

Economic Transformation Process in Estonia

Industrial transition models

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Structure of the presentation

- General information on economic reforms with emphasis on structural change and industrial development;
 - Industrial policy;
 - Issues related to the Lisbon strategy;
 - Examples of two industries
- * The presentation is based on the paper by Rünno Lumiste, Robert Pefferly and Alari Purju “Estonia’s Economic Development: Trends, Practices and Sources. A Case Study” for the Commission on Growth and Development of the World Bank

Initial conditions for reforms: some specific features (1)

- Estonia, but also Latvia and Lithuania have been former republics of the Soviet Union;
- They were different from other parts of the Soviet Union due to the experience of statehood and market economy between the two World Wars;
- They were different from the Central European countries (Slovenia and Hungary), because the difference in their economic structure, relative prices, entrepreneurship and foreign trade experience in comparison with market economies was bigger;
- The Baltic States had to create new institutions like the Central Bank, Ministry of Foreign Affairs, embassies in other countries; they had to introduce completely new currencies etc.

Initial conditions for reforms: some specific features (2)

- There was a strong political consensus on the need for fast and substantial economic reforms;
- The hyperinflation in the rouble zone in 1991 and 1992 destroyed the savings of households, which made domestic resources for privatisation and restructuring very limited;
- There was a widely shared understanding by the general public that the reason for a modest level of living standards was the Soviet-type economy with its state ownership, rigid, value losing currency, closed economy with the orientation towards the Soviet market;
- That understanding developed very much the path for reforms.

Reforms (1): new currency and the monetary reform

- Estonia introduced its kroon in June 1992 with fixed exchange rate to DEM and with the currency board, the fixed exchange rate to the Euro since 1999, no devaluation during 16 years;
- The full convertibility of the currency from the beginning;
- The exchange rate between the kroon and the DEM at the time of the currency reform was set at the level of the exchange rate between the rouble and the DEM determined in inter-bank auctions;
- Due to the scarcity of currencies offered and the abundance of the rouble, the rouble rate was undervalued and that, in turn, determined the Estonian price and wage level after the currency reform.

Reforms (2): new currency and the monetary reform

- In June 1992, when Estonia introduced its currency, the residents of Estonia were allowed to exchange 1500 roubles at a rate of 1 kroon per 10 roubles during three days, which was equal to 18 DEM;
- The average wage was 41 USD or 60 DEM, two times lower than in Poland and three times lower than in Czechoslovakia;
- The similar level in Russia had mandated the initial low wage level, which was at the time the key trading partner of Estonia;
- In comparison with productivity, the wage and price levels were very low in Estonia;
- The applied exchange rate made Estonia's export expensive and favoured exports of goods and services;
- These conditions were favourable for foreign capital.

Reforms (3): privatisation, FDI and structural change

- The privatisation process of companies was organised by the Estonian Privatisation Enterprise founded in 1992 and was followed by the Estonian Privatisation Agency, which was founded in 1994 and operated until 2000;
- Some elements of the Treuhand scheme, sales were without the restructuring of companies;
- The companies were sold through open tenders, the first target being to find core owners;
- Minor part of shares were sold for vouchers;
- No reservation of shares for employees and employers.

Reforms (4): privatisation, FDI and structural change

- The FDI had a critical role in privatisation;
- 1993-96 the new owners with a foreign partner paid 16% of the total purchasing price and offered 30% of all investment guarantees (of which close to 90% were fulfilled);
- Privatisation of infrastructure enterprises (Estonian Railway, Estonian Air, Tallinn Port, Estonian Telecom) of various success until 2000s;
- In creation of the private sector, privatised enterprises did not dominate, a larger number of companies had been created as new private companies;
- The FDI have been creating on average 15-20% of total capital accumulation in Estonia during 1994-2006.

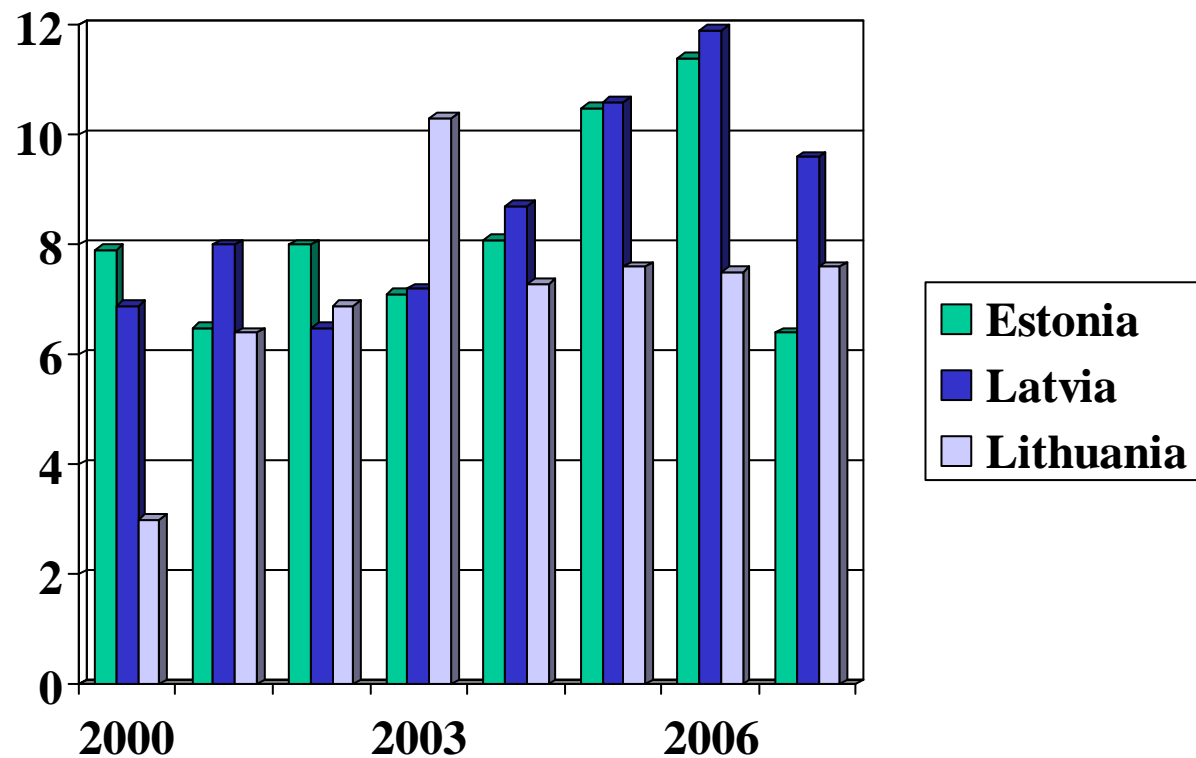
The FDI and structural change (1)

