

Electronic communications sector and economic development in Latvia: regularities and individualities

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Knowledge economy and electronic communications: correlated development

Development of any country today greatly depends on innovation, on the capability of its researchers and entrepreneurs to use their knowledge, to create competitive products with high added value and to sell them in the global market. Analytical surveys¹ rate innovative economies as the most competitive today (Sweden, Finland, USA); also small economies (e.g., Luxembourg, Singapore) consider innovation as the major welfare source.

Wide and ramified knowledge flows are one of the major keystones for innovative evolution modus, but rapid development of electronic communications (elcom) technologies, their convergence on digital platform have provided necessary technical opportunities for knowledge transmission. Growing potential of elcom and increasing demand for communications services materialize in pre-emptive growth of elcom sector in comparison with other sectors of the national economy and its growing density in the gross domestic product². Permanently and rapidly decreasing prices on elcom technologies give chance also to less successful countries use advanced communications for knowledge accumulation, sharing and usage.

¹ E. g., The Global Competitiveness Report 2003–2004. – <http://www.weforum.org>.

² E. g., share of telecommunications revenue in the GDP of OECD countries has increased from 2,0% in 1990 till 3,35% in 2001.

Rapid increase of life quality in small and open Latvia³, competitiveness of the country very depends on our capability to exploit knowledge potential. In 2001 Latvia's Cabinet of Ministers approved the *Long-term Economic Strategy*⁴ with the aim of achieving a sustainable development by efficient usage of Latvian comparative advantages and envisaging a transition from currently dominating labour intensive economy model to a knowledge intensive economy. This trend is substantial that Latvia not only would become *de jure* the EU Member State but also could achieve growth of economy and increase of life quality and thus would go *de facto* into group of the most developed countries.

Openness and global cooperation for accumulation, sharing and usage of knowledge, for creativity, innovation and production; global scale of all economic and political transactions; networking as the central cooperation principle with countries, companies and individuals in the 21st century – all these factors become extremely essential for small country, for its economic growth. But all of them are closely related with the development of elcom sector that is one of the basic tools for implementation of beforehand mentioned processes.

Latvia values elcom sector not only and even not primarily as a profitable business sphere, as a substantial component of national product and source for payments in the budget⁵. Much more important is close relation of elcom sector with general economic growth, strengthening positive long-term economic feedback: economic growth means increasing public and private investments in advanced technologies and usage of services, that in one's turn strongly supports rapid development of all sectors, increase of productivity and capacity of businesses and administration, growing competitiveness of enterprises and regions of the country. Country obtains information on inventions and discoveries, on advanced technologies and practical experience, obtains knowledge, market our products in the global

³ Only 0,04% of the humanity live in Latvia, we produce 0,1% of EU GDP. The economy is extremely open one; Latvia's foreign trade turnover (including commodities and services) is on a level of GDP.

⁴ Long-term Economic Strategy for Latvia. – <http://www.lem.gov.lv>. Very important is the corresponding Cabinet's of Ministers decision that is written in the minutes; it prescribes to harmonize all further economic activities with this document.

⁵ Elcom is considered as a profitable business. 7,8% of accumulated foreign direct investments have been put into this sector. Fixed incumbent *Lattelekom* as well both mobile operators *LMT* and *TELE2* have shown the highest profits in Latvia, their profitability in 2003 were correspondingly 19,4%, 32,5% and 26,5%.

markets. It promotes more dynamic development of the country, creation of new enterprises and jobs, increasing public budget and social expenditures.

In fact, the elcom area integrates in a much wider and substantial framework of the national knowledge-based economy and competitiveness development. In this sense, decisions on the elcom sectoral model have to be in accordance with national economic strategy and, at the same time, national economy must take advantage of the development of the elcom markets. Technologies serve as a catalyst for a number of economic and social activities. And exactly from this point of view should be analysed governmental policy related to further privatisation of the owner of fixed telecommunications network – *Lattelekom*⁶.

Continuing regional differences illustrate a significance of advanced elcom for development of country. There is 2–3 times higher level of GDP and non-financial investments in Latvian regions where advanced elcom services are available in comparison with regions that are underdeveloped in this sense (Fig. 1).

Several national developmental programmes specify the strategy and describe tactics and instruments for implementation of aforementioned principles – *Industrial Development guidelines*, *National innovation programme for 2003-2006*, *Socio-economic programme eLatvia*, *E-business concept*. All of these strategic documents stress importance of information and telecommunications infrastructure and availability of services as one of basic pillars for development of the knowledge economy.

Between 1995 and 2003 the first steps made towards the knowledge economy have helped Latvia to achieve the second highest GDP growth among EU Member States (annual average growth rate was 5,8%) only lagging behind Ireland. Growth of elcom sector exceeds the overall growth rate of economy; its share in GDP has gone up from 3% in 1996 to 4,4% in 2003 that really is doubled OECD growth rate⁷. Hereto it is momentous, that market predominantly serves the domestic demand and support economic growth; households in the average consume 15–17% of total services provided by the communications sector.

⁶ Government of Latvia is the major shareholder of *Lattelekom* (51%), owner of 49% stake following the early partial privatisation is *Tilts Communications*, which nowadays is a subsidiary of *TeliaSonera*.

⁷ Nevertheless the elcom market in Latvia is evaluated currently as up to 500 Mln EUR. This amount is small inside Europe due to the size and population of the country.

Figure 1a: Correlation between level of digitalization of the fixed network and GDP per capita in Latvia's regions

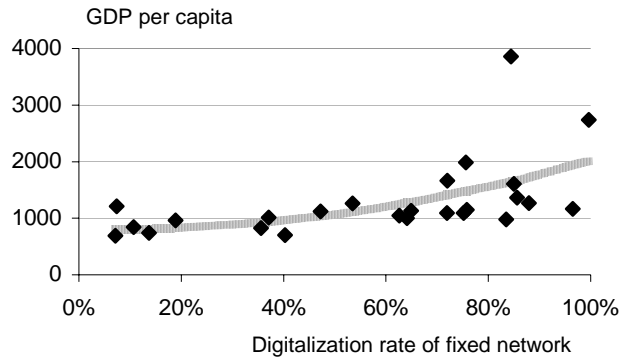
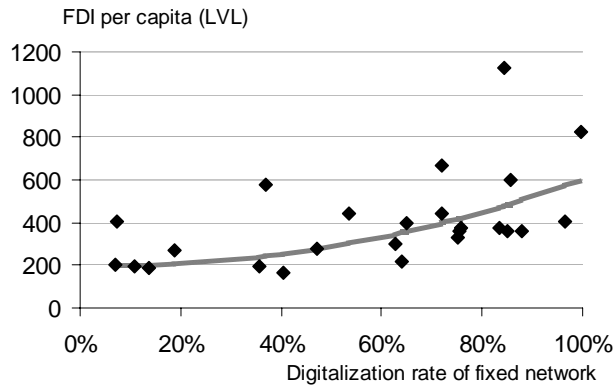


Figure 1b: Correlation between level of digitalization of the fixed network and accumulated FDI per capita in Latvia's regions



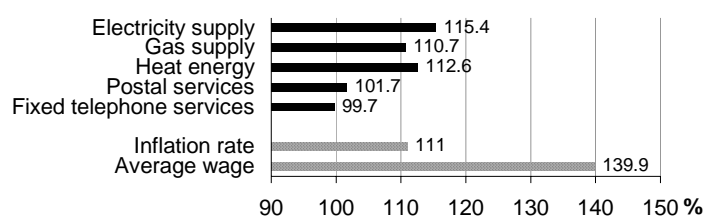
Sources: CSB Latvia and Lattelekom

As everywhere, competition is considered as a major tool to achieve higher quality and availability of services and to diminish prices for them. Nevertheless some exceptions from general rule always arrive.

