



## ***Knowledge-Based Human Development***

One of Latvia's strategic goals is to achieve an economy and society that are based on knowledge. A socio-economic model of this sort, as opposed to the status of a country that is based on agriculture, light industry or transit, would ensure competitiveness for the Latvian economy and the sustainability of human development.

As noted earlier in the **Report**, globalization typically entails the liberalization of trade, internationalization of market and production factors, an increase in direct foreign investments and heightened competition. These factors determine the transition to an economy based on research and technological output. Innovations and State policy that supports them become essential driving forces of the economy.

In a small country with an open economy, like Latvia, vigorous scientific and technological research and creative work are a vitally important means of competitiveness and protection. Sometimes these are called the "new weapons" of the economy, as tariffs, quotas and other means of market obstruction lose their former meaning under the conditions of globalization. Globalization opens rapid development opportunities to those countries that are opening up to the world market and which base their economies on scientific and technological research and innovations.

Latvia needs a development strategy that is innovative and directed toward the future, and which would promote economic growth and sustainable human development. Currently the general direction of the State is largely determined by the strategies of certain sectors. The *Saeima* (Parliament) and Cabinet have approved more than 15 programmes of national significance, of which we may mention here the National Transport Development Pro-

gramme, the National Programme for the Development of Small and Medium-Sized Businesses, the Rural Development Programme, the national "Informatics" programme, the national programme "Latvia's Inhabitants" and others. In order to ensure the receipt of financial support from European Union structural funds, in 1999 the government approved the National Development Plan, which formulates development priorities and a set of activities aimed at reaching EU aid objectives. The government is harmonizing short-term and medium-term action priorities with the World Bank in a common State Aid Strategic Document. However, until now, a sector approach has been mostly used in development planning and too little planning has been done in order to achieve integrated and sustainable development in Latvia.

Under the conditions of globalization, states need a long-term view of the future. It is important for Latvia to decide in which sectors it will develop scientific and technological research and high-tech manufacturing, as a lack of resources will make it difficult to ensure support for all sectors. It is important to decide which sectors' development will be based on the procurement of technologies and linked with the consolidation of qualified labour, and in which sectors investments should be attracted, thereby promoting the co-operation of multinational corporations with Latvia's small, medium-sized and large companies. Export sectors that manufacture production with high added value must be strengthened, thereby establishing in Latvia a modern economy that could support human development.

## Globalization and Innovations

Innovations are understood as the creation of new products and their introduction in the market, as well as the acquirement of new methods, raw materials and resources. Social and political improvements can also be called innovations. Under globalization, it is typical that the new replaces the old, especially in the area of technologies, and tradition is replaced by innovation. Innovations require a special human mentality – imagination, openness to new ideas, enterprise and a creative approach to the market. Innovations also need favourable political conditions, a suitable organizational culture and the ability of individuals and organizations to manage risk. These qualities need to be cultivated more and must be used for the generation of economic and social advantages.

The links between innovations and economic growth are manifested in the following manner:

- innovations are the main source of growth;
- competition is the main source of innovations;
- international trade is the main source of competition;
- human capital, and scientific and technological research are the main preconditions for innovations.

By comparing economic models of various countries, one can conclude that one model is based on light, food and wood-processing industries, which usually achieve a competitive level by utilizing a low-cost labour force. The second economic model is characterized by an intensive use of re-

sources in steel production, heavy engineering, ship building, processing of crude-oil products and the chemical industry. A third type of economy is based on the use of highly specialized technologies in sectors that produce mutually needed goods, e.g. in automobile manufacturing and the electronics industry. The fourth type of economy is based on information and highly specialized technologies, and includes sectors such as the programming industry, the production of new materials and new means of communications, biotechnology and optic electronics. The development of these sectors is based not only on modern technologies, but also on highly qualified labour, scientific and technological research and continual innovations. The latter type of economy would be best able to secure human development in Latvia.

## The Scientific Capacity of Latvia's Economy

The structure of the economy's sectors has already been analyzed in the Introduction and Chapter 1 of the **Report**. Here we have evaluated its scientific capacity, by ascertaining whether there is an increase in the contribution of high-added-value sectors to Latvia's GDP (see Table C.1). The analysis shows that industry is dominated by sectors that are based on the processing of natural resources, which produce products of low added value, and which do not require highly-qualified labour in the production process. The current competitiveness of the