- The total FDI stock created 10 bln EUR or 95% of the GDP at the end of 2006;
- The gross fixed capital formation created around 30% of the GDP in the 2000s;
- The annual FDI created 7-10% of the GDP;
- Changes in the structure of the FDI, less investments into the share capital and more reinvested profits;
- 40% of FDI from Sweden, 25-30% from Finland;
- Around 30% of FDI stock in real estate, renting and business services, 28% in financial intermediation, 17% in manufacturing.

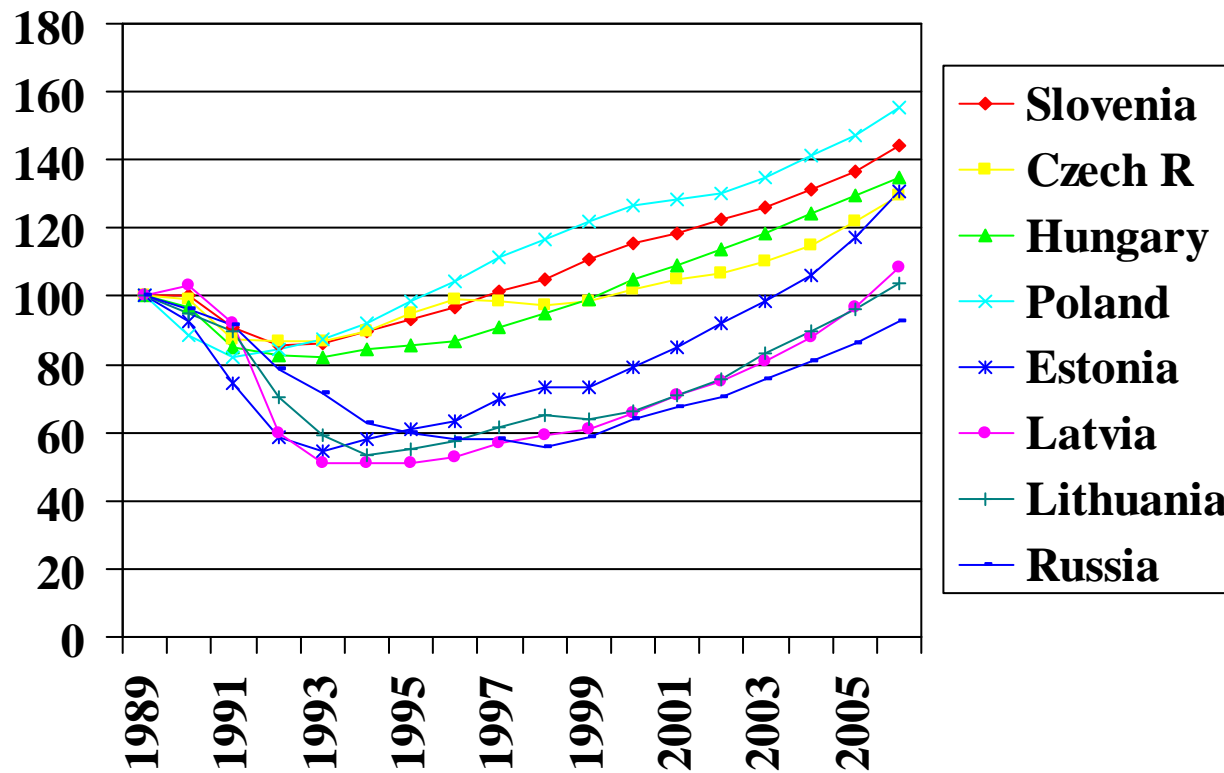
The FDI and structural change (2)

- The main determinants of the FDI were related to financial stability, free movement of capital, rapidly improving legal framework and favourable tax regime;
- Very liberal foreign trade regime, no import tariffs at all in 1990s, a limited number of tariffs were introduced for agricultural products in 2000, the EU foreign trade arrangements starting from 2004;
- The perspective EU membership played an important role already during the second half of the 1990s;
- The harmonization of institutional framework and lower transaction costs as important factors.