Analysing changes of administrative regulated tariffs during last years, one can notice that prices on energy have been increased in line with

general inflation in the country (Fig. 2). Only tariffs on *Lattelekom* fixed telephone services even reduced (by 0,3% since 2000), that really means increase of *Lattelekom*'s efficiency by 11–12%.

Figure 2: Tariffs on regulated services in August 2004 (2000=100%)



Source: CSB Latvia

In contradistinction to incumbent *Lattelekom*, the major cable TV operators (Table 1 shows that competition in this sector seems very developed) *Baltkom* and *Telia MultiCom* increase their tariffs by 15–20% in September 2004.

Table1: Number of authorisations granted (June 1, 2004)

Type of service requested by applicant	No of authorisations granted
Local and national voice telephony services	70
International voice telephony services	70
Payphone services	10
Radio-communication services	8
Leased line services	92
Data and electronic messaging services	141
Internet access services	203
Cable television services	36
GSM/DCS	2
UMTS services	2

As of month after joining the EU one can recognize an amazing level of interest in elcom – more than 200 undertakings (see Table 1) have expressed their intention to participate in elcom market (many companies hold authorisations for several types of services); 142 operators are among

them. Bearing in mind the number of inhabitants this indeed is a considerable development⁸.

Figures on Latvia and corresponding information on state-of-play in the EU15 after market liberalization seems quite similar having regard to the same timeframe; e.g., number of market participants authorised to provide international fixed voice services in Latvia is above the level in most of EU15 countries (Fig. 3; data for EU15 as of August 1, 1999⁹, for Latvia – as of June 1, 2004).

Figure 3: Number of granted international calls' authorisations



Source: PUC

The development of the elcom sector also in the future years may keep its high rates. Latvia lags behind the majority of EU Member States in provision of several advanced services, therefore total growth rate of the sector is expected to stay within 6–10% per year. In order to achieve such growth, taking the appropriate steps for converging as quickly as possible towards the situation of the most mature European markets is especially important for Latvia – full incorporation into the information society greatly depends on the development of the telecommunications industry.

⁸ Number of authorized public network operators per 1 Mln inhabitants in Latvia is the highest in EU at present. For comparison: there are only 19 authorised operators in Estonia as well in Lithuania. Here and hereafter comparative data also from the draft of the 10th Implementation Report "Regulatory market data".

⁹ Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions. Fifth Report on the Implementation of the Telecommunications Regulatory Package. Brussels, 1999.

General normative environment: transition from EU 1998 to EU 2002 framework

The first *Law on Telecommunications* was approved in Latvia in 1993. The development of Latvia's regulatory regime was handicapped by this law and a triangular *Umbrella Agreement* made in 1994 between the Latvian monopoly telecommunications operator *Lattelekom* and its shareholders – the government of Latvia and international consortium *Tilts Communications*. The law gave *Lattelekom* exclusive rights until 2013 on all basic telecommunications infrastructure and services. The implications of the umbrella agreement continue to impact strongly on the situation in Latvian elcom market.

On joining the EU, Latvia as other new Member States were expected to accept the *acquis*, i.e., the detailed laws and rules adopted on the basis of the EU's founding treaties. In the case of telecommunications, it was necessary to transfer the EU 1998 regulatory framework in the national legislation. Date of liberalization for fixed telecommunications market in Latvia was approved by WTO agreement and preaccession discussions with EU – January 1, 2003. For this purpose it was planned to replace the initial law by another of the same name in 2000.

Unfortunately *Tilts* submitted request on arbitration vs the government of Latvia in the international court in 2000 on privatisation timing, investments compromised and dividends distribution between Republic of Latvia and *Tilts*. For this reason adoption of the new *Law on Telecommunications* was several times postponed, it became valid only from November 30, 2001. For preparation of the secondary legislation two years transition period was foreseen (density of secondary legislation in Latvia's normative system is very high), it means that really market was liberalized without having full legislative set.

The law admitted that “any legal entity or individual shall be entitled to establish a telecommunications company, create and operate telecommunications networks and provide telecommunications services”. However, in practice, the temporary provisions guaranteed the maintenance of the monopoly for absolutely all the services (local, national, international, public payphones) until January 1, 2003. Even the *callback services* were specifically forbidden to avoid external competition in international calls.

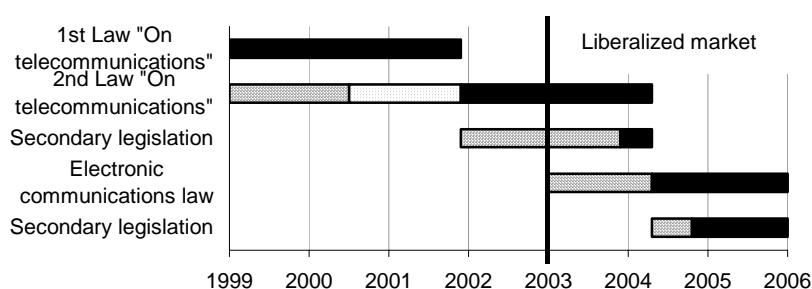
But EU 1998 regulatory package was not the single the new Union partner should have adopted upon its access on May 1, 2004. When the first

regulation was just completed, a reconsideration of the community legislation was already under way; in 2002 the new EU framework, which regulates the elcom sector, was approved. New Member States should have adapted their internal codes at the time of their entry on May 1, 2004.

Meeting this requirement, Latvia transposed the 2002 EU framework to the Latvian code by adoption a new *Electronic Communications Law*¹⁰ on April 15, 2004. The law fixed transition period till November 2004 for elaboration of secondary legislation by Ministry of Transport and the national regulatory authority (PUC)¹¹.

Described sequence and roadmap contains one of the basic problems for Latvia's elcom sector (Fig. 4).

Figure 4: Elcom sector normative environment in Latvia; the roadmap



The EU 1998 regulatory framework was primarily designed to manage the transition from monopoly to competition. Thus, the average EU country has had around five years since the formal liberalization of the market (typically, in January 1998) for the development of competition. In total market opening was preceded by a preparatory process that lasted about ten years.

The 2001 Law in Latvia has had a very short lifetime; really Latvia could implement these regulations from January 1, 2003. Therefore, in a very short period a significant effort has been done to open the market and introduce as many rules as possible that favour competition, leading to a high

¹⁰ Available in English at <http://www.sprk.gov.lv/index.php?id=1116&sadala=193>.

¹¹ National regulatory body – Public Utilities Commission (PUC) was established in 2001.

regulatory burden with a long list of related problems. But even that was not enough.

It is obvious that in the telecommunications industry competition could not be quickly established simply by knocking down the legal obstacles. The former monopolistic agents counted on advantages that were difficult to recoup by their rivals. As a result, the first European regulatory framework tried to meticulously *conduct* the development of competition in the market. Operators, and especially the former monopolistic ones, were to comply with strict and direct regulations imposed *ex ante* regardless of the actual situation in the markets and based on several formal criteria (market share above all things).

Once this initial stage was through, it was necessary to adopt a new approach less focused on the mere opening of the market, providing the agents with a greater autonomy by regulating their activity in a less rigid way. The main objective of the new regulatory framework is the rapprochement of sectoral regulation towards general Competition Law, based on an *ex post* intervention.