Table C.1

### The Structure of Latvia's Industry by Produced Value (%)

Industrial sectors	1995	1996	1997	1998
Natural resources processing sectors <sup>1</sup>	40.0	41.0	44.3	43.4
Unskilled labour sectors with low capital intensity <sup>2</sup>	14.2	15.1	14.4	14.4
Capital intensive sectors <sup>3</sup>	38.9	36.8	34.1	34.2
High-tech and qualified labour sectors <sup>4</sup>	6.9	7.1	7.2	8.0
Total	100.0	100.0	100.0	100.0

<sup>1</sup> Food and wood-processing industries

<sup>2</sup> Tobacco, textile products, ceramics, furniture manufacturing, recycling processes

<sup>3</sup> The production of cellulose, paper, metalwork, machines and equipment, radios and television sets and transportation vehicles; electrical supply, gas supply and water supply

<sup>4</sup> Printing and publishing, and the production of pharmaceutical preparations, plastic goods, and medical, precision and optical instruments

Table C.2

**Latvia's Export Structure in 1998 (%)**

Export products	Export to the ES	Export to Lithuania and Estonia
Products from natural resources processing sectors	57.4	25.4
Products from unskilled labour sectors with low capital intensity	29.4	16.3
Products from capital intensive sectors	11.9	37.0
Products from high-tech and qualified labour sectors	1.3	21.3
Total	100.0	100.0

products of these sectors in the European market is largely achieved by the use of low-cost labour.

The proportion of high-tech and science-intensive sectors in Latvia's industry is small, especially in the export of goods (see Table C.2). Furthermore, some of the sectors in the sector classifications adopted by the Ministry of Economy do not correspond to the classifications of high-tech sectors that have been adopted by OECD. For the most part, Latvia's industry is capable of squeezing into Western markets only with production that is typical of the model of a "departing economy." One of Latvia's chief sources of income is transit, but future possibilities of GDP growth that is based on transit have been virtually exhausted.

### **Research and Technological Development in Latvia**

Research and an effective system of innovations in Latvia could promote the development of high-tech sectors and economic growth, as has been the case in other countries, e.g. Ireland and Singapore, which rank 20th and 22nd in the world according to their human development index. Research and development is understood as theoretical research and research in applied science, and the use of infrastructure and research results in the generation of new technologies and products. An important component of work in research and development are universities and academic institutes, as well as technological centres and technological parks, which are the most active in work with innovations and the commercialization of research results.

An indicator of the situation in research and development in Latvia is the fact that this area has been apportioned only 0.42 % of GDP (see Table

C.3). This is the lowest indicator in the Baltic countries and one of the lowest in Eastern Central Europe. In 1998 a total of only Ls 16 million was allocated for the needs of research and development. State budget financing has shrunk from 0.24% of GDP in 1997 to 0.21% of GDP in 1998, when it was Ls 7.94 million. The previous **Report** already touched on the problem of meager financing for science, but the direct grant from the State budget has increased only slightly. On average, European Union countries appropriate 3% of GDP for research and development, and Japan allocates 3.1% of GDP. In 1998, Ls 5.9 per capita were spent on research in Latvia, while in the United States this figure was Ls 340.

In 1998, Ls 4.92 million or 62% of total State financing for science was appropriated from the State budget for fundamental and applied research projects (grants) and programmes. Market-commissioned research received Ls 900,000 or 11% of budget financing for research and development, and research commissioned by State institutions received Ls 760,000 or 10% of budget financing for research and development. The Latvian Council of Science divides financing for grants among 14 branches of science, and the proportions of distribution have not changed since the beginning of the 1990s when they were established. An equal distribution of the scanty means that were allocated for science has made it possible for Latvian science to survive as a whole, but this also indicates that scientific and technological research are financed inflexibly and innovations are not sufficiently supported. The largest budget financing is for the sector of physics, mathematics and astronomy (13.1%), with 10.9% for agricultural sciences and 10.4% for medical sciences. Information technology receives 5.6%, and social sciences, which include economics, law, sociology, political science, communications sciences, psychology and educational science, receive 10.6%.

Table C.3

**Research and Development Indicators in Latvia**

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total financing for research and development									
millions of lats	n/a	n/a	7.2	8.4	12.0	13.8	14.5	16.0	16.5
% of GDP	n/a	n/a	0.49	0.41	0.51	0.46	0.42	0.42	n/a
State budget financing for research and development									
millions of lats (in actual prices)	0.4	2.0	3.2	5.5	6.6	7.3	7.9	7.9	8.3
% of GDP	0.25	0.20	0.22	0.27	0.28	0.26	0.24	0.21	n/a
Full-time equivalent personnel in research and development	26,360	11,360	8,540	5,200	5,240	4,310	4,440	4,437	n/a

To a large extent, scientific and technological research in Latvia has been rescued by foreign financing, which Latvia's scientists have attracted by working with international projects. At the same time, internal circumstances are creating an environment, in which research is in danger of lagging behind. The lack of an increase in State financing is holding back the establishment of conditions that would promote the interest of the private sector and businesses in financing technological research. There are no mechanisms that would encourage businesses to work with technological research, and create and introduce new technologies. Technological research is also hindered by the fact that the total structure of businesses is dominated by small businesses, and that only 12% of businesses operate in the sphere of production, and only 10% are focused on export. As already indicated in Chapter 3 of the **Report**, such conditions may lead Latvia to becoming not only an importer of technology, but also of knowledge and skills.

