to R&D tasks of businesses. The self-management, partial or full, of operational costs pushed up S&T organizations to search financial sources for their R&D activities from businesses. According to this organizational mechanism, S&T organizations, from one side, would conduct their R&D activities attached to the needs of businesses, and, from another side, businesses would increase their R&D investments.

c. Encouragement to establish technology-based businesses for promotion of strong R&D investments

The Law on Technology Transfer - 2006 regulates the activities to incubate technology based businesses, Decree 80/2007/ND-CP dated 19th May 2007 regulates the establishment of S&T businesses and the High Tech Law - 2008 regulates the establishment of high tech based businesses. According to them, businesses, S&T organizations and individual scientists, in order to get qualified for this high tech status, have to increase regularly their volume of R&D investments (according to required terms and conditions), namely:

- For being qualified of high tech based organization status, businesses have to carry out the following requirements for R&D investments: i) the total average expenses for the three consecutive years for R&D activities must be, at least, equal to 1% of their total annual turnover, and from the forth year it must be higher than 1% of the total annual turnover, ii) the number of members who have the qualification from bachelor or higher grade and carry out directly R&D activities must, at least, make 5% of the total number of working staffs;

- For being qualified of S&T based organization status, businesses must have the part of turnover from S&T based products at rate of 30% in the first year, 50% in the second year and 70% in the third year, of the total turnover.

In order to get qualified of this status where the businesses will get favors in reduction of 10% corporate income tax during 15 years and other favors in exemption term of corporate income taxes, businesses have to make very strong R&D investments to create regularly new products based on their R&D activities. It is a very strong stimulation for businesses to promote R&D investments for development.

1.2.2. Establishment of funds, programs and capital mobilization

The mechanisms and policies oriented to promote R&D investments would permit businesses, S&T organizations to conduct their self-management system in establishment of funds for their own R&D investment. From other side, the State S&T funds and programs would promote these activities of businesses in form of partial financial supports or loans. The mobilizations of capital sources as well as the identification of investment favors for R&D fields are regulated also. All of these mechanisms and policies, directly or indirectly, target the encouragement of stronger R&D investments of businesses. Namely, they are:

a. Encouragement to establish funds of R&D investment to attract R&D investments

Early 1983, in order to encourage and set up favorable financial sources to promote R&D activities and immediate application of advanced science-technical achievements, Decision No. 51-HDBT dated 17th May 1983 by the Council of Ministers stipulate that businesses and production units can use production development funds to increase their R&D investments and application of advanced science-technical achievements.

Inter-ministerial Circulation No. 03-TC/KHKT dated 28th January 1984 of the Ministry of Finance and the State Committee for Science-Techniques guides R&D organizations to apply the system of economic accounting and economic contracts in R&D activities to establish funds for R&D investments.

Inter-ministerial Circulation No. 28-TC/KHKT dated 24th September 1986 of the Ministry of Finance and the State Committee for Science-Techniques guides the ministries and General Departments to establish funds for science-technical development (taken from production activities of subordinate enterprises) to invest for R&D activities in their fields and to support the application of new techniques by subordinate enterprises.

Decree No. 35/ND-HDBT dated 28th January 1992 by the Council of Ministers permits the administration of provinces and center controlled cities to establish the centralized funds of provincial level for S&T development and application of advanced techniques by businesses.

The S&T Law - 2000 and Decree No.81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law, and the Law on Technology Transfer - 2006 stipulate that the businesses are permitted to establish funds for S&T development for their own activities. The Corporate Income Tax Law - 2008 stipulates that every year the businesses are permitted to take 10% of their before-tax income to fund their S&T development.

The S&T Law - 2000 and Decree No.81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate that the businesses can get loans of low-or-zero interest rate from the National funds for S&T development and the ones of the ministries and provinces-center controlled cities for R&D investment, technological renovation and, by this way, they can attract R&D investments from businesses.

b. Mobilization of investment sources for R&D activities

Inter-ministerial Circulation No. 18-LB/TT dated 29th May 1989 of the Ministry of Finance and the State Committee for Science-Techniques permit businesses and research institutes entitled for independent accounting status can use their own capital sources and other sources to conduct plans of research and application of advanced techniques. These capital sources include: i) Amortization of fixed assets; ii) Funds for promotion of production development; iii) Centralized funds for science-technical development; iv) Capital contribution from partners; v) Capital loans from banks; vi) Foreign capital for investment and vii) Investment capital from the Stat budget.