The underlying idea of the EU 2002 regulatory framework is the confidence placed on the general competition defence rules. All the markets have to be clearly defined and the level of intervention has to be determined following the principle of proportion after analysing the degree of effective competition reached in said market and its expected evolution. This is a substantial and very different issue in comparison with EU 1998 regulatory framework.

Exactly and exclusively according to the results of market analysis situation can be treated in one of two clearly different manners, which depends on existence of effective competition in a given market: accent on the general anti trust measures that are applied *ex post* if competition exists, or *ex ante* obligations on the operators considered as having dominance in the sector.

In Latvia, current structure of market competition is far from the average in EU countries. EU 2002 regulatory framework was legally implemented in Latvia only 16 months after market liberalization. It is indubitable that competition exists, but it is only in the seed stage, the market is not ready for a high degree of competition; there is no real competition in a number of significant areas. Due to the lack of time for the development of competition,

the market is not ready for a new framework inclined to more general rules on competition¹².

The legal base is not enough firm yet. Careful and detailed market analysis is a labour-intensive work that asks a long¹³, it has not made. New regulatory principles cannot be implemented immediately. But at the same time much more simple previous principles and methodology that were elaborated for post-liberalization period are not valid more.

The conclusion is obvious. In an industry like that of telecommunications, liberalization is a process, not an occasional action. Based on data collected in mid 2002, European Commission (2002) noted that Latvia "had made good progress" in aligning with the *acquis* in the area of telecommunications; but it does not mean full preparedness. And in reality the new law today does not support market development, but has created serious barriers for newcomers. In general, implementation of the 2002 regulatory directives package in Latvian legislation from May 1, 2004 could be appraised as a premature action¹⁴.

We must underline that the situation always is not identical in all countries, and, more importantly, that it has much to do with the decisions taken by national and EC policy makers. Moving from a monopoly to true, and not simply nominal, competition, requires more support than the simple establishment of a favourable framework and must inevitably go through a series of stages in which the flexibility of EU *rules of game* should increase (giving more space for tactical manoeuvring in the implementation of the EU regulations and directives), but active role of the regulatory authority really stands out as a key factor. It will be important for the next EU accession countries too.

¹² Even Preamble of Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services *inter alia* provide that the definition of significant market power in the Directive 97/33/EC of the European Parliament and of the Council of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal service and interoperability through application of the principles of open network provision (ONP) has proved effective in the initial stages of market opening as the threshold for *ex ante* obligations. Its adaptation is necessary for more complex and dynamic markets.

¹³ E. g., market analysis (using previously collected information) in Spain is carrying out during 2 years by team of 15 people and 3 external consulting bodies; the work is not fully finished yet.

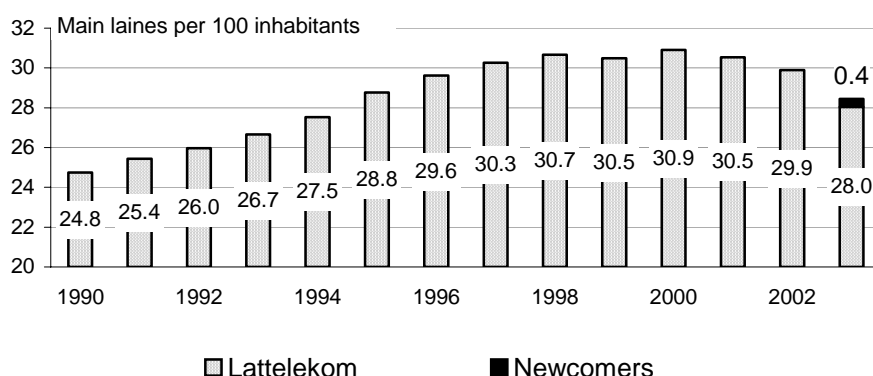
¹⁴ According to Telecommunications Act (2000) Estonia opened its fixed telecommunications market from January 1, 2001. But the new Electronic Communications Act that should transpose the 2002 EU framework to the Estonian code has not been approved yet.

Fixed communications: competition has been started

As a component of the USSR network, the Latvian fixed telecommunications network suffered from a low level of modernization and digitalisation and from a lack of direct international links. However, and compared to other republics, a relatively high penetration was achieved in Latvia at the start of the nineties (24,8 main lines per 100 inhabitants), while regional disparities between urban and rural areas were enormous. As in other countries of the region, tariffs were set favourably for end-users.

The evolution of the network in the following years was positive (Fig. 5). This growth corresponded mainly to the satisfaction of a demand that had been ignored for a long time. This assertion is especially true for the second half of the decade. For example, in only two years, from 1996 to 1998, the level of covered demand increased from 87,9% to 94,9% (correspondingly average waiting time decreased from 6,8 to 3,2 years¹⁵).

Figure 5: Penetration of fixed telephone lines



Source: CSB Latvia

The growth in the number of lines continued until the end of 1998. However, during the last years the fixed telephony segment has followed a stagnation and even regression in the number of lines in service, which has been especially severe in 2003. The exact reason is not known, there are made references to such typical motives as widening usage of office

¹⁵ World telecommunication development report 1998; reinventing telecoms; ITU, Geneva, 1998. World telecommunication development report 2002; universal access; ITU, Geneva, 2002.

exchanges and massive fixed-mobile usage substitution. At the same time Lattelekom's basic voice services are 3–4 times cheaper than mobile services; taking in account purchasing capacity of society it is substantial issue. More feasible explanation would be cancellation of special social tariff in 2003, which was very popular between low-income households. It once more shows necessity of universal service implementation.¹⁶

Digitalisation rate of the fixed telecommunications network has reached 88,7% at the end of 2003. Network modernization includes also simultaneous implementation of advanced services and improvement of their quality. Number of faults in 2003 was 1,5 faults per 100 lines per month, that corresponds to the average EU level.

Market of fixed services *de jure* was liberalized on January 1, 2003, but even before opening there were several potential market participants willing to engage in *neck-breaking* elcom sector of Latvia. How meaningful and real is the competition after 1,5 years of market opening?

It is often considered that international voice services are the cream to skim in elcom area and the part of market being first invaded by newcomers. Most of new entrants really are offering international calls, where relatively high margins remain. It is however question whether the new participants have entered market for sustainable entrepreneurship.

Of course, the single number of authorisations granted is not a sufficient proof for concluding on state of market development, although it does provide strong indication on overall entrepreneurial activity as well as potential competition to be faced by historical market participants. Several market related indicators provide that there is already real competition in several of main market segments.

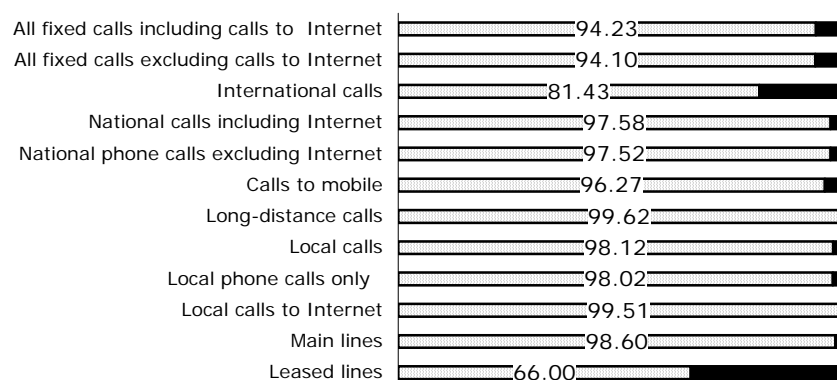
In total the market share of incumbent *Lattelekom* in fixed voice services dropped to approximately 94% in 2003 (see Fig. 6 for detailed breakdown). In the same time period new entrants received about 10% of fixed network numbering. Leased lines market demonstrates a very dynamic development. There is also an increasingly significant role played by cable operators¹⁷.