In order to evaluate the results that have been achieved through the parsimonious financing of science, one must use internationally accepted criteria for science evaluation. A ranking position in world science can be won mostly with publications in internationally recognized and reviewed scientific journals. Journals of this kind are considered those with a high level of influence, which is calculated according to the frequency of citations. The most frequently cited journals in life sciences, physics, chemistry, engineering sciences, mathematics and computer sciences are registered in the Science Citation Index (SCI), journals in social sciences are registered in the Social Science Citation Index (SSCI), and

journals in the arts and humanities are registered in the Arts and Humanities Citation Index (AHCI).

In comparison with the contribution of scientists from other Baltic countries and Northern European countries, the number of internationally significant publications from Latvia's scientists in the global scientific market is not only meager, but it practically has not grown over the past seven years (see Table C.4). The number of scientific publications in Estonia has doubled, and it has also rapidly increased in Finland, Norway and Lithuania. These differences can be explained by the fact that science receives greater financing in neighbouring countries, and also by the fact that in these countries international scientific co-operation is more widespread.

Publications in physics and chemistry dominate among the publications of Latvian science that are internationally recognized, while there is little representation in medicine, biology, molecular biology and biochemistry, agriculture, mathematics, computer sciences and social sciences. There is also a scarce amount of internationally recognized publications in the arts and humanities: history, philosophy, linguistics and literary criticism. This is in contrast to the structure of scientific production in the countries of Northern Europe, where internationally recognized publications are dominated by publications in life sciences and medicine, and the number of internationally recognized publications in physics, chemistry and social sciences is similar. Since 1990 there was a trend of growth in the number of SCI-registered publications by Latvian scientists of solid-state physics, and in this area they surpassed their Estonian, Lithuanian and even Norwegian colleagues. However, it is paradoxical that physics does not re-

ceive greater financing from the Latvian State budget than other sectors, and the “brain drain” in this sector has been one of the largest.

In comparing the number of publications from Latvia, Finland and Norway that appear in the SCI and SSCI, one can conclude that in countries with a very high human development index (Finland ranks 13th according to this indicator and Norway ranks 2nd in the world), the proportion of social sciences in research and its financing is much higher than in Latvia. The reason for this is that in these countries the social sciences are valued as essentially important preconditions for the development of social policy and public administration. Under the conditions of the Soviet regime, social sciences in Latvia were ideologized and suppressed. Presently, in comparison with other sciences, the social sciences receive less support from the State budget than in other European Union countries. For instance, funding from the Latvian Council of Science actually does not support research in political science, which is necessary for the development of democracy. Over recent years, funding from international organizations and also from the State has been used to carry out important social research on social integration, the extent of poverty, rural development, human rights, civic participation and other issues that are of importance for human development. These studies prove that the social sciences have earned greater support. This field is also popular among young students.

In the future, efforts must be made to preserve the internationally competitive sectors of physics and chemistry. Strong natural sciences, if supplemented with a mechanism of functional innovations, could provide an impulse for an industrial boom. Natural sciences and computer sciences are the foundation for high-tech development and they are important from the viewpoint of industrial development, but they should not be supported at the expense of life sciences, which are necessary to secure the quality of life and balanced development. The currently low international productivity in life sciences, and especially agricultural sciences, biochemistry and molecular biology, may turn out to be an essential obstacle against the development of biotechnologies, the introduction of balanced agricultural methods and the establishment of a competitive food industry.

Latvia has particularly good prospects in the following directions of research and development:

- information technologies;
- new technologies that are based on the use of new materials;
- biotechnology and pharmaceuticals;
- wood-processing technologies that reduce the export of unprocessed wood;
- innovative agricultural and food production technologies;
- new methods of acquiring knowledge and education.