In 1990, the Council of Ministers had permitted to carry out activities of pilot-test production to complete the final stages of projects or finish new technologies. In these stages the State offers the loans up to 30% of costs and requires the back payment of 80-100% of made loans. According to this mechanism, the organizations that carry out this pilot-test production have to mobilize themselves the balanced capital up to 70% of costs and to pay the required back payment of loans. The entities eligible to get this favor are those businesses and S&T organizations that have the financial self-management status. Every year there are about 20 projects conducted under this scheme in all the technological fields. They are mainly the projects named in the list of the State key programs with high level of technological feasibility.

Decree No. 119/1999/ND-CP dated 18th September 1999 and Decree No. 81/2002/ND-CP dated 17 October 2002 to guide the implementation of the Law stipulate financial policies and mechanisms to encourage the R&D investment by businesses where the State offers the support to businesses at the rate not exceeding 30% of the total costs of research projects to create new technologies in the fields favored by the State. These projects can be carried out by businesses themselves or in connection with S&T organizations. They can get the financial support from the S&T budget or the Funds for S&T development.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP to guide the implementation of the Law stipulate the intensive measures for R&D investment. According to it, businesses can have a capital share for R&D development investment and this capital share can be accounted as product costs and reasonable expenditures for taxation auditing. Namely they include expenditures for R&D activities and S&T information.

c. R&D fields of incentive investments

The Investment Law - 2006 and Decree No. 108/2006/ND-CP dated 22nd September 2006 by the Government to guide the implementation of the Law encourages the investment in some R&D fields, namely: i) IT researches and training of IT human resources; ii) Research, development and incubation of high techs; and iii) 25% and up of incomes reserved for R&D investments.

The High Tech Law - 2008 stipulates encouragement and promotion measures of R&D investments in some high tech fields named in the list of high technologies favored for development investment, namely: i) Partial or full support of costs from the budget of the National program of high tech development (in case of R&D investments of high techs), and ii) Financial supports from other R&D funds and financial sources.

1.3. Taxation measures

1.3.1. Import and export taxes

Decision No. 134-HDBT dated 31st August 1987 by the Council of Ministers on measures to encourage science-technical works stipulates: i) Production units, research institutes and training units having their foreign currency sources (including bank loans) are permitted to import equipment and materials for research, development and renovation of techniques and technologies; ii) Encouragement of importation (low taxes imposed) by foreigners and overseas Vietnamese of science-technical equipment and materials for use by units of research, development and production, the prices being negotiated and the volumes being unlimited.

Decree No. 119/1999/ND-CP dated 18th September 1999 stipulates that the import commodities such as machines, equipment, materials, automatically controlled science-technical equipment, experiment samples, measurement experiment tools which are directly used for R&D projects and contracts and cannot be produced locally or can be produced locally without meeting requirements are exempted of taxes.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP to guide the implementation of the Law stipulate that the import tax and the VAT are not imposed to machines, equipment, materials, transport means which cannot be produced locally, and documents and journals for direct purpose of R&D activities.

The Law on Technology Transfer - 2006 and the Import-Export Tax Law - 2006 stipulate that the import taxes are not imposed to the commodities imported for direct use for R&D activities which include machines, equipment, spare parts, materials, transport means which cannot be produced locally, and scientific documents and journals used for R&D activities.

1.3.2. Corporate Income tax and Value Added tax

Decision No. 134/QD-HDBT dated 31st August 1987 by the Council of Ministers stipulates that businesses are exempted of these taxes formally imposed for extra values generated from successful application of science-technical achievements during 2 years from the time of stable production.

Decree No. 35/ND-HDBT dated 28th January 1992 by the Council of Ministers stipulates the activities of scientific research and pilot production are exempted of taxes; the activities of science-technical service pay only the income tax. Decree No.119/1999/ND-CP dated 18th September 1999 stipulates the exemption of the corporate income tax for the income generated from R&D contracts.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate: i) the turnover from realization of R&D contracts has not to pay the corporate income tax; ii) the turnover from pilot products during pilot production time has not to pay the corporate income tax.

The Corporate Income Tax Law - 2008 further stipulates the exemption of taxes for the turnovers from realization of R&D contracts and products during pilot production time.