¹⁶ There were 37,4 main lines per 100 inhabitants in Estonia (digitalisation rate 82%) and 24,7 main lines in Lithuania (digitalisation rate 90%) in June 2003. Decrease of penetration has taken place in Lithuania too, while slow growth continues in Estonia that would be a result of much more active broadband usage.

¹⁷ In Latvia there is very significant number of subscribers to cable television (there is estimates that state up to 25% of the households). Cable TV operators have started provision of Internet

These indicators confirm verity and reality of intentions of authorised newcomers, they corroborate that competition is emerging rapidly.

Figure 6: Market share of fixed incumbent Lattелеkom (%) as of 2003 in terms of revenues



Source: PUC

And again: figures show a progress rate of newcomers higher than EU15 average level one year after market liberalization and fully compatible with EU15 most successful countries (Fig. 7).¹⁸ Monthly rentals and prices for local calls are low in comparison with other EU countries, while international calls remain rather expensive.

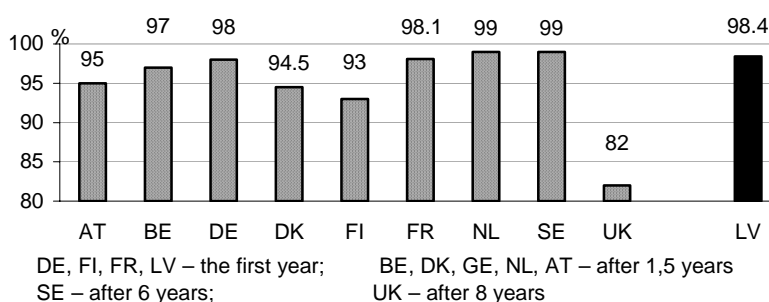
Although authorisation procedure does not include any technological demand, one could say that optimistic market developments have been achieved by employing a competition-fostering model that is based on infrastructure development. PUC has a legal framework for enhancing service-based competition also; nevertheless in current early stage of liberal market particular attention of PUC has been devoted to interconnection issues. PUC has designated the operators as having significant market power (SMP) in the interconnection market according EU 1998 regulatory

access and are interested in entering the voice market too, if the conditions for interconnection with the switched telephone network (economic conditions more than technical ones) allow them to do it.

¹⁸ Lithuanian incumbent's market share on the basis of total revenues from fixed telephony was 97,2% in December 2003. See: S. Gelzinis. Latest Developments in the Lithuanian Telecommunications Market. Seminar on Telecommunication Market Analysis for the CEE Countries and Baltic States, 5-7 October 2004, Vilnius, Lithuania. Estonia has classified its market data as confidential ones.

package. Several special requirements for such undertakings have become binding as the first step of applying asymmetrical regulation.

Figure 7: Market share of fixed incumbent after market liberalization (national calls)



Crucial requirement imposed on SMP operators is obligation to provide access to network on non-discriminatory terms. In Latvia's case with several players showing strong interest in offering carrier selection services, it is of particular importance to ensure transparent and non-discriminatory cost-oriented access to incumbent's infrastructure in order to ensure choice to end-users and provide diversified and affordable services.

So SMP operators are obliged to conclude interconnection agreements, they cannot refuse it. Tariffs for interconnection services must be cost-oriented. Comparison of existing market shares in terms of revenues (Fig. 6) and outgoing minutes (Fig. 8) shows significance of implementation of cost-oriented tariffs. In provision of services where the interconnection component is smaller (international calls, calls to mobile and calls to Internet) newcomers are more competitive, their outgoing minutes share is higher than revenues share.

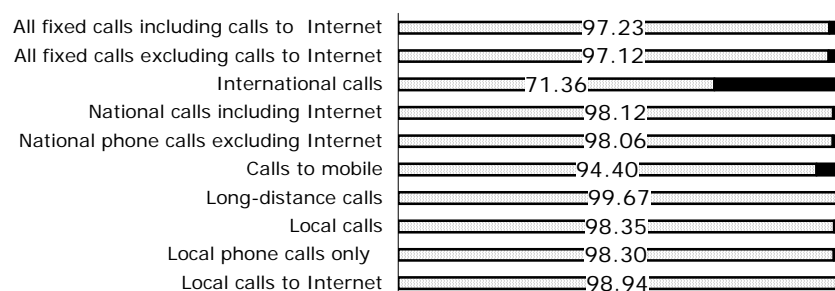
But due to the rather short period for preparation of secondary legislation in 2002–2003, the elaboration of cost allocation methodology was finalized after market opening. Adding one more year for implementation of the new methodology, we arrive at situation where the cost-oriented interconnection tariffs are really becoming available only in March 2004¹⁹. And now the normative environment has been changed once more. It provides more

¹⁹ Nevertheless even obligation to carry out a cost allocation and to submit data to PUC in 2004 resulted in decrease of SMP offered interconnection tariffs by 15–20% in comparison with 2003.

rights to PUC, but at the same time determined procedure really delays introduction of cost-oriented interconnection fees.

So far the interconnection tariffs of incumbent have been among the highest in EU Member States. On the other hand, it should be noted that tariffs for call termination on mobile networks as well as monthly bills for fixed networks are among the lowest in Europe. Therefore during the first year of liberalization newcomers were entering the market and concluding interconnection agreements on terms not similar to those in fully competitive environment. Number of interconnection agreements is a good indicator for potential competition; in spite of comparatively high interconnection tariffs offered by SMPs, 12 newcomers have signed agreements with fixed incumbent, 10 agreements have been signed with both mobile operators; it provides a base for an optimistic future outlook.

Figure: 8: Market share of fixed incumbent Lattelekom (%) as of 2003 in terms of outgoing minutes



Source: PUC

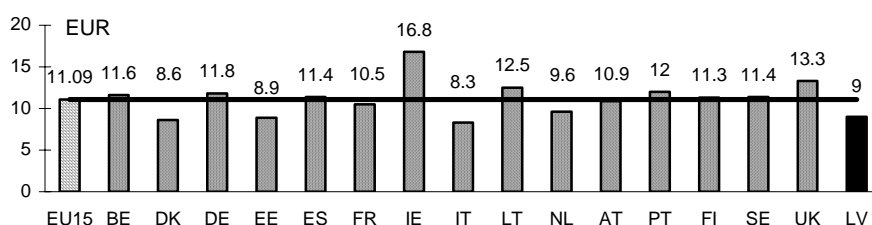
Tariff rebalancing is one of Latvian individualities in competition development process. In general it is not possible to establish a reasonable interconnection offer without having carried out tariff rebalancing. But in Latvian case cost allocation figures show that rebalancing in practice means only decreasing tariffs on international calls, there is no cost-based necessity to increase monthly fees or tariffs on national calls (in addition, let us not forget high profitability of *Lattelekom*). Therefore formal rebalancing is not an actual issue, customers will not see rise of mentioned tariffs.

Nevertheless exactly service competition will allow a rapid transferring competition benefits to users and will help incomers secure a consumer base. In order to move forward towards a competition in services and thus to

establish an effective competition model practical legal and economic activities are going on.