Currently, from the perspective of innovative development, the best situation exists in the sectors

**Table C.4**

***Publications of Scientists from Baltic and Northern European Countries That Appear in the SCI and SSCI***

	1992	1993	1994	1995	1996	1997	1998
Number of publications that appear in the SCI							
Latvia	294	236	241	233	251	236	303
Estonia	260	243	305	355	390	411	468
Lithuania	278	217	269	277	295	346	391
Finland	4,395	4,685	5,148	5,558	5,870	6,345	6,461
Norway	3,432	3,389	3,617	3,911	3,993	4,141	4,369
Number of publications that appear in the SSCI							
Latvia	n/a	n/a	5	6	5	5	5
Estonia	n/a	n/a	19	21	14	29	41
Lithuania	n/a	n/a	6	12	4	4	16
Finland	n/a	n/a	479	460	n/a	687	780
Norway	n/a	n/a	567	613	667	614	722

of information and communications technologies, and there are several reasons for this. Research and development of new products in these sectors do not require large capital investments in infrastructure, production can be distributed electronically and it is possible to easily co-operate with partners in various countries around the world. Tertiary education has played a positive role by preparing over previous years qualified specialists in the programming sectors. Enterprising individuals, who have established thriving information-technology companies, which have successfully become commercialized in the global market, have also played a large part. This already makes the information-technology sector competitive in the world market. The "brain drain" in the sectors of information technology and programming has been minimal, as experts who work in these sectors can make a good living by working in Latvia and working on the large amount of foreign-commissioned jobs.

The Information Technologies and Telecommunications Association of Latvia has drafted a development programme for its sector and is offering it to the government. The programme envisions broadening preparation of specialists in the programming sector at the tertiary level. The Association has calculated that within twenty years the programming sector may provide jobs for 40,000 specialists and may become the leading export sector.

### ***The "Brain Drain"***

As already determined in the Introduction of the **Report**, the population of Latvia is shrinking. Small nations with limited human resources are also in danger of "brain drains," i.e. scientists and qualified specialists leaving the country to work abroad, and eventually, emigrating. It is equally undesirable to have scientists and professionals moving to work that requires a lower qualification level in other economic sectors, which do not have a sufficiently large potential for innovative development. This is exactly what has happened to a large extent in Latvia since 1991 with human resources in research and technological development, whose numbers have decreased seven times; in 1998 there were 4,437 full-time equivalent employees. There were 1,526 scientists with PhDs. In Latvia only two persons per 1,000 inhabitants work in the area of research and development, while in the United States this figure is eight.

The 1998 **Human Development Report** already discussed the rapidly decreasing number of scientists, which has been largely created by an "in-

ternal brain drain" – scientists going to work at private companies and State administration agencies, where in many cases they have become successful businessmen and civil servants. An estimated couple of hundred scientists have gone abroad and taken up permanent work or contractual jobs of various duration. Till now, their number has not been precisely calculated, but the Ministry of Education and Science has started to make inquiries at Latvia's scientific institutes and universities in order to evaluate the outflow of scientists. Already now it is possible to ascertain that the majority who have left Latvia are highly-qualified specialists of modern materials science, biotechnology and other sciences that are directly linked with high-tech development. A large part of those who have left are young scientists who have generated most of the publications that are included in the SCI, thereby demonstrating their international competitiveness.

Globalization enhances the mobility of scientists, developmental specialists and also qualified labour, and the direction of this movement is primarily toward Western countries, whose businesses and governments attract qualified high-tech specialists by means of various activities. It is important for Latvia to adopt, clearly express and fundamentally abide by a political stance that affirms that the State supports such science and implements such long-term development strategies in Latvia, which are linked to economic restructuring toward sectors that are science-intensive and that generate high added value. This gives scientists a sense of future potential. Scientists leave not only for the sake of higher wages, but also because they do not see any application for their knowledge in Latvia. At Western scientific centres they are able to realize their potential more fully and enjoy the fruit of their work. These specialists would gladly return to Latvia not only if they were to receive higher wages, but also if they were to feel that they are needed by the economy and by the tertiary educational system, and if they did not sense a discriminatory attitude toward them by the State. To a large extent, an approach of this sort would make it possible to resolve the "brain drain" problem in a positive manner and direct it toward channels of advantageous international co-operation.

### ***The Quality of Tertiary Education***

The Introduction of the **Report** already noted the rapid increase in the number of students in Latvia, a trend which can be rated very positively from the perspective of human development (see

Figure C.1). In terms of the number of students per 10,000 inhabitants, Latvia does not lag behind countries that have a high human development index. However, growth in student enrollment needs to be combined with improvement in the quality of tertiary education. This can be achieved by involving scientists in the implementation of study programmes, promoting the research activities and international publications of lecturers, increasing financing for tertiary education and improving the internal administration of tertiary educational institutions. The Latvian Academy of Science was reorganized in 1996 and 1997, and as a result, many academic institutes integrated with universities. In connection with these changes, many scientists who previously had worked only in research began to teach at the tertiary level. However, the reform took place without increased financing, and therefore, it has not brought results of full value.