GDP growth in the Baltic States, 2000-2007IIIQ



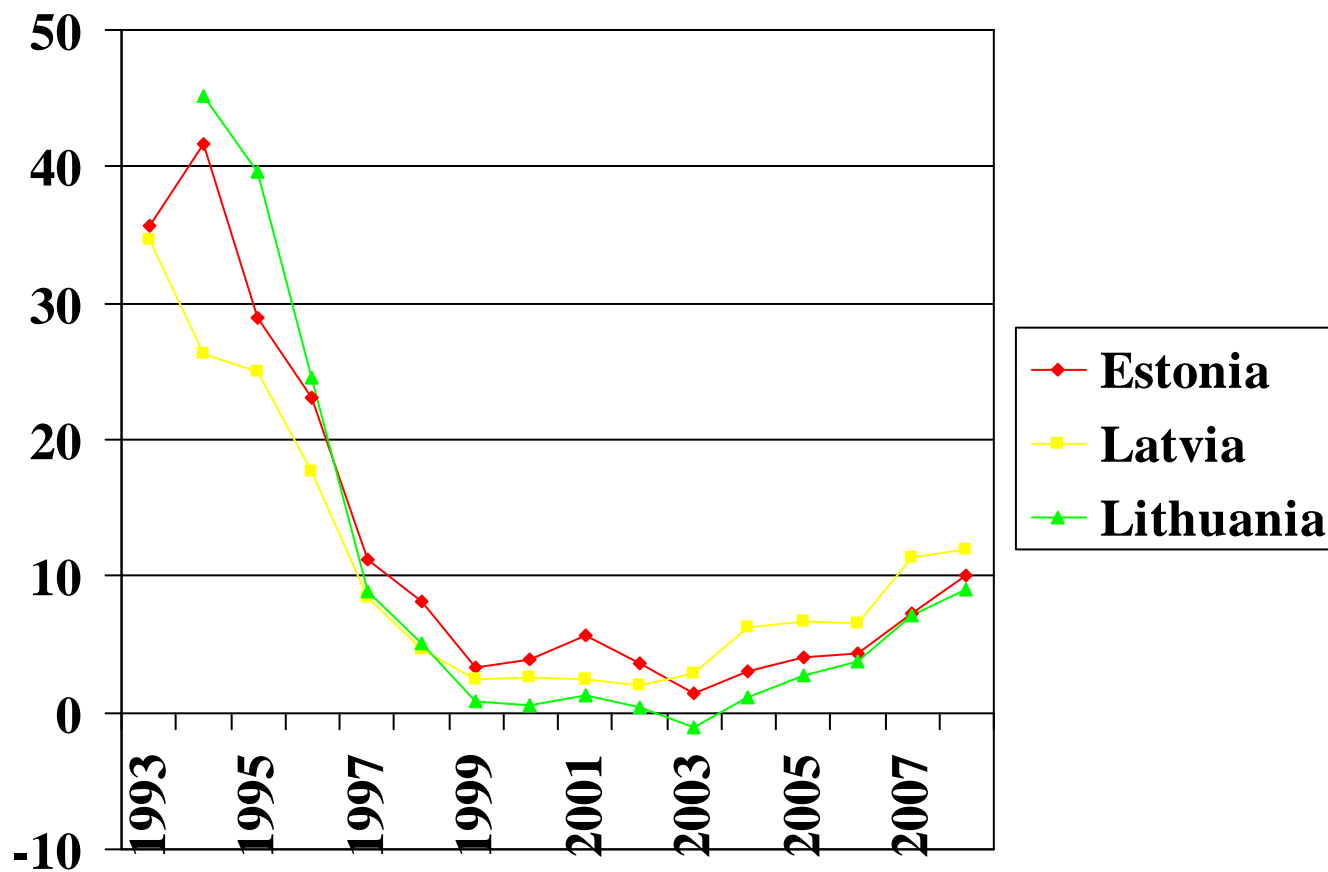
Real GDP dynamics in the Central and Eastern Europe, 1989-2006, % (1989=100%)



GDP structure in the Baltic States and EMU-s,% (source: WB)

	Estonia			Latvia			Lithuania			EMU 02
	90	95	03	90	95	03	90	95	03	
Agriculture	16	9	5	22	10	5	27	12	7	2
Industry	50	29	30	46	33	24	31	35	34	28
Services	34	62	65	32	57	71	42	53	59	70

Inflation in Estonia, Latvia and Lithuania, 1993-2008, %



GDP per capita in comparison with the EU-15 average, PPP, %

State	Convergence level of GDP per capita, from the EU average, %				Average annual growth rate of GDP per capita, %	Decrease of difference from EU-15, %
	1995, from EU15	2000, from EU15	2006			
			from EU15	from EU25		
Slovenia	61.2	66.4	77.0	83.3	4.0	14.8
Czech R.	62.2	59.6	69.4	76.0	2.9	7.2
Hungary	44.9	48.8	57.9	63.4	4.2	13.0
Poland	34.4	41.7	46.7	51.2	4.2	12.3
Estonia	31.2	37.5	59.3	60.0	7.2	28.1
Latvia	26.2	31.5	48.6	53.2	7.1	22.4
Lithuania	31.9	35.8	50.1	54.9	5.9	18.2
Portugal	61.2	64.9	64.2	70.3	2.3	3.0
EU15	100	100	100		1.8	

The external anchor concept

- The external anchor concept is related to the role of imposed conditions used to mandate certain requirements that reflect the values, objectives and aims of a socio-economic alliance and that frame also the economic policy of that country;
- These imposed conditions are first of all related to the development of the institutions of a particular country;
- Implementation of the rules, standards and norms helped to increase the competitiveness of Estonian companies by improving market access to the European Union and other markets.

The external anchor concept: the Scandinavian impact

- The important role of the Scandinavian countries in structural changes in Estonia, 70% of the FDI from and 40% of the foreign trade with these countries;
- A big proportion of trade is created by vertical intra-industry trade and reflect close industrial integration of Estonia's companies into the Scandinavian clusters (ITC, wood and paper, textile, mechanical engineering, construction);
- Paradox: a very different approach to a welfare state in Estonia in comparison with the Scandinavia.

The external anchor concept: the WTO

- Estonia is a member of the WTO since 1999;
- New laws, mainly related to technical barriers of trade, had to be adopted;
- In some sectors, e.g. commercial policy instruments, Estonia had no regulations and therefore agreed not to use such instruments;
- Reorganisation of government agencies and the process of trade negotiations influenced the administrative capacities of Estonian government institutions;
- The questions raised in the WTO negotiations prepared the government and the private sector for the negotiation with the EU.

External anchor concept: the EU

- Harmonization of standards, product testing, certification etc.;
- Border regulations, rules and administrative capacities, infrastructure;
- The EU financial support for harmonization process;
- The EU practice in industrial policy has been that the emphases are on supportive framework and the tools of horizontal industrial policy, and relatively less attention is paid on the sectorial policy, except for technological policy in some areas.

Industrial policy (1)

- The general aim of the Estonia's economic policy has been the creation of an open competitive and stable framework supporting business activities;
- Relatively low tax level (government expenditures are 38% of the GDP, the tax burden is 32% of the GDP in 2007);
- At the same time, the state budget has been in balance most of the time, the total public debt is 4% of the GDP;
- The loan burden of households and the corporate sector grow rapidly and was equal to 100% of the GDP at the end of 2007;
- There is a proportional personal and corporate income tax with 21% and with the tax exemption for reinvested profits.