The High Tech Law - 2008 stipulates the application of highest favors of corporate income tax and VAT for high tech R&D activities in the fields named in the list of incentive investment high technologies. According to it, the Corporate Income Tax Law - 2008 stipulates that the businesses newly established from investment projects in R&D fields get the 10% favor tax rate during 15 years and get exempted of this tax during not more than 4 years from the taxable term and get the 50% reduced tax rate during the next 9 years.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate the exemption of VAT for products during pilot production time.

The VAT Law - 2008 stipulates: i) the VAT is exempted for machines, equipment, materials which cannot be produced locally and need to be imported for direct use for R&D activities, and ii) the 5% tax rate is imposed to equipment and tools specifically used for teaching, scientific research and experiment.

1.4. Credit measures

The State Bank, in Guideline No. 16/CT issued in 1983, extends the credit regulations for research institutes. According to it, those research institutes who have the stable organization and research orientations can make loans for technical improvement and production extension if their production requires improvement measures or additional research machines and equipment. Those research institutes who have the economic accounting status can make loans applied for sub-product production if their research and production activities require additional costs. Those research institutes who do not have the economic accounting status and have the budget release for their research delayed can make short term bank loans (3 months) according to actual regulations applied for this type of loans.

Inter-ministerial Circulation dated 29th May 1989 by the Ministry of Finance and the State Council for Science-Techniques stipulates that businesses and research institutes who have the independent economic accounting status can use their capitals including bank loans for realization of plans of research and application of science-technical achievements.

Decision No. 270/QD-NH1 dated 25th September 1995 by the State Bank stipulates the concrete terms and conditions of loans for science-technical application in production. According to it, they can get the incentive interest rate of 1.2%/month applied for the volume up to VND 1 billion with the term of 5 years. The terms and conditions of these loans applied for research institutes require the mortgage or warranty by competent authorities.

Decree No. 119/1999/ND-CP dated 18th September 1999 stipulates that businesses who operate under the Law of Local Investment Stimulation and conduct S&T activities are eligible to get long and middle term loans with incentive interest rate. The volume of loans can come up to 70% of the investment capital volume and the loans are provided from the Fund for development support, the Fund for export support and the Fund for S&T development.

The S&T Law - 2000 and Decree No. ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate: i) organizations and individuals borrowing long and middle term loans for realization of S&T activities can get the incentive interest rate from the loans offered from the National fund of S&T development; ii) Non-refund scheme or other incentive loans can be applied for R&D projects listed in the National Key Socio-Economic Programs.

1.5. Measures for venture investment

The High Tech Law - 2008 stipulates the establishment by the State of the National fund for high tech venture investment to provide capitals and consulting services to organizations and individuals who establish and develop businesses for high tech application, production and service.

This Law also stipulates the policies to stimulate venture investments for development of high technologies named in the list of incentive investment high technologies where they can get the highest level of favors in term of corporate income tax according to the legal regulations of taxation.

1.6. Measures for R&D human resources

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law, and the Investment Law - 2006 stipulate that the costs of training R&D human resources of businesses are accounted as reasonable costs for taxable income calculation.

The High Tech Law - 2008 stipulates: i) high tech based businesses can get financial supports for training S&T human resources in high tech fields listed in the national program for high tech development; ii) the State creates favorable conditions for local and foreign organizations and individuals participating in the development of high tech human resources; iii) application of the highest level of favors permitted by the regulations for development of high tech human resources; iv) application of the highest level of favors permitted by the regulations for the high tech human resources training facilities in term of land use, corporate income tax, import tax, supports from S&T funds and other funds; v) partial or full supports from the national program for costs of high tech human resources development; and vi) support for training costs from the State for R&D organizations and universities conducting high tech human resources training activities.

1.7. Measures for R&D technical infrastructure

Decree No. 119/1999/ND-CP dated 18th September 1999 stipulates: i) Businesses operating under the Law of Local Investment Stimulation and making R&D investments activities get favors when they use land for construction of R&D facilities, stations, laboratories, etc., namely: 50 % reduction of land use costs if they have to pay the assigned lands; exemption of land lease costs for 6 years if they have to pay the leased lands; exemption of land use tax for 6 years if they have to pay the tax for the assigned lands, and ii) businesses operating under the Law on Foreign Investment and making R&D investments get favors according to the regulations if they need to lease lands.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate: i) organizations and individuals making investments for construction of facilities for R&D activities will get the reduction of costs as reasonable costs during corporate income tax calculation; ii) S&T organizations leasing lands for construction of facilities for R&D activities get the highest level of favors in terms of land use costs and the lowest level of land use tax.