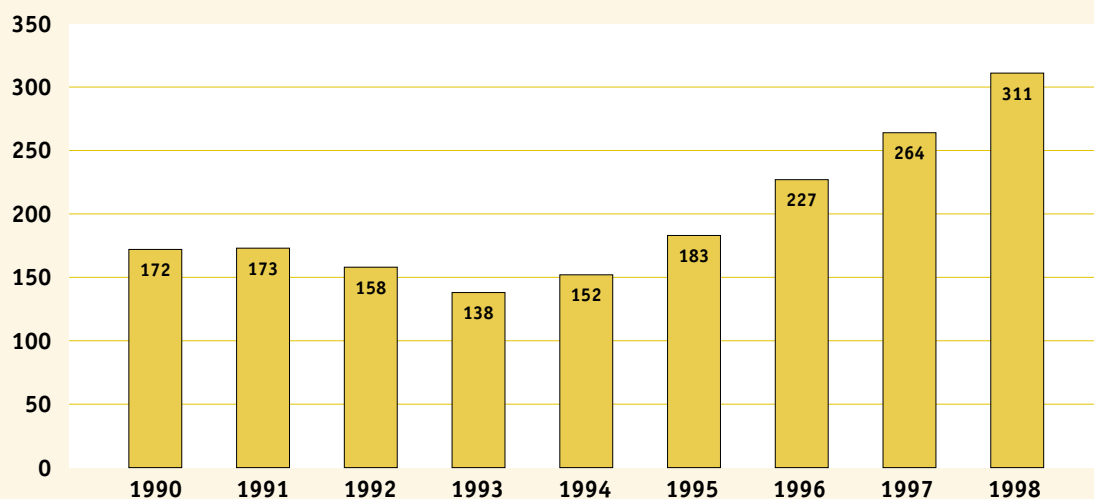
Several problems exist in terms of the quality of tertiary education. Many faculty members maintain that it is not possible for them to generate internationally competitive scholarly production because academia receives insufficient financing, salaries are small, the teaching workload is high and equipment is outdated. Another deterring circumstance in tertiary education is the rise in the average age of academic personnel, and the fact that new scholars, especially in the sciences, enter the academic circuit quite slowly. The average age of scholars in 1998

was 57 (in 1989 it was 42). Many tertiary educational establishments lack thirty- and forty-year-old instructors who have a PhD. Only 3% of research and academic personnel are younger than 35, and only 20% are younger than 45. The largest number of scientists and university lecturers are in the age group between 56 and 65.

The main precondition for quality tertiary education is a successful scientist who combines scientific work with lecturing, and who, with experience and with knowledgeability in the latest scientific developments, is able to help students acquire new knowledge and apply this knowledge. In granting PhDs, electing doctorate and expert councils and evaluating scientific and pedagogical work, the Latvian Council of Science, the University of Latvia and a few other tertiary educational institutions strive to demand that their lecturers meet strict criteria for academic work. Still, in Latvia the level that is demanded of scientists and university lecturers is not as high as in European Union Member States and there are gaps in the qualifications of academic personnel. A professor who is unable to prepare publications for internationally recognized scientific journals cannot be considered a specialist at the international level or an adequate lecturer under the conditions of globalized science and tertiary education. Still, it must be taken into account that requirements that are demanded of scientists cannot be raised without improvements in financing for sci-

Figure C.1

**The Number of Students per 10,000 Inhabitants in Latvia between the School Years 1990/91 and 1999/2000**



ence and tertiary education. Particularly important aspects are the preparation of candidates for a doctor's degree and the recruitment of young and talented scholars, who are presently studying at Western universities, to Latvia's tertiary educational institutions.

Young people have become more interested in studying social sciences and humanities, though interest in the natural sciences has waned (see Figure C.2). As already recommended in Chapter 3 of the **Report**, young people should be encouraged more to specialize in areas of information technology by creating favourable conditions for these study programmes. Presently these study programmes in Latvia have a good basis in fundamental science, and there are good science schools, but currently there is a lack of movement toward the introduction of technologies and commercialization. The support of these areas of study is important for reorienting the economy to high-tech sectors.