Industrial policy (2)

- One outcome of such economic policy has been that there are very limited resources available for industrial policy;
- The EU membership changed somehow this minimal government approach, the emphasis is on supportive framework;
- The availability of resources from the EU structural funds created additional resources to finance R&D activities;
- The state programmes in ITC (including applications in healthcare), biotechnology, materials science and power engineering.

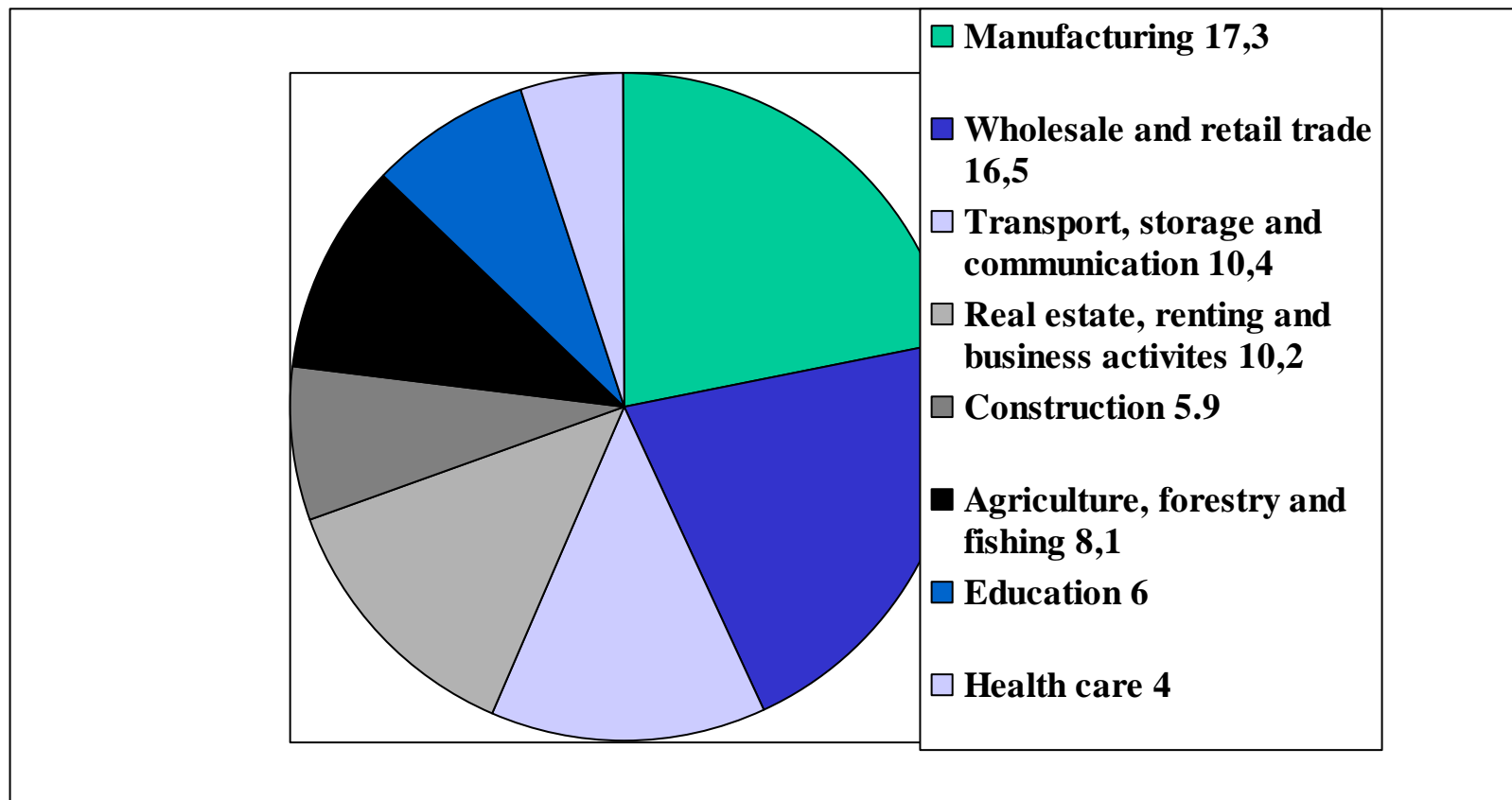
Industrial policy (3)

- The central government's role is increasing, the role of local governments has been limited due to the small size of local governments in general due to the unfinished local government reform (except Tallinn, Tartu and some other municipalities)
- Connection between the regional development and the industrial policy: Tallinn and surrounding county created 60% of the total GDP and received 70-80% of the FDI until 2007;
- Southern part of Estonia is more agrarian, Tartu is an educational, research and industrial centre;
- Mining and power engineering is concentrated to the Eastern part of Estonia.