The Investment Law - 2006 and Decree No. 108/2006/ND-CP to guide the implementation of the Law stipulate some fields of incentive investment, namely: i) investment for construction of a biological experimental facility to assess the usefulness of medicinal plants; b) investment for research of the scientific background of some oriental medicine recipes and for the set-up of test standards of oriental medicine recipes; and iii) investment for construction of technical infrastructure (laboratories, experiment facilities) for application of new technologies in production, and investment to establish research institutes.

The High Tech Law - 2008 stipulate the encouragement and promotion of R&D investments in some high tech fields, namely: i) owners of projects to build facilities of high tech research, development and application get lands without paying the land use costs, or get the lower rate of or exempted of the land use taxes; ii) laboratories and research facilities formed by organizations and individuals for purpose of R&D activities named in the list of incentive high tech fields may get partial supports in the costs of research equipment and activities taken from the National program of high tech development; and iii) organizations and individuals making investments for construction of infrastructure in high tech zones and high tech applied agricultural zones get the highest level of favors according to the regulations in term of lands used for construction of facilities for research, training, incubation, businesses incubation, experiments, demonstration in high tech fields, production of high tech products and high tech applied agricultural zones.

2. Mechanism for promotion of technology transfer

2.1. Legal regulations

Along with the Law on Foreign Investment of Vietnam promulgated for the first time in 1987, the Decree for technology transfer had been promulgated in 1988. The Decree had set up the legal framework for conclusion of contracts of technology transfer with foreign entities and facilitates the negotiation, conclusion and implementation of contracts in conformity to international practice.

In 1995, the Civil Code had been promulgated and it had set up the highest legal framework for conclusion of contracts of technology transfer between buyers and sellers. The Decrees to guide the implementation of the Law on Technology Transfer stipulate responsibilities and rights of the involved sides, and the State management, particularly the ones of State owned businesses of the Vietnamese side, in order to ensure the legal interests of the sides, particularly the ones of the Vietnamese side in term of price, payment mode and settlement term of contracts.

The Civil Code had been amended in 2005 where the part of technology transfer previously stipulated in the Civil Code - 1995 had been separated and promulgated as the Law on Technology Transfer - 2006. The Law had many terms and conditions which ease and facilitate the technology transfer and make them in conformity to international practice. The State would not intervene in the conclusion of technology transfer contracts. The Law has also new regulations on the ownership rights for the technologies created from the State budget. According to it, the ownership rights toward the technologies created from the State budget are delegated to the organizations assigned to carry out the S&T tasks and they, as owners, have rights to dispose them, organize the production or use them for purpose of capital contribution in production-business activities and share benefits between the authors of technologies and the owner-organizations when the research results get commercialized or turned to production.

In 2006 the State, according to the regulations by the Law on Technology Transfer, had promulgated the List of technologies banned for transfer, the List of technologies limited for transfer and the List of technologies promoted for transfer. This move facilitates the formality to purchase and sell technologies, issue licenses of technology transfer and get favors in technology transfer. Only those technologies which are limited for transfer are under the State control.

2.2. The State S&T and technique-economical programs

Since the years 80s, according to the 5 year plan structure, Vietnam has the State key S&T programs for socio-economical development (there are annual 15 - 20 programs during recent years). A half of them are related directly to the creation of techniques and technologies applicable for production. The ministries and provinces, according to the 5 year plans, have their own S&T programs or projects which mainly target the application of technical advances for life and production.

Sine the years 90s, the State has set 4 economical-technical programs for application and transfer of advanced technologies in the fields of IT, bio-tech and others. In addition to the Stage budget the businesses participating in these programs have to give their financial contribution for technology application and transfer.

For the sectors of agriculture and development of rural, mountainous and remote regions, since the late years 90s, the State has programs for application of agricultural technical advances for technology transfer activities. During the implementation of these programs the mobilization of local (provincial) financial resources as well as the contribution from farmers shows the clear effects in technology transfer. In fact the combination of three factors - the State, researchers and farmers - brought to life has gained clear outcomes.

In 2006 the Law on Technology Transfer stipulates the establishment by the Government of the National program of technological renovation to increase the national technological capacities and the efficiency of technology transfer activities to serve the National key programs and promote SMEs to replace out-dated technologies, apply advanced technologies, master transferred foreign technologies and increase technological resources in mountainous, rural and economically difficult areas.