In the area of tertiary education several issues need to be resolved urgently. The increase in the number of students demands a corresponding increase in the number of professors and lecturers and a renewed infrastructure. State financing for tertiary education must be increased. We must remember that tertiary education is an institute that promotes the formation of a middle class by preparing young

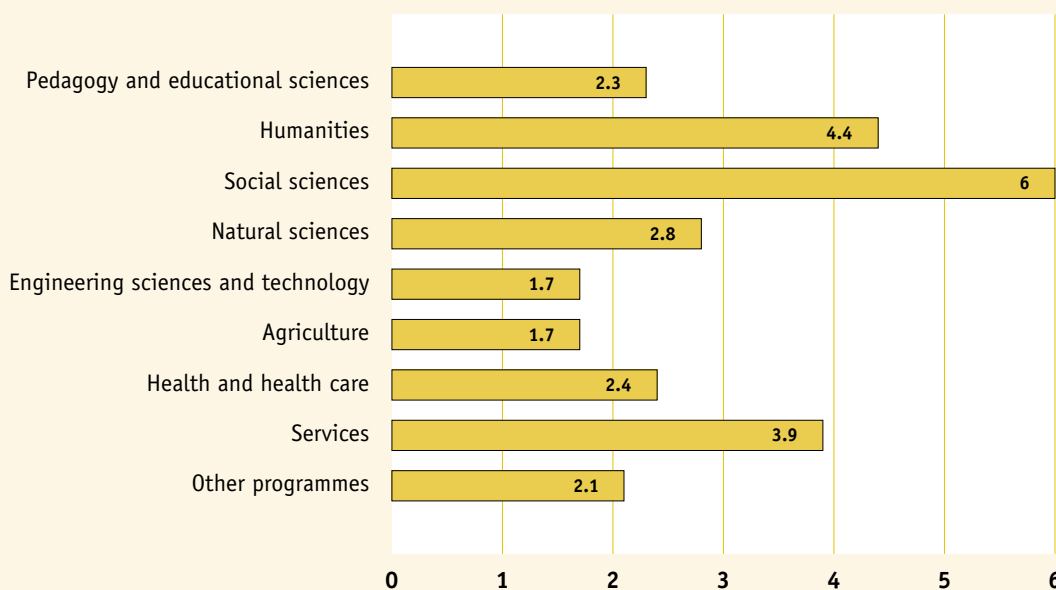
people for a professional career. Fields of study should be carefully evaluated, and a decision must be reached on which specializations are significant from the perspective of the economy's innovative development, and training of specialists in these areas must be financed from the State budget.

Qualified, internationally recognized specialists work in the area of information technology at Latvia's institutions of tertiary education and private companies, and they could educate many more students in programming and other information-technology specializations. This would require greater State financing for these study programmes and also the involvement of specialists from these sectors in the implementation process.

Latvia has a very low level of financing for scientific and technological research. Without changing the situation, Latvia cannot make use of the opportunities of rapid technological development that are offered by globalization. It must also be understood that the modernization of science and tertiary education is not solely the responsibility of the government. Till now, scientists themselves have not adequately explained the possibilities of science and have not offered examples that demonstrate its contribution to the growth of the economy and balanced development. Scientists themselves must become more conscious of their mission, which includes not

Figure C.2

**Competition for Budget-Financed Study Places in the 1998/99 Academic Year**



only writing publications and maintaining the quality of tertiary education but also their influence on policy and the formation of public opinion.

It would be important for the government to declare publicly that Latvia's economic development is unthinkable without vigorous technological development, research and tertiary education. Latvia needs to make use of the experience of other small countries around the world in the modernization of its economy. It should be remembered that the economic upswing of small countries has been based on state policy that actively supports scientific and technological research and tertiary education.

### ***What Would Foster Human Development under the Conditions of Globalization? The Report's Chief Recommendations***

This publication of **Latvia Human Development Report** is one of the first attempts to focus the attention of society on the manifestations of globalization in Latvia. We hope that it will promote discussion and practical endeavours to use the opportunities of globalization in the advancement of sustainable human development.

Based on the **Report's** analysis of globalization and human development, each chapter of the publication, as in previous **Reports**, offers recommendations for the government, NGOs, the private sector and mass media. Below is a summary of these recommendations.