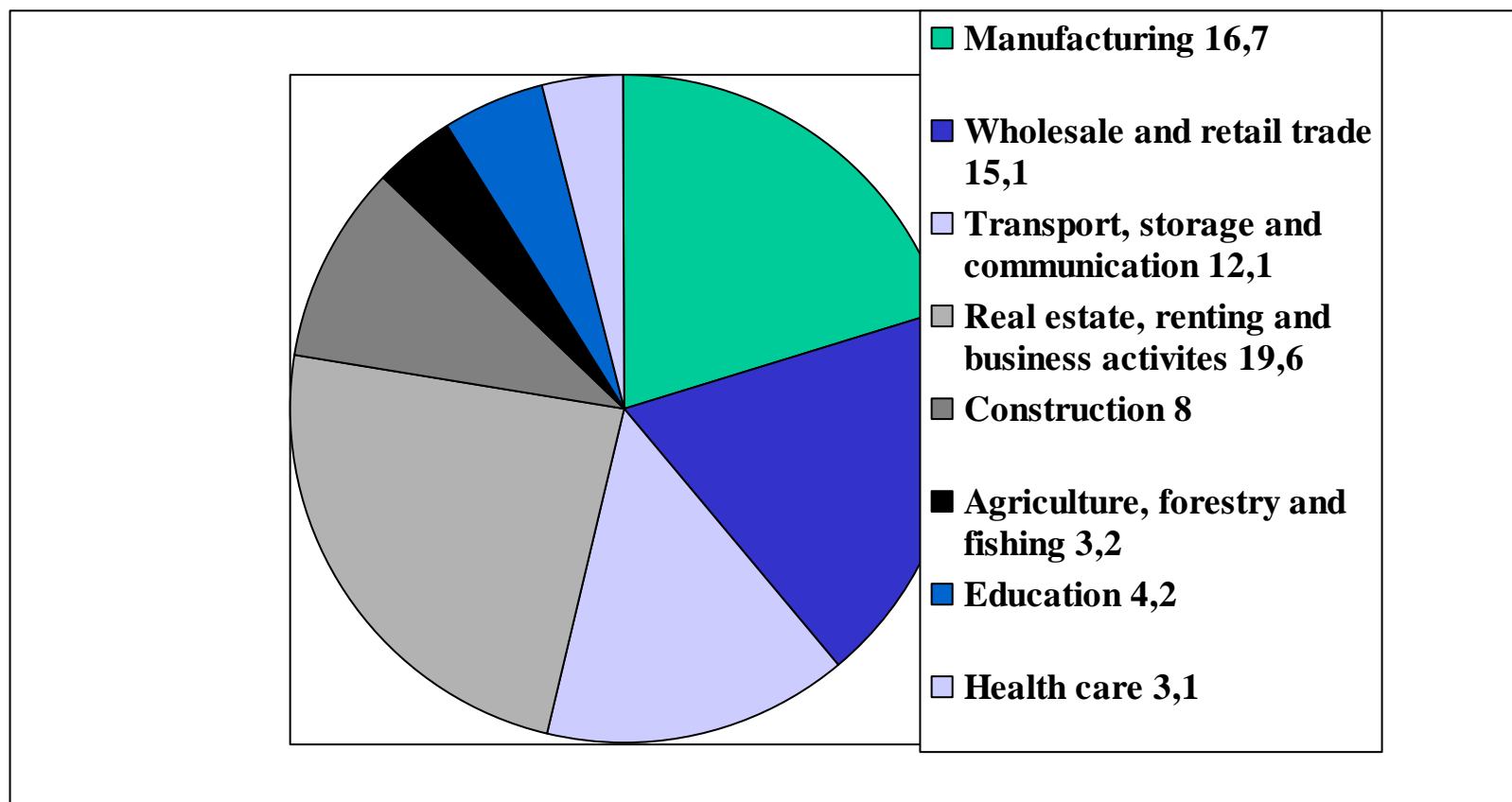
Industrial policy (4)

- The co-ordination between the different government agencies was too limited;
- The Ministry of Economic Affairs and Communication is a central coordinator of the entrepreneurship support schemes;
- In IT development, in addition, the role of the Ministry of Research and Education but also the Ministry of Interior Affairs has been important.