2.3. System of organizations to support the technology application and transfer

Since the years 90s we have seen the establishment of systems for promotion of agriculture and aquaculture and, since the early years 2000s, the one for industry and centers for science-technical application in provinces. These organizations have duties to support the transfer of techniques and technologies to farmers and SMEs, as end users, in rural areas (demonstration, diffusion and on-field seminars).

In addition to these organizations the system of S&T information centers at the central and provincial level set up since the years 70-80s carried out activities of diffusion of science-technical and technological information related to production and business activities in agricultural and industrial sectors at the central and local level.

Since the years 2000s the State has organized activities of Techmart Fairs at the central, regional and local levels to promote periodical contacts of transaction between technology buyers and sellers, local and overseas research institutes, universities and businesses. The virtual Techmart system has been also set up to facilitate virtual contacts of transaction of technologies. Some transaction centers had been set up in Hanoi, Hochiminh City and Hai Phong to facilitate direct and regular contacts of transaction.

2.4. Financial policies applied for technology application and transfer

2.4.1. Corporate income tax

Decree No. 119/1999/ND-CP dated 18th September 1999 stipulates: i) application of 50% reduction of the after-tax income of the extra value from application of new technologies for businesses operating under the Law of State owned businesses, and they can use it to invest for S&T activities and award creators and appliers of those new technologies; ii) application of 25% of corporate income tax rate for businesses operating under the Law of Local Incentive Investment and having activities of high tech application, 20% for difficult areas and 15% for particular difficult areas; and exemption of corporate income tax applied for the first year's extra value from projects of new production chains, production scale extension and technology renovation, and 50% reduction of the tax for the next 4 years; iii) application of 20% of corporate income tax rate during 10 years for FDI businesses having S&T investment projects; exemption of corporate income tax for the first year and 50% reduction of corporate income tax for the next 2 years.

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate the exemption and reduction of corporate income tax for the extra value from the products first time produced in Vietnam with application of renovated or upgraded technologies. For this matter, the Law on Technology Transfer - 2006 stipulates the exemption of corporate income tax for the extra value from the construction of new production chains, production scale extension and technology renovation for 4 years and its 50% reduction for the next 7 years.

The Law on Technology Transfer - 2006 stipulates: i) exemption of corporate income tax for businesses doing investmens for technology renovation with technologies named in the List of incentive transfer technologies for 4 years in condition the total exempted value does not exceed 50% of the total value invested for the renovated technologies; ii) 50% reduction of income tax for the extra value from transferred incentive technologies listed for mountainous, rural and economically difficult areas; iii) exemption of income tax for organizations and individuals using their technologies and patents for capital contribution.

The Corporate Income Tax Law - 2008 stipulates: i) application of 10% tax rate for businesses set up from high tech investment and R&D projects during 15 years, and tax exemption for not more than 4 years and 50% tax reduction for not more than next 9 years; ii) longer (but not exceeding 15 years) application of incentive tax rates for particular projects which require high volume of investments and high techs.

2.4.2. Value added tax (VAT)

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October to guide the implementation of the Law stipulate the exemption of VAT for technology transfer activities.

The Law on Technology Transfer - 2006 and the VAT Law - 2008 stipulate the exemption of VAT for machines, equipment and special purpose transport means which cannot be produced locally and are used for technology transfer.

2.5. Credit policies for technology application and transfer

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate: i) set up of the National fund for S&T development and its use for loans with low interest rate for application of R&D results in production; ii) promotion of establishment of S&T development funds of the ministries, provinces, organizations and individuals to support the technology transfer and renovation activities conducted by businesses.

The Law on Technology Transfer - 2006 stipulates the establishment the National Fund for technological renovation to support various activities including transfer of high and advanced technologies, importation of incentive transfer technologies for SMEs; technology renovation and perfection of SMEs; technology introduction, diffusion and transfer for development of agriculture, aquaculture in rural, mountainous and economically difficult areas; incubation of technologies and technology businesses of organizations and individuals, training of human resources for businesses to carry out technology transfer projects. The Fund offers various schemes of support including soft loans, interest rate reduction, capital loan warranty and capital supports.

2.6. Mechanism and policies to push up technology application and transfer

Decree No. 119/1999/ND-CP dated 18 September 1999 stipulates that: businesses using technologies which result from R&D projects invested by the State have to pay only the remuneration to authors (equal to 30% of technology transfer value).