#### ***General Conclusions***

- Latvia requires a long-term development strategy, which would formulate economic goals and social development objectives for the 21st century. This kind of strategy must be widely discussed in the preparation stage.
- Co-operation between the government, NGOs and private companies is necessary to achieve greater influence on globalization processes and to obtain control over them. Broadened political networks, in which various organized interests are represented and which serve as a setting for dialogue, are one of the forms of policy-making and policy implementation under the conditions of globalization.
- The opportunities of individuals to participate in globalization and their control over its processes are broadened by participation in social networks. People have greater possibilities of influencing technology, policies and the market if they are involved in NGOs and interest groups. Therefore, under the conditions of globalization, an activated civic society is one of the most important preconditions for sustainable development.
- The globalization opportunities of individuals must be fostered – their access to technology, information, knowledge and finances. Information and communications technologies must be made much more accessible. It is necessary to democratize information and technology. Human development would be advanced if each family had access to computers, the Internet and credit cards. These three resources not only render electronic commerce possible, but also broaden the possibilities of obtaining information and education.
- The ability of individuals to globalize must be developed, and they need to be trained how to use globalization resources (computers, modern technologies, finances, the Internet and new forms of acquiring knowledge and qualifications), so that they could use these resources to raise their standard of living, improve their education and qualifications, obtain work, tend to health-care needs and achieve the consolidation of a civic society.
- Primary globalization opportunities, which are associated with finances, capital, technology and labour, and secondary globalization opportunities, which are linked to information, knowledge and social contacts, must be used. As primary globalization opportunities are more limited and financial resources and capital are more difficult to come by, participation in globalization could be achieved by actively involving people in secondary globalization – training them how to use the latest information technologies, promoting education, fostering personal contacts and co-operation.
- The democratization of finances is necessary alongside with an increase in the welfare of society. The next step in the development of democracy is wider access to capital and credits for acquiring an education, property purchases, home improvements, and other needs. Small loans must be made more avail-

able and individuals themselves should give more thought to personal savings and establishing pension capital.

- In a globalized world, human development will be more dependent on knowledge and education. Latvia must maintain a high level of education among the population, the advantages of the present educational system must be consolidated, and modern forms of study must be more widely introduced, including the areas of adult education and retraining.
- Policies on science and technological development must be established that would make it possible to develop sectors of highly specialized technologies and high added value. More support should be given to science and research that fosters technological innovations and promotes growth in science-intensive production and service sectors. In co-operation with entrepreneurs, special State support should be provided for the preparation of highly qualified specialists in information-technology sectors and the development of these sectors in Latvia.
- The conditions of globalization also require the democratization of administration and increased public participation in administration. Under the conditions of a free market, many organizations are actively lobbying public authorities to take decisions in their favour. However, at times these decisions are geared toward the satisfaction of corporate and egoistic interests, and public opinion is not taken into account in the decision-making process. Thus, it is possible to subjugate public interests to corporate interests, and this is dangerous for human development. In order to exclude this possibility, the transparency of decision-making and public participation in the discussion of draft decisions and draft laws must be ensured.
- The government, the private sector and individuals are jointly responsible for the creation of a competitive economic structure in Latvia and for the successful advancement of human development. However, the central authority, which must promote the economy and human development, is still the State.
- Latvia needs to make use of the experience of other small countries around the world in the modernization of its economy. It should be remembered that the economic upswing of small countries has been based on a state policy that actively supports scientific and

technological research and tertiary education. It would be important for the government to declare publicly that Latvia's economic development is unthinkable without vigorous technological development, research and tertiary education.

## **Chapter 1**

### ***Economic and Social Aspects of Globalization Processes and Their Impact on Human Development in Latvia***

- Under the conditions of globalization, more serious thought must be given to the consolidation of large companies and entrepreneurial innovation.
- As investments have become concentrated in the areas of communications, financial mediation and commerce, and because they are concentrated mostly in Rīga, State investments should be applied to other vitally important sectors nationwide in the interests of human development
- It is necessary to stimulate the placement of manufacturing plants and administrative institutions of multinational corporations in Latvia, especially outside of Rīga. This would be possible only by simultaneously developing infrastructure and telecommunications, and also by organizing mutual co-operation among Latvia's entrepreneurs and partnerships with foreign companies.
- The government must create conditions that would stimulate the flow of new technologies into Latvia, so that investments would facilitate growth in export and would not create pollution-causing manufacturing plants.
- In order to promote the export of goods produced by small and medium-sized businesses, the State must provide special support for introducing merchandise standards at these companies. In co-operation with international institutes of standardization, measures must be taken to ensure the efficient operation of one centralized institution of standards in Latvia, which would rapidly replace local standards with international standards. A certificate that confirms a company's conformity with international standards can be viewed as an important criterion for granting credits.