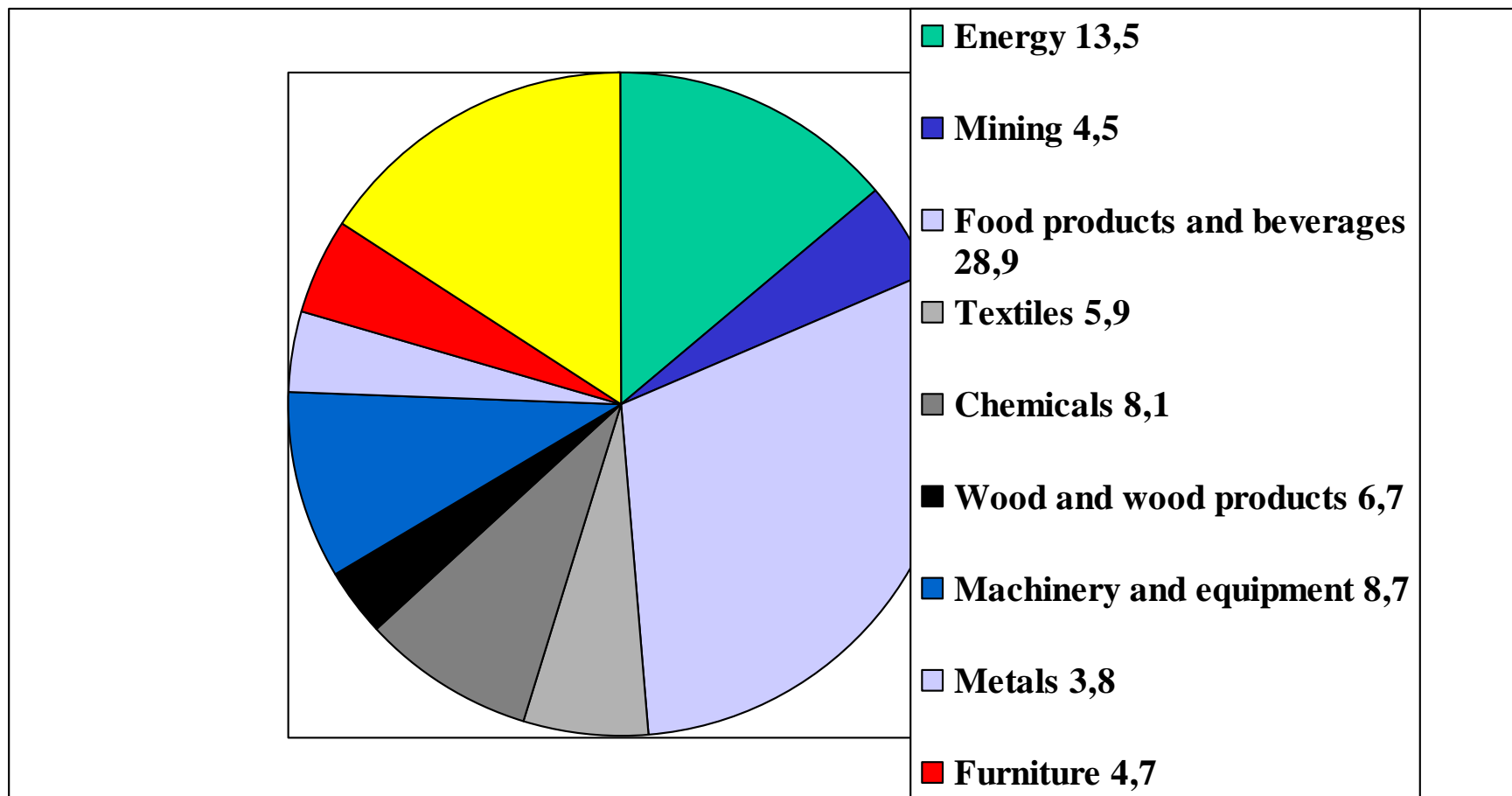
Estonia: Structure of the GDP, %, 1995



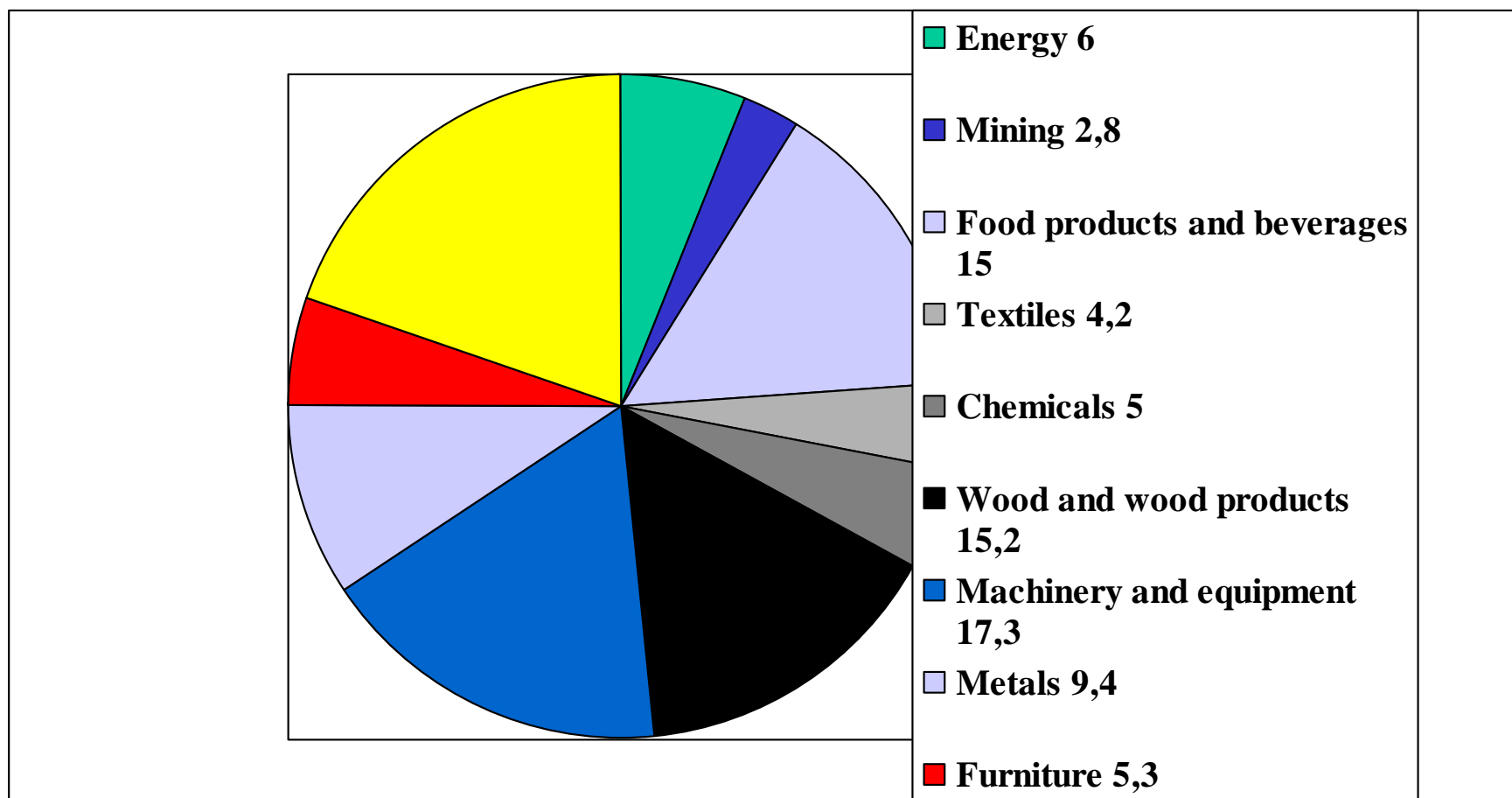
Estonia: Structure of the GDP, %, 2006



Estonia: industrial production by economic activity, %, 1995



Estonia: industrial production by economic activity, %, 2005



Lisbon agenda (1)

- With the adoption of the Lisbon Agenda in 2000, the EU established for itself the goal to become the most dynamic and competitive economy in the world by 2010;
- Altogether 14 goals, one goal is to spend 3% of the GDP on R&D annually;
- Problems with achieving goals;
- The Nordic countries are fulfilling the R&D target;
- The problem for the new EU members is low participation of the private sector in R&D financing.

Lisbon agenda (2)

- Estonia: employment in 2007, 69.7% of the age group 15-64 have been employed;
- Active labour policy methods, expenditures increased from 0.08% of GDP in 2004 to 0.14% of GDP in 2006;
- The R&D expenditure in the GDP increased from 0.73% of GDP in 2001 and 0.91% in 2004 to 1.1% in 2006;
- The proportion of R&D expenditures made by business sector increased from 33% in 2001 to 45% in 2006.

Funding for innovation (1)

- The Innovation Foundation was established in 1991: the initial target for innovation policy was to support spill-over from applied research to product development;
- The understanding of innovation policy was widened during 1990s from project-based activity to a more systematic understanding of innovation;
- Technology Agency (ESTAG) since 2000, as a result of the reorganisation of the Innovation Foundation (Finnish National Technology Agency TEKES as a model).