From May 1, 2004 designated SMP operator in fixed voice services *Lattelekom* should provide local loop unbundling. Huge investments have been made in order to create advanced infrastructure²⁰, nevertheless access to unbundled local loop is available for a reasonable fee²¹ (see Fig. 9). But its usage has not become popular yet; market is not ready in full for exploitation of such instruments. Or maybe majority of newcomers are really looking only for chance to skim the cream off?

Figure 9: Monthly rental fee for full unbundled local loop (2004)



Source: 10th Implementation report

According to regulations on both carrier selection and pre-selection services, newcomers in a near future will be in a position to offer a full range of services similar to those offered by the fixed incumbent. Introduction of these services is closely related with modernization of fixed network; unfortunately *TeliaSonera* has not fulfilled the requirements of mentioned Umbrella Agreement: to finish modernization in full till early 2002. Having regard to digitalisation rate of fixed incumbent's network and technological developments for provision of required services, phased approach has been chosen for introduction of both services. Started from January 1, 2003, full implementation of both carrier selection and pre-selection services step by step should be finished till July 1, 2006. In addition it should be mentioned that even in territories, where carrier selection and pre-selection services are available, not all alternative operators target activities to their usage.

²⁰ E. g., the cumulative capital expenditures made by *Lattelekom* since its incorporation in 1994 exceed 700 Mln EUR.

²¹ Technical Annexes of the Ninth Report on the Implementation of the Telecommunications Regulatory Package. Brussels, 2003.

Leased line segment is the market showing the most dynamic growth of competition after market liberalization. The share of *Lattelekom* has dropped substantially; a year after the market liberalization the value of Hirschmann-Hirfendal Index is 4530 points²². Characteristic feature is presence of market participants which core business is related to provision of other infrastructure based services of general interest (e.g., national electricity and railways companies) as well cable TV operators and broadcasting programmes transmission undertakings.

Mobile services: competition on many years

Although users in Latvia can choose from the offer of any of the both existing full size GSM/DCS mobile networks operators, really one could argue if there is duopoly competition in mobile services market nowadays. The older of the two mobile operators, *LMT*, is partially public-owned (the state holds directly 5% via the Ministry of Transport and *Digital Latvian Radio and Television Centre* has a 23% share); *Lattelekom* owns a 23% share and the remaining 49% is held by *TeliaSonera*). The second operator, *Tele2*, is a subsidiary of the Swedish *Tele2*. In addition there is also one virtual mobile operator (*ZetCOM*), which has achieved a certain success after its launch, targeting the fast growing share of pre-paid services users; it is leasing network capacity from *LMT*.

Both mobile operators have received also UMTS licences; they should start to provide commercial services from January 1, 2005.

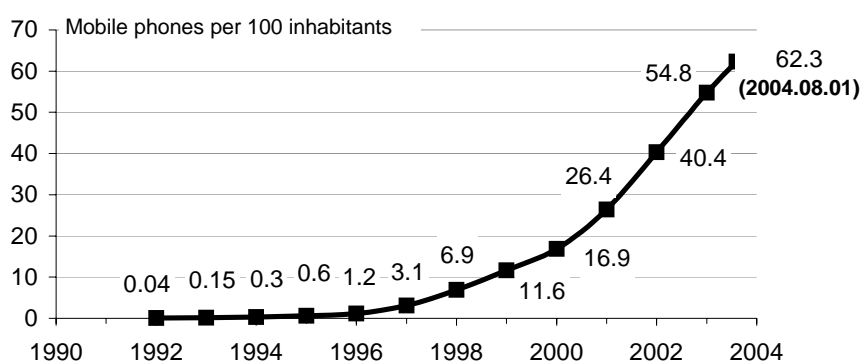
Since starting provision of mobile services in 1992 there has been a stable growth in number of mobile services users, however the penetration still remains under the EU25 average (Fig. 10)²³. But rapid growth is continuing. Market share of *LMT* is 67,5% in terms of revenues (2003), share of *TELE2* – 32,5%.

²² A commonly accepted measure of market concentration. It is calculated by squaring the market share (percentage) of each firm competing in a market, and then summing the resulting numbers. Result of less than 1000 show a competitive marketplace, whereas result of 1000–1800 – a moderately concentrated marketplace, and a result of 1800 or greater – a highly concentrated marketplace. For monopoly segment the index is 10 000.

²³ Mobile penetration rates (2004) for Estonia (84%) and Lithuania (79%) are higher than for Latvia; it would be direct result of the Latvian duopoly mobile market in opposition to 3 active mobile operators in other Baltic States.

Can we identify some correlation in development of both fixed and mobile services markets, is there a competition between fixed and mobile services for consumers, are clients really moving to mobile services instead of previously used fixed services? Penetration data do not directly corroborate this idea, we cannot recognize sharply increased mobile penetration in 2003.

Figure 10: Penetration of mobile telephones



Source: PUC

In Western European countries mobile services entered market of voice services in parallel with comparatively high developed fixed penetration. In Latvia (like in other post-USSR countries) mobile services became available for users when fixed telecommunications network was in a stage of limited development and rather low fixed penetration. Historically availability of and connection to fixed telecommunications network was dictated by neither market nor competition pressure or laws. Access to fixed network was more of privilege, a kind of a bonus for having waited a numerous years in the waiting list.

And for this reason really one could argue if there is rather connection of new users who prefer mobile than feasible migration of users from fixed to mobile.

It is however likely that with further growth of competition, convergence of services as well radical decrease of tariffs for mobile services enabling some service based competition, fixed-to-mobile migration could become a reality. So far term of migration could only be applied to migration of traffic.

Both mobile operators have established and are operating nation wide mobile networks, they cover 98% of territory; more than 97% of population

have access to mobile services in places of their residence. There is slightly different technological approach: while *LMT* ensures latest technologies to be available to users, *Tele2* seeks an approval of using those technologies by users before wide their introduction.

One characteristic of Latvia's mobile market is presence of large share of post-paid customers; especially it relates to *LMT* clients, majority of them are post-paid customers. Many of them are very active users of the voice, data and SMS services, generating monthly bills comparable to those of users in most developed European countries. Prices on mobile services have diminished by 1,1% during 2003.

Current market structure maintains extremely high profitability of both mobile operators, leaving sufficient margin for new operators to enter the market. Partially this has happened already. Two undertakings expressed their interest in usage of 450MHz frequency for provision of services based on the CDMA (Code-Division Multiple Access) technology; they have obtained necessary authorisations. Tender on the third GSM and UMTS authorisations will be announced in the nearest future. But in order to strongly support newcomers implementation of the national roaming is planned from January 1, 2006.

Internet: many users but low usage yet

Internet has transformed into a component of the strategic infrastructure (*critical infrastructure*) of any country equally with energetic and transport networks; this process is taking place in Latvia too. Internet usage affects different spheres of life of society, it is widely used for economic and political transactions, procedures and decision-making on every level. Internet services really become a substantial component of *services of general interest* and an important part of universal service framework stipulating that access to Internet at functional level shall be provided²⁴.

²⁴ E.g.: Green Paper on Services of General Interest. COM(2003) 270. – http://europa.eu.int/eur-lex/en/com/gpr/2003/com2003_0270en01.pdf.

Various studies and statistics show that there is a strong correlation between Internet usage and economic growth²⁵ (Fig. 11) in EU countries. Why Latvia is slightly aside of this general regularity?