- Latvian business associations must actively inform their foreign colleagues about business opportunities and achievements in Latvia, and they need to act in a harmonized manner in this area. In order to penetrate and maintain their position in international markets, Latvia's businesses must be much more creative and must establish common supply and sales networks.
  - Small and medium-sized businesses must be assisted in co-operation with multinational corporations by creating co-operation networks.
  - State and local government authorities need to promote secondary globalization opportunities (access to information, more extensive social contacts). Small libraries and regional NGO centres must be used as sites for the dissemination of information.
  - At the local government level, attention must be focused on the study of foreign languages, computer skills and project management, and on possibilities in adult education. The support of the State and international organizations must be widely used in these efforts.
  - In the implementation of international development programmes, the central government's role as a controller must be reduced to a consultative level, thereby allowing local governments themselves to compete for internationally financed regional development projects.
- that would provide the public with an opportunity to access draft legal enactments and express their opinion on these issues.
- In order to achieve balanced administrative and regional development, a model for the administrative territorial and regional reform must be decided on as soon as possible, and the implementation of the administrative territorial reform must be accelerated.
  - Important aspects of the administration's democratization include clarifying the government's policies and initiatives, providing the public with information, ascertaining public opinion and ensuring feedback.
  - Open discussion must take place on priorities of government policy and long-term goals. Open discussion would facilitate public unity regarding common human development goals; it would foster the nation's consolidation and the solidarity of individuals for the attainment of common human development goals, and would reduce distrust in the government and politicians.
  - The consequences of approximating Latvia's laws with various European Union legal enactments must be carefully analyzed. It is important for the harmonization of laws not to take place mechanically, but instead, by analyzing the impact of the new enactments on Latvia's economy, legal system, State budget and human development.
  - One mechanism for improving the quality of the legal enactments that are to be adopted and adapting them to Latvia's circumstances would be to discuss the legal enactments that are to be adopted in public consultative councils and NGOs that work together with the Ministries.

## Chapter 2

### *Administration and Human*

### *Development under the Impact*

### *of Globalization Processes*

- Public administration must ensure transparency of the legislative process and must guarantee NGOs the possibility of a structured exchange of information with public administration institutions in the legislative process. It must be made possible to participate in the discussions of draft legal enactments before they are submitted to the *Saeima* and Cabinet for approval. For example, revising Cabinet Regulations No. 160 – "Cabinet Internal Procedures and Activities Regulations," could create an opportunity of this kind. A mechanism could be established

## Chapter 3

### *An Information Society and New Technologies*

- The formation of an information society must be declared a State priority in Latvia at the State policy level.
- The development of the telecommunications infrastructure must be promoted by accelerating market liberalization and achieving an end to the *Lattelekom* monopoly situation in the provision of telecommunications services as soon as possible. Quality telecommunica-

tions services must be established nationwide and Internet connections must be ensured at a socially acceptable cost.

- The acquisition and use of new technologies must be facilitated at all levels. Schools must be ensured with computer equipment, software and Internet connections. Uniform requirements must be established concerning a minimal level of IT skills. Programmes of study must be developed for new technologies and teachers must be trained in the use of these technologies.
- The establishment and support of public Internet user stations must be continued, and special attention must be paid to the country's less-developed regions. Libraries must be developed as universal information-access sites.
- The IT sector must be made into the leading sector of the Latvia economy. Private-sector and foreign investments must be stimulated in the IT sector, favourable conditions must be created for the development of small and medium-sized IT companies, and the export of IT services must be promoted. Professional and academic IT education must be developed, thereby ensuring the preparation of a large number of high-level specialists.
- In order to guarantee State and individual security, the laws must be amended with norms that would provide sufficient protection to the individual and the State against the malicious use of data and technologies. Employees of law-enforcement structures must be ensured with the knowledge and skills that are necessary, in order to truly protect society and individuals against computer crimes.
- Laws must be amended to ensure the protection of personal data and implementation mechanisms must be developed.

## **Chapter 4**

### ***The Market Economy, Democracy, Globalization and Youth***

- Public understanding of the significance of diversity, tolerance and human rights must be fostered.
- Improvements and amendments to anti-corruption laws need to be facilitated. In preventing corruption, opportunities need to be used more actively that are provided by local and international NGOs and international co-operation within the scope of the EU.
- The State must not disassociate itself from resolving the problems of welfare. The State must endeavour to hinder further economic stratification, as economic exclusion promotes civic exclusion, and in the final result, it also hinders development of the market and economic growth. Both the State and NGOs must strengthen public trust more actively in the idea that a market economy, democracy and globalization can advance human development.
- Much more attention must be focused on issues of education, as young people are that part of society whose growth and development opportunities are most linked with the use of globalization's achievements. Currently, at a time when poverty is widespread and many families are indigent, the State must accept responsibility for ensuring schools with access to the latest information technologies and training in their usage.