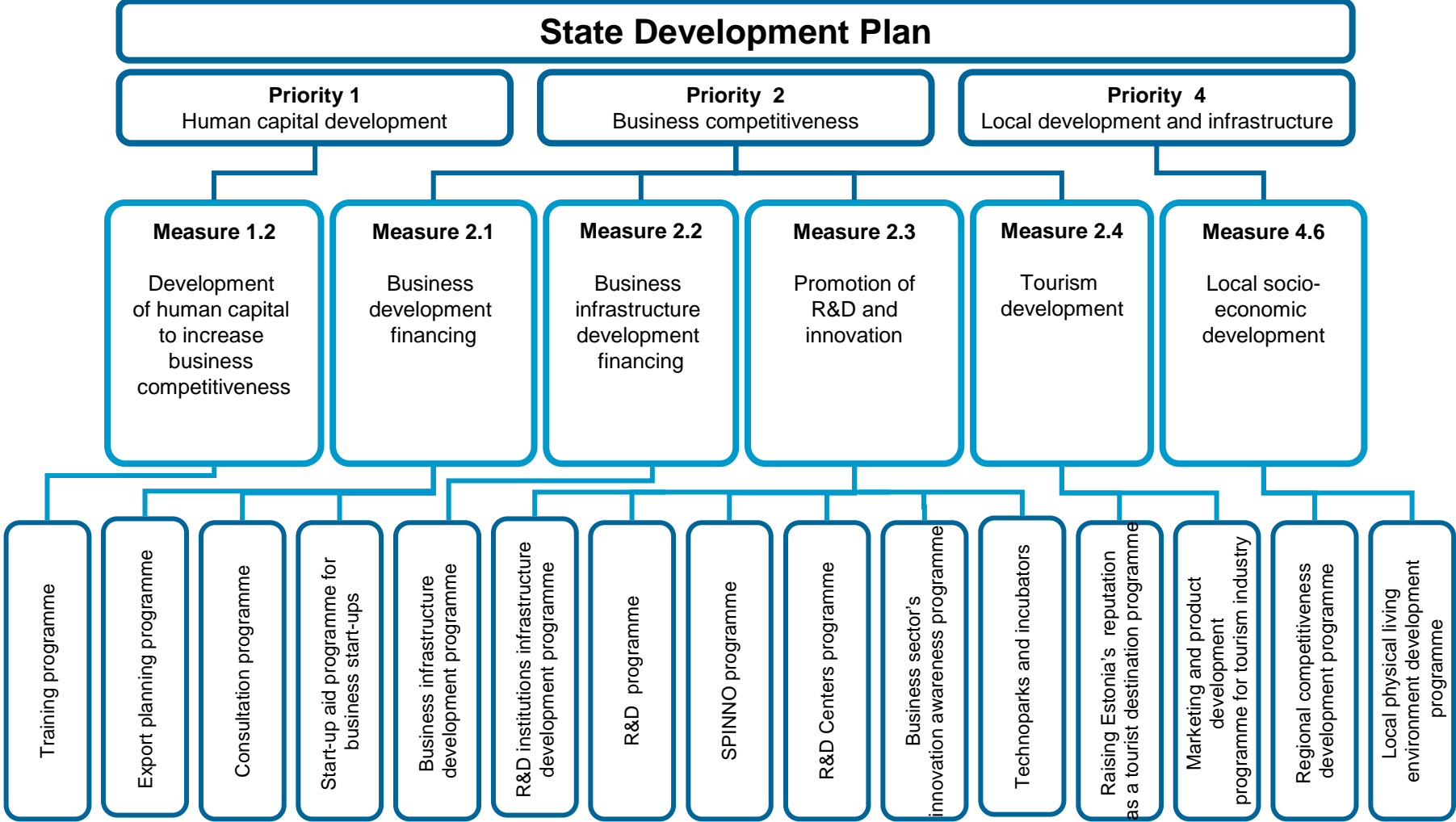
Funding for innovation (2)

- Enterprise Estonia (EAS) was set up as a merged institution in 2001;
- Kredex to guarantee credits and exports;
- Regional business incubators and development centres;
- Founding of the Estonian Venture Capital Fund has been discussed since 2003, two possible models;
- The Estonian Development Fund, Smart Money, founded in 2007, invests in 3-5 projects each year in existing firms to support expansion phase of these enterprises.

Enterprise Estonia

- The Entrepreneurs;
 - Start-ups;
 - Existing businesses;
- The Research and Development Institutions;
- Public Sector and NGO-s.

Connection between EE services and the State Development Plan



EE's main services

Business start-ups

Starter programme for
business start-ups

< Overview of activities

Existing businesses

Product development and
marketing programme for
tourism industry

Export planning programme

R&D programme

R&D centres programme

SPINNO programme

Innovation awareness
programme

Business infrastructure
development programme

Consultation programme

Training programme

Connection between services and the State Development Plan >

Business and living environment

Raising Estonia's
reputation as a tourist
destination programme

Regional competitiveness
enhancement programme

Financing application process >

R&D Financing Programme

- R&D Financing Programme provides opportunities to launch new or improved products and services;
- The programme creates premises for advancement of business competitiveness by introducing new or improved products and services to the market and implementing new technologies;
- Government shares by the financing offered through the programme also the technological and marketing risks related to the projects.

Technological Development Centres Programme

- With the Technological Development Centres Programme, the EE finances technological development centres initiated and operated jointly by companies and R&D institutions;
- The main activities of the technological development centres include the implementation of research and development necessary for the partners establishing the centre;
- By promoting the strategic partnership between research and the business sector, the programme raises the competitiveness of Estonian companies around the world.

SPINNO programme

- The SPINNO Programme aims to raise the revenue of R&D institutions from the services provided to Estonian businesses and the sale of intellectual property, which, in turn, would reduce the backwardness Estonian companies have in applying scientific outcomes compared to the rest of Europe;
- Partnership with Estonian universities and R&D institutions in the area of research and development is the target of the programme.

The Business Sector's Innovation Awareness Programme

- The Business Sector's Innovation Awareness Programme helps to raise the innovation awareness of companies and as such also improve their competitiveness;
- Enhanced innovation awareness is instrumental for Estonian businesses in increasing their productivity and would widen their opportunities in expanding markets, renewing products and services as well as successfully managing the company.