Figure 11a: Correlation between Internet penetration and growth competitiveness index rank in various EU countries

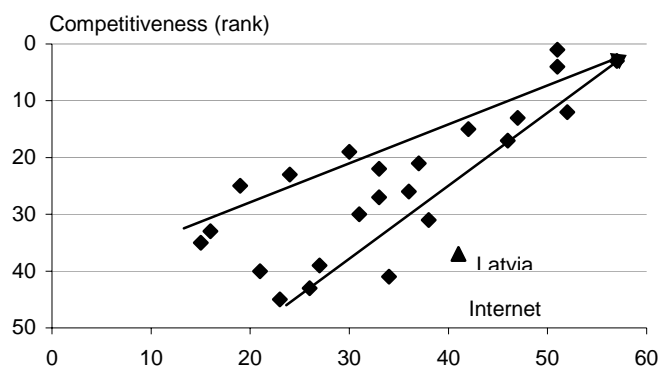
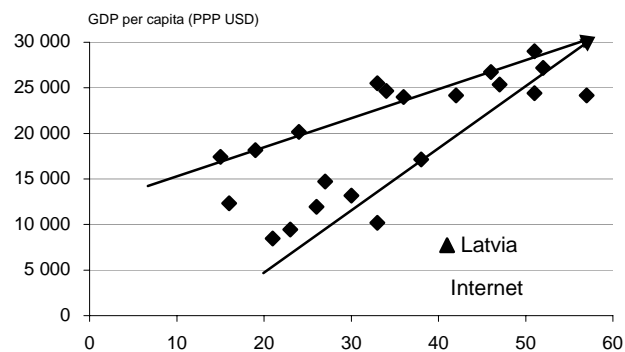


Figure 11b: Correlation between Internet penetration and GDP per capita (PPS) in various EU countries



Sources: ITU, WEF, UNDP

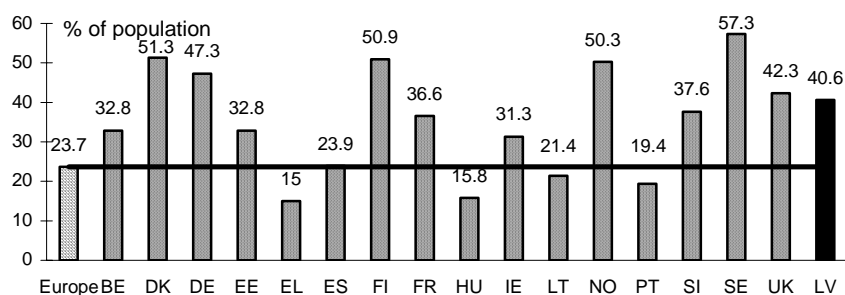
The Latvia's Internet market is highly saturated by competitors (see Table 1). Direct result is comparatively high Internet users penetration in Latvia,

²⁵ The Global Competitiveness Report 2003–2004. – <http://www.weforum.org>. Human Development Report. – <http://www.undp.org/hdro>. ITU Internet indicators 2003. – <http://www.itu.int/ITU-D/ict/statistics/>.

that is significantly higher than Europe average level and the highest among new EU Member States (Fig. 12). Statistical evaluation of Internet users' penetration shows quite fast growth (up to 40% annually). At the same time huge differences remain between various regions, between cities and countryside.

Another subject is intensity and purpose of Internet usage.

Figure 12: Internet users as % of population (2003)



Source: ITU

Local information sources and information services, business and administrative transactions are underdeveloped yet. In spite of sharply increasing e-business transactions in several sectors (financial, transport, logistics, accommodation, information services as well on-line sales of computer technologies and medicine), in total intensity of Internet usage in business purposes is low²⁶. Electronic signature and ID-cards have not been implemented; administrative transactions among every level of the administration and society, as well as among public institutions (e-government transactions) also have not become very popular yet. There is lack of correct statistics on development of e-learning, e-work, e-health services, but they also are on the initial stage. But it is well-known fact that exactly local transactions generate up to 80% of total traffic.

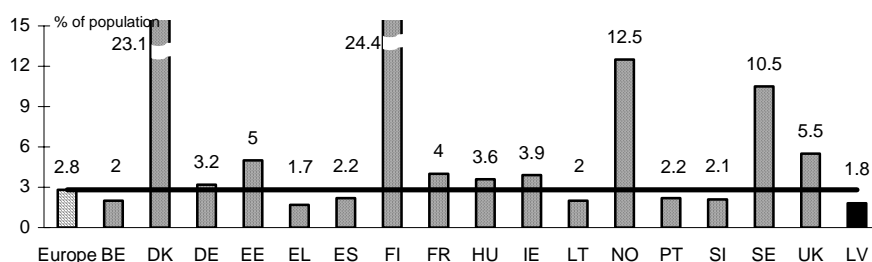
Underdeveloped on-line content and service issues are the reason of low rate of Internet host penetration (Fig. 13) and, as result, of low usage level of

²⁶ Companies polling shows, that although 60% of interviewed undertakings are connected to Internet, only 32,1% are using Internet regularly, only 10,5% have created their home pages and only 13,4% of total number of employees is using Internet day-to-day. Only 1,1% of business undertakings use e-commerce transactions for regular purchase and 0,3% – for sales of their products.

Internet. Huge difference between users and host penetration rates is specific individuality of Internet market in Latvia.

It means that Internet mostly is used for connection to foreign information sources and E-mail transactions, but broadband is not a critical issue for usage of these services. Therefore many users have not a stimulus for broadband connections and broadband penetration rate also is quite low²⁷ (Fig. 14). In addition several practical obstacles for more active usage of Internet have been mentioned by pooling respondents, among them security problems (viruses, Trojan horses and worms, spam, hackers, etc.) were the major ones, while telecommunications quality (incomplete network digitalisation), lack of public Internet terminals and comparatively high Internet access costs²⁸ were evaluated as much less substantial issues. In total we can say that exactly development of content and reliable services is the major task for successful fulfilment of the eEurope programme, broadband availability today is not a major disincentive factor.

Figure 13: Internet hosts as % of population (2003)



Source: ITU

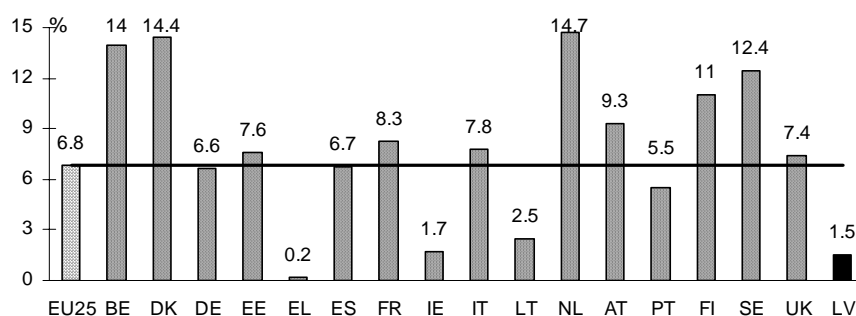
Aforementioned list of potential Internet services and applications really shows significance of Internet for everybody. Therefore Latvia is working also on evaluation of development modus of Internet that till today has been completely democratic and based mainly on self-regulation. Some level of regulation would be desirable in the interests of whole society (regulation of national address domain, responsibility of Internet service providers, user's data protection, security issues, etc.).

²⁷ Broadband access in the EU, 1st semester 2003. European Commission, Brussels, 2003.

²⁸ Flat rate broadband Internet tariffs in Latvia have decreased till 4–7% of average personal income. For comparison: in USA – only 1,2%, while in Sri Lanka – 60% and in Nepal – even 280% of average income.