The S&T Law - 2000 and Decree No. 81/2002/ND-CP dated 17th October 2002 to guide the implementation of the Law stipulate that the benefits gained from technology transfer are shared among author-researchers, owners, S&T organizations and brokers. In case the technology creation is supported by the State budget the authors get in maximum 30% of the technology transfer price, authors and organizations doing successful application of technologies get awards from technology users which would not exceed 30% of after-tax extra value during 3 years. Brokers, if any, get in maximum 10% of technology transfer value.

The Law on Technology Transfer - 2006 stipulate: i) the State assigns the ownership rights toward R&D results created by the State budget to the organizations assigned to chair and develop these technologies; ii) the benefits gained from transfer of technologies created by the State budget are shared according to the rule: author - creators of technologies get certain benefits from selling prices of products produced by these technologies during 15 years in maximum if the owner - organizations use the technologies in production, author - creators of technologies get 20-35% of the benefits from the contract price of technology transfer.

The Law on Technology Transfer - 2006 stipulates the financial support by the People's Committees of provinces and center controlled cities for farmer to apply new technologies.

The Investment Law - 2006 stipulates the State creates favorable conditions and ensures legal rights and interests of the sides in technology transfer including the use of technologies for capital contribution for implementation of investment projects in Vietnam, transfer of advanced technologies, core technologies and new products manufacturing technologies to Vietnam. The Law on Technology Transfer - 2006 stipulates also the organizations and individuals having the rights of technology transfer can use their owned technologies as capital contribution and the value of contributed technologies must be agreed in the contract of technology transfer.

The Law on Technology Transfer - 2006 stipulates the set up of the National program of technology renovation to rise the national technological capacities and the efficiency of technology transfer activities, serve the national key programs, create favorable conditions for SMEs to replace their out-dated technologies, apply new advanced technologies, master the transferred foreign technologies and increase the technological resources in rural, mountainous and economically difficult areas.

The Law on Technology Transfer - 2006 stipulates the State owned S&T businesses can use the assigned State owned assets for purpose of mortgage for loans to carry out technology transfer activities.

The High Tech Law - 2008 stipulates: i) the State spares a budget to import high techs, machines and equipment which cannot be produced locally to carry out important socio-economic, defense and security projects; ii) financial supports from funds and other financial sources for high tech transfer.

The Corporate Income Tax Law - 2008 stipulates the encouragement of businesses to keep a volume up to 10% taxable income to set up the fund for S&T development.

Conclusions

1. The State promulgated many mechanisms and policies to encourage businesses and other economical sectors to do investments for technological development and technology transfer in order to increase the competing capacities and producing efficiencies of their businesses. The application of many mechanisms and policies remains delayed and low effective during implementation stage. Therefore it is required to have efficient measures to bring them to life. Namely, it is necessary to push up strongly the shift of the status of S&T organizations according to Decree No. 115/2005/ND-CP dated

5th September 2005 and Decree No. 96/2010/ND-CP dated 20th September 2010 by the Government, establish the National fund for technological renovation, National programs of technological renovation, National fund for high tech venture investment and Funds for S&T development of businesses.

2. The State should evaluate the impacts and efficiency of issued mechanisms and policies of incentive investments for R&D and technology transfer and then, being based on this evaluation, have measures for improvement and issue of new mechanisms and policies to fit the socio-economical development and technology absorbing, mastering and improving capacities of businesses and new technologies creating capacities of S&T organizations of our country, particularly the credit mechanism for technology transfer and renovation of businesses, support of activities of incubation and set up of technology-based businesses.

3. In order to remove the linear mechanisms heavily dominating the S&T management system and set up new mechanisms and policies according to the orientations of the National Innovation System it is necessary to take the businesses as staring point and focus for all mechanisms and policies of technology transfer and renovation activities. The technological needs, capacities and level of businesses have large impacts to the mechanism issued by the State for technology transfer and supports. Therefore it is needed to make the State and businesses linked to increase the investment rate for R&D and technology transfer and push up stronger their implementation in mutually beneficial ways. The State policies toward R&D and technology transfer activities of businesses should be issued in the above noted concept of links. This concept fits also the concept of "the joint actions by the State and the people" of the Party and the State. It is also the approach, namely the PPP mechanism, very popular in developed countries./.

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