Research & Development expenditures

State	R&D expenditure as % of GDP		Proportion of R&D expenditure, %, 2003		Annual average growth rate, %, real terms, 2001-2004
	2001	2004	Government	Business	
EU-25	1.93	1.90	46	54	1.3
Estonia	0.73	0.91	67	33	15.6
Latvia	0.41	0.42	67	33	8.6
Lithuania	0.68	0.76	83	17	12.2
Finland	3.38	3.51	30	70	4.0
Sweden	4.27	3.74	35	65	-2.1
Germany	2.46	2.49	33	67	0.8
USA	2.71	...	37	63	-0.1

Sources of structural change

- The restructuring process due to changing macroeconomic framework, foreign trade arrangements, ownership change have been most important determinants of changes;
- The FDI initiated new industries and through spill-overs influenced the business culture, some technology diffusion;
- Very limited product development, big question about how new business activities would be created if existing capacities were exhausted;
- Very critical question is how a developed innovation system supports structural change of industries.

Industry examples: IT (1)

- The Estonian IT sector consists of a variety of institutions with specialized firms such as software development, IT departments of small and large institutions, freelance IT specialists, and outsourced expertise;
- Most of the software firms are small and medium sized firms with mixed Estonian and foreign ownership;
- No especial industrial policy was applied to support the IT sector development during the first half of the 1990s. The public sector has been a big client and the IT sector was considered as a symbolically important field, but for this sector very limited public resources have been available up to the second half of the 1990s. The situation changed slightly at the end of the 1990s when the government started a “Tigers Leap” project to computerize high schools and the e-government project to widen a set of public services provided by the Internet.

Industry examples: IT (2)

- Since 2000 banking and telecommunication sectors have concentrated more on their core activities. Most of the IT service and development activities started to be outsourced to specialized firms;
- In the 1990s, the biggest employers of programmers and IT professionals were financial institutions such as banks and insurance companies and telecommunication firms. Information Technology projects in both sectors were characterized by the handling of a big number of customers and high security and reliability level;
- In addition to the banking sector, Estonian software firms have provided considerable software solutions also for transport and manufacturing industries.

Industry examples: IT (3)

- Skype, Playtech Ltd., Rate.ee, Regio Ltd. and Helmes Ltd should be mentioned as the most notable success stories. Estonian partners have played a considerable technological role and a smaller financial role;
- Most of the IT activities have been service-oriented and customer-specific. The customer very often provided finances or created a link with venture capital;
- It should be said that none of these projects have been started as spin-off type projects, where a scientific idea is the first, which is, in turn, used to develop further as a product or service technology for application.

Industry examples: IT (4)

- These projects were sometimes in the areas with specific risks. Legal issues have had an impact on Estonian developments in the area.
- There have been lawsuits against Kazaa programme owners, which is the programme for downloading music from the Internet developed in Estonia. The same team worked later with Skype.
- Software development in Internet gambling, in which an Estonian firm Playtech participates, is also regulated differently in different countries and legal environment is both chaotic and opportunistic.

Industry examples: IT (5)

	Field of activity	Most important transaction	Main partner(s)
Skype	Communication software, VoIP	Sold to E-Bay	E-Bay
Playtech	Gambling software	IPO in London Stock Exchange	
Rate.ee (Serenda Invest)	Internet portal	Sold to biggest local telecom firm	Estonian Telecom
Regio	Geoinfo systems (digital maps)	Sold to Done Corporation (Finland), 2002 MBO by local management	Various local firms
Helmes	Integration software	Societe Generale's Baltic Republic Fund acquired 34% of share in 2000, in 2005 was MBO	Various local firms

Industry examples: wood industry (1)

- Share in industrial sales in total value added in 2006 2.4%;
- Share in industry output 15%;
- Share in industry exports 16.7%;
- Share of exports in sale 62.4%;
- Industry sales in real terms increased by 6% in 2006;
- Main products are sawn timber production (28%), construction details (21%), log houses (18%), firewood (11%)
- Main export markets are Finland (13%), Denmark (11%), Germany (11%), UK (10%), Norway (10%), Sweden (8%);

Industry examples: wood industry (2)

- The year 2006 and afterwards have been somewhat contradictory, the output and exports started to decline;
- In the past couple of years the felling volume of Estonian forests has dropped to about 5-6 million cubic metres from approximately 10 million cubic metres;
- Felling volumes have mainly decreased in private forests, problems are related to unfavourable tax conditions and complicated administrative procedures (most private owners lack experience in forest management);
- The industry oriented more toward imported timber from Russia;
- Russia, on its part, is applying duties on export from Russia in order to limit export of raw material;

Industry examples: wood industry (3)

- The result for manufacturers in this industry has been that the prices for domestic and imported wood have both increased, in 2006 by 6%, in 2007 already by 15-20%;
- Average wage growth have been 15-18% annually during the last two years and there is a fixed exchange rate;
- Wood industry increased its investments in fixed assets about 50% in 2006;
- There was a very strong consolidation in industry in 2006 and the Scandinavian big producers UPM Kymmene and Stora Enso invested into veneer production and bought sawmills

Some conclusions (1)

- The FDI goes to the centre and follows motorways.
- The multinational companies were not very eager to support research and development of the local companies;
- Off-shoring of business activities to the local companies was quite limited;
- There are networks between the suppliers of inputs and the manufacturers and between the manufacturers and sellers of the final products, but the networks between the different manufacturing companies have been quite limited.

Some conclusions (2)

- The IT sector development should be considered quite successful;
- That sector provides also services to other businesses and should be considered as a part of wider framework for business activities;
- At the same time, the IT sector does not create a large number of working places and does not absorb a large amount of labour force freed from other industries during the structural changes.

Some conclusions (3)

- Wood and paper industry is an example of a good start but afterwards the big multinationals were not interested enough to use local resources and preferred the imported raw material from Russia;
- There was not enough cooperation between the government agencies working with the forest policy and the manufacturers in this sector;
- The result is that though the timber resource of Estonia is still big, the felling volumes in Estonian forests dropped, the output level stagnated and the proportion of this industry in total output and exports declined;

Some conclusions (4)

- Another important negative factor for wood industry is related to the fast growth of price and wage level in Estonia and fixed exchange rate;
- As Estonian companies export to countries with a more stable price level, the real effective exchange rate of Estonia appreciates, the competitiveness of the exports decreases and that has an impact on the profits of companies in this sector.