But Internet is a global phenomenon, information flows do not recognize borders, and hence activities of states should be coordinated and internationally harmonized²⁹. Such approach was mentioned in the final documents of the first phase of WSIS (Geneva, 2003)³⁰, even the term *Internet governance* was used. Latvia also considers as appropriate and timely activity inclusion of several items, related to further development of Internet, in the programme of the second phase of WSIS. Much more, Latvian diplomat has been elected as chairman of the WSIS Preparatory Committee that is an extremely high trust level.

Figure 14: Broadband lines as % of population (July 2004)



Source: 10th Implementation report

Latvia's full position is under elaboration now, but its spirit would be the following one. The implementation of governmental intervention would be similar that in case of other services of general interest – regulation, acceptance of common *rules of game*, harmonized normative environment in a broad sense of this term without intervention in direct management and current problems. Balancing interests of governments, private sector and society, preservation of the essence of Internet, integration of *ex ante* and *ex post* regulatory procedures, continuous monitoring, international

²⁹ E.g., both major methods for war against spam (EU *opt in* method and US *opt out* method) are quite ineffective due to lack of international cooperation to a great extent. In addition, Internet is an excellent global marketing tool for any business. Especially useful it is for small companies and beginners, replacing expensive distribution of advertising publications, organization of presentations, participation in international exhibitions. But even today business complains on problems in relation to transmission of audio-video products, projects, drawings etc., because of blockage of spam.

³⁰ World Summit on the Information Society, Geneva 2003 – Tunis 2005. – <http://www.itu.int/wsis>.

coordination, establishment of independent regulatory institutions should be considered as the basis for success.

It would be desirable to implement integrated regulation of number of interlinked technological, content, fiscal, privacy, intellectual property, security issues; their analysis shows lot of contradictory problems³¹.

Multi-sectoral regulatory system – Latvia's unique experience

All the above data are the basic elements of the elcom model in Latvia, but there is a very significant element that needs to be highlighted and that consists of Latvia's implementation of a multi-sectoral unified regulatory model (a unique case in Europe today) for all basic services of general economic interest (electricity and gas supply, electronic communications and postal services, rail and passenger transport)³².

Latvia considers all these services as an extremely important factor for development of the country. On the one hand altogether they form the backbone of the national economy. Receipt of services is essential for companies; it is necessary for development and competitiveness of any branch. The closely associated other side of the coin is social significance, importance of utilities services for everybody, for health, even life of every citizen, for elimination of his social exclusion that today often results in a lower knowledge level and a lower welfare level.

Latvia is not an exception from the worldwide tendencies: in order to promote the development of corresponding sectors, there is a stable regulatory system operational that is fair for both consumers (in regard to the availability and quality of services, choice and affordable prices) and service

³¹ E. g., general availability vs filtration of information, Internet as e-commerce environment vs fight against spam, high privacy level vs activities against terrorists. Contradictoriness of interests and proposals related with domain name system was the major barrier for solving Internet governance problem during the first phase of the WSIS.

³² Nevertheless one can observe the first steps in multi-sectoral direction: Luxembourg has established formal multi-sectoral regulatory body, UK step by step is moving in this direction (merging of electricity and gas regulators some years ago and preparatory activities to form common regulator for communications), Germany is creating national energy regulator on the basis of telecommunications and post regulator.

providers (adequate profitability, opportunities for innovation and increasing efficiency).

Alternative among separate regulation for every service sector and multi-sectoral unified regulation for all sectors was the key option to start development of the regulatory model.

As all utilities sectors are components of the national economy and processes in sectors (consequently corresponding regulatory activities) are similar, there is a unified essence of the regulatory process: development of competition, regulatory balance, social policy, etc. Intersectoral convergence has begun, multi-utility companies are developing – electricity and heat (cogeneration), incoming electricity, railways and postage companies in the telecommunications business³³; in the next decade they would become major service providers. Capital is becoming more mobile, international companies have entered utilities market of Latvia – *SoneraTelia*, *NetCom AB*, *Ruhrgas*, *E.ON. Energie AG*, *Gazprom*.

Any consumer (whether business or residential) is using number of utilities services, consumers want coordinated and predictable regulations. Multi-sectoral regulation can ensure balanced increase of tariffs in different sectors (but increase is inevitable due price harmonization with EU).

Altogether it means that unified regulation is very acceptable for utilities and consumers alike. This reduces regulatory risks (and investment risks as a result). At the same time, peculiarities of any sector have to be considered utilizing generally approbated regulatory procedures and instruments and applying appropriate exactly to this sector tactic, terms, numerical proportions etc.

Taking into account these considerations, a multi-sectoral regulatory model and the relevant regulatory body – PUC – have been established in Latvia. This means that harmonised for all sectors regulation, unified for all sectors approach, methodology, principles and strategy would be implemented (to a great extent thanks to growing information processing capabilities and introduction of knowledge management principles³⁴).

³³ Today national electricity (*Latvenergo*) and railway (*Latvian Railways*) companies are in the list of the most active newcomers in elcom sector in Latvia.

³⁴ PUC has made the first step – has received ISO certificate, of course complete introduction of knowledge management principles is task for the future.

Concentration of knowledge and competence in unified regulator, taking into account sectoral similarities, ensures higher quality of regulation³⁵. Regulatory costs for unified and centralized regulation (these costs, of course, are included in tariffs for services) are much lower.

The fundamental of the regulatory normative base is formed by the law *On Public Utilities Regulators* and by sectoral laws (energy, elcom, railways, post). In addition the *Competition Law*³⁶ and the *Consumer Protection Law*³⁷ directly relates to public utilities regulation. Secondary legislation (both general and sectoral Regulations of the Cabinet of Ministers as well Ministries of Transport and Economy) details separate issues of laws. In addition it is prescribed that lot of regulations should be developed by the PUC according to laws, e.g. more than 40 different documents were approved to introduce 1998 EU telecommunications regulatory package.

A set of regulatory functions and activities determined by normative acts is wide and quite typical for regulation of utilities services: licensing, study of service providers before and monitoring after licensing; general availability of services; quality of services and its regular increase; choice opportunities for consumers and protection of their rights; tariffs, cost-oriented prices for services; monitoring of environment and health protection activities; settlement of disputes; common exploitation of bottleneck resources.

At the same time number of elcom regulatory instruments related to management of scarce resources is also done by Telecommunications State Inspection which is under supervision of Ministry of Transport; such fragmentation, of course, is a serious failing for regulatory system.

Chosen unified regulatory model has very helped to achieve real independency level of the PUC that is one of the highest for EU national regulators; it can be appraised that existing level will be unachievable for any sectoral regulator. The risk of *regulator capture* is far and away less than for sectoral regulator. Five commissioners are nominated by the Parliament on 5 years, nobody can change neither commissioners nor they decisions; they can be appealed in the court only. At the same time the PUC is accountable for its activities to the society (e.g., mandatory annual public report).

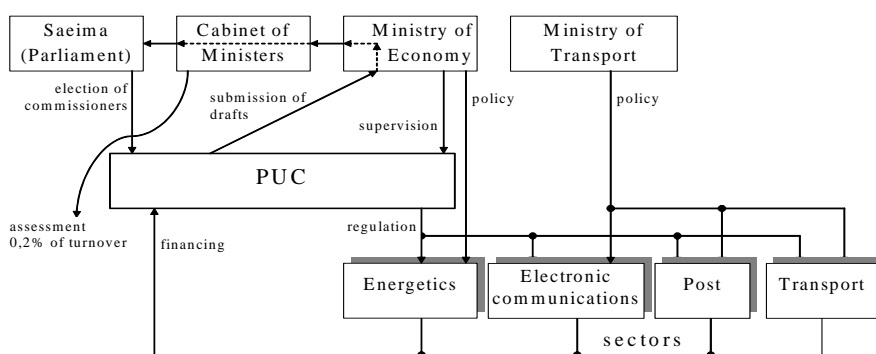
³⁵ In addition, in order to increase capacity of the PUC, independent expert body was organized for regular consultations; leading researchers and economists of Academy of Sciences, University of Latvia and Riga Technical University are members of this body.

³⁶ See: <http://www.competition.lv/Ait/ENG/EFS.htm>.

³⁷ See: <http://www.ptac.lv/en/acts.htm>.

Financing of the PUC is determined as fixed percentage of utility turnover (assessed by the Cabinet of Ministers) that excludes possibility of financial pressure on the PUC. The PUC is operating under the supervision of the Ministry of Economy, because according to the Constitution of Latvia public institutions should operate within the framework of some ministry (Fig. 15). Although this circumstance really does not seriously influence the independency level of the PUC (the single difficulty is submission of drafts of normative acts in the Cabinet of Ministers), the discussions are going on about special adoption of PUC's full legal independence in the Constitution in the future.

Figure 15: PUC's interlinkage with other market actors



At the same time multi-sectoral regulatory model is new and unwanted model for Europe, practically sectoral regulatory model exist in all European countries today. There is not formed any institution in European Commission framework, which is responsible for regulation of public utilities in total (that would be very desirable), only sectoral and *ad hoc* activities are performed. It means that national regulatory body of Latvia should solve not only practical regulatory problems, but first of all very carefully have to work on strategic level to minimize possible day-to-day inaccuracies.

Development of the regulatory concept had become the primary strategic task for the PUC in order to ensure coordinated activities and to perform focused regulatory related functions by all involved institutions.

Competition where that is possible and regulation only where and how many it is necessary – this basic principle has been implemented in the concept. The PUC directly intervenes in the service provision process only where competition is limited. Sector deregulation is implemented as a

transition from direct monopoly regulation to indirect sector regulation simultaneously with the development of competition, not by decreasing PUC's attention to the sectors in which the market is formally liberalized.

All procedures and activities have been divided on two levels.

Elaboration of macrolevel's policy (objectives and strategic trends of development, priorities and accents) in Latvia's case is extremely substantial. A lot of efforts and long time will be necessary to implement advanced regulatory principles and strategy; real results can be achieved not before than in four-five years. Therefore strategic level has been elaborated very carefully in order to define and update microlevel measures according to this concept.

*Strategy and Basic Principles of Operation of Public Utilities Commission*³⁸ is the basic macrolevel document that contains principles and actions related to the competency level of the PUC: goals and principles of the regulatory activities, equal distance of PUC from all involved parties (the government, service providers and consumers), stable and fair cooperation procedures with both utilities and consumers, promotion of newcomers, long-term national tariff policy and unified tariff calculation methodology, protection of consumer' rights, ecological and health protection principles.

Microlevel documents regulate current tasks and concrete applications; they are devoted to implementation of principles defined in macrolevel strategy. It is envisaged that microlevel documents should be as unified as possible for all regulated sectors; they would be updated as far as experience will be accumulated.

Number of items have been developed on microlevel: licensing procedures, unified order for information submission by service providers, procedure for acquaintance with tariff projects, provisions on cooperation and consultation with service providers and consumers (public hearings), regulations on dispute solving, unified methodological principles for determination of tariffs, even practical details (e.g., definition of the *Force majeure*).

Nevertheless there has remained a lot to do in the future. Introduction of unified universal service model for several sectors (elcom, post and electricity first of all), taking into account sectors' peculiarities, would become

³⁸ All macrolevel and microlevel documents are available on: <http://www.sprk.gov.lv>

the biggest challenge for the PUC. Definition of the set of services (including specification, quality of services, etc.) and client base, principles for determination of universal service providers, principles and criteria for compensation, introduction of matching financing from the national (municipal) budget, conformity with social programs – this is not the full list of basic items.

Latvia is on the very beginning of the way towards creation of balanced and fair regulatory environment, really *learning by doing* principle is used in many cases. Three years experience has corroborated initially anticipated advantages of harmonised regulation for both service providers and consumers. Strengthened level of economic and legal competence and independence of the regulator has increased authority of the PUC in the society and regulator's strategic influence on policy makers.

It is necessary to develop national policy paper containing clear vision on further development of regulated sectors, general goals and principles of the national regulatory system, socio-economic vision and strategic activities that cannot be performed by the PUC only³⁹. These measures should be taken on governmental level, therefore this document has to be approved by the Cabinet of Ministers.

Although the creation of the PUC is relatively recent as well implementation of multi-sectoral regulatory model is not full till today and it is still needed to evaluate comprehensively the influence of this regulatory model on Latvian general economic development, in total the multi-sectoral model can be appraised as the most advanced and preferable one, especially for small country (i.e., for majority of European countries).

Conclusions

In total one can see that competition development has started in Latvia's electronic communications sector, but, of course, we are on the very beginning of the process; let us remember – electronic communications sector is opened for competitors only from January 1, 2003. Even the most competitive leased lines segment remains highly concentrated.

³⁹ Example of such policy paper has been approved in UK. See: Green Paper: A Fair Deal for Consumers; Modernizing the Framework for Utility Regulation. – <http://www.dti.gov.uk/urt/fairdeal>.

It can be predicted with a large degree of credibility: the future development of the Latvia's electronic communications sector will be based on *inter platforms* hybrid competition model which will include deployment of innovative infrastructures and/or technologies, operation of specialized providers, cable operators and new spectrum operators, all of the above with the capabilities required for playing an active role in a competitive scenario and creating different business models. With appropriate regulation in place and still plenty of space left for new market participants to enter as well for existing players to develop and grow stronger notable market developments are to be expected. Availability of new services and price reduction will become the major benefits for end-users.

In order to facilitate such transition, it is essential to guarantee the conditions for profitable basic development/investment plans of operators. The role played by the PUC is understood as essential, contributing to the design of a roadmap of actions to be put into place in the market and the associated regulatory remedies to execute those actions. Pioneering initiatives and emerging markets must be encouraged and watched, but freed of hyperbolic regulatory burden.

The future development of *Lattelekom* has to be defined for the interests of whole society. It should be noted that examples exist, when ex-monopolists under competitive pressure have been able to react to maintain their market shares, redounding by lower prices and better services for users, which is, without a doubt, the final objective of any liberalization process.

As opposed to other European countries facing at the time the problem of achieving a true network universalisation, Latvia has now other possibilities that we must consider at length. First, because the traditional approach that considered mobile telephony regardless of the achievement of universal service objectives is nowadays beginning to change. Second, Latvia faces the challenge of entering the information society, and for this we need to accelerate development of information society services and applications, the result will be deployment of broadband networks. Considering the probable availability of European funds targeted towards this purpose, we could avoid the intermediate stages and move directly towards the final goals and achieve them sooner.

Acknowledgement

This paper is partially based on Latvia's EU Twinning Project LV/2002/IB/TE-01 in the area of electronic communications. The main beneficiary of the project is the Public Utilities Commission of Latvia. The general goals of the Twinning Project include ensuring conditions for appropriate alignment with EU electronic communications acquis and, contributing, from advice on electronic communications policy and regulation, to the economic development of Latvia. During the project existing situation is being analysed to contribute development of future vision and draft of the suitable strategy in order to achieve goals.

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