

Multi-sectoral regulation of services of general economic interest
Ten-year experience of Latvia

Edvins Karnitis

Andris Virtmanis

Public Utilities Commission of Latvia

Riga, 2011

Content

Summary	3
Significance and particularities of services of general economic interest in Latvia	4
Choice of regulatory model: multi-sectoral vs sectoral	8
Regulatory system in Latvia: harmonized multi-sectoral trend	11
Multi-sectoral regulator: high independence and competence level	13
Balancing stakeholders' interests: proportionality, notification and involvement	16
Protection of customer interests	20
Conclusions	23

Summary

Basic processes and particularities in all network industries are similar, progressive technological convergence unifies industries, multi-utility companies are developing. Side by side with general global/European regularities there are number of national individualities in each country, including Latvia. Positive experience of Latvia (2001–2011) shows that unified regulatory process increases efficiency of regulation and reduces regulatory risks, harmonizes business environment and reduces administrative barriers; multi-sectoral regulation is more competent and qualitative, it becomes very acceptable for both service providers and consumers. Latvia's multi-sectoral regulatory model is described, identifying various aspects and achieved results. Attained high independence and competence level of the National Regulatory Authority, unity of regulation and observance of sectoral individualities, balancing interests and involvement of all stakeholders, consumer protection, service quality and other issues are detailed. The multi-sectoral model is appraised as the most advanced and preferable one, especially for small countries.

This paper does not represent the point of view of the Public Utilities Commission.
The interpretations and opinions contained in it are solely those of the authors.

Significance and particularities of services of general economic interest in Latvia

The functionality and the role of all services of general economic interest (SGEI) – electricity, gas, heat and water supply, electronic communications, postal and railways services, management of sewage and waste – are of high importance in Latvia alike in any other country.

These sectors form the backbone of the Latvia's economy: gross value added by energy sector (electricity, gas, heat and water supply) was 3,6% of total value added in 2009, by post and electronic communications – 2,6% (here and further statistical data from Eurostat, 2011 and Central Statistical Bureau of Latvia, 2011); the value added is constantly increasing – by 68% since 2004. Most of sectors can be set down as high value added sectors, e.g., value added is more than 30% of turnover in energy and communications sectors. Also labour productivity in these sectors is substantially higher than in total industry.

SGEI are not only substantial components of GDP of any country. EU term *services of general economic interest* clearly shows huge significance of SGEI for society and business.

There is close relation of electronic communications sector with the general development: economic growth means increasing investments in electronic communications services, which in one's turn strongly supports rapid development of all sectors, increase of productivity of businesses and capacity of administration, growing competitiveness of enterprises and country in toto. Electronic communications sector really serves as a catalyst for economic and social activities (Dombrovskis, Feijoo *et al*, 2004). In this sense there are specific national interests in the development of the electronic communications sector (see also Jalava and Pohjola, 2007).

Energy always has been a category of basic level of Maslow's hierarchy of human needs, particularly for Latvia (Baltic is the second coldest EU macro-region after Scandinavia). Nowadays sustainable energy supply is becoming a significant (even the most significant) component of national security of any country.

General accessibility (both technological and financial) of qualitative services are fundamental for quality of life of everybody – for health, even for life itself (e.g., energy and water supply) as well as for elimination of his/her social exclusion (e.g., electronic communications, post) that results in a welfare level (Karnitis, 2006). Payments for services remain a significant share of consumers' budgets; statistics shows that low income households (1st quintile) should limit use of services, in addition expending for them larger share of their comparatively less budget (fig. 1).

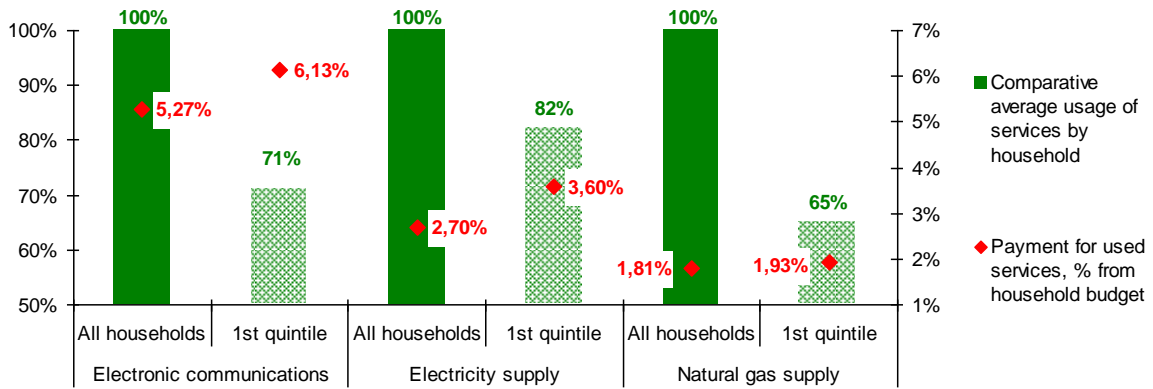


Fig. 1. Usage of SGEI in Latvia and payments for them (2009)

There is a common principal particularity for all utilities sectors that makes them unlike to other sectors of economy – services have to be available for consumers (both business and residential) in their workplaces or households.

Delivery of services is based on some specialized type of environment – physical (wires, cables, pipelines, rails, even electromagnetic waves) and/or institutional (branches, stations, offices of service and delivery). Specific infrastructure (network) expenditures are high (development, maintenance, upgrading, etc.); they ask for huge investments, e.g., investment rate in energy sectors was doubled investment rate in total industry in EU27 (2006). Because of comparatively low density of population in Latvia (only 34,3 residents per sq km in comparison with an average of 113,8 residents in EU27) specific network expenditures per capita are much higher than average EU indicators; e.g., there was twofold investment rate in energy sectors in Latvia in comparison with average EU27 rate in 2006.

This issue critically influences functioning of all utilities sectors (also *network industries*) including development of competition. The market is imperfectly contestable, competitive market forces do exist but they are weak, competition processes are limited (see also Sauter, 2008). *Invisible hand of competition* cannot readjust the market by itself; it needs regulatory intervention.

A competitive environment theoretically provides lower prices; in network industries it would be achievable in stable periods and even not always (see, e.g., Kalashnikov, Kalashnykova 2008); at the same time it is mentioned that “each player maximizes his profit under certain capacities constrains”. Competent regulation of SGEI has shown its strength and advantages.

Even European Commission has started a strong tariff regulation in electronic communications (market in EU was liberalized more than 10 years ago!) – Recommendations on termination tariffs (that really are binding for Member States) as well Roaming Regulations for tariffs on voice and messages have been issued; discussions on setting data roaming tariffs have been started in addition to already implemented requirements to introduce cut-off limit facilities to protect roaming customers from *bill shocks*.

Market practice shows also that even small supply problems causes the sharp increase of price. In emergency situation (e.g., if significant reduction of electricity or gas supply takes place) constrain of competitors decreases or even disappears completely, in reality it means flashes of prices.

Traditionally in *force majeure* and even pre-emergency situations market is not evaluated as preferable tactics. Also Regulation (EC 2009) envisages non-market based measures as the last resort in emergency situations for natural gas supply that clearly accepts their higher efficiency in comparison with market based measures. Market as crisis manager is a dream. Preemptive introduction of non-market measures in alert or even early warning situation would prevent this groundless increase.

Fig. 2 shows development of competition in Latvia in network industries by means of *Hirschmann-Hirfendal Index* (HHI); one can find continuous necessity for regulatory activities.

In the first year after the fixed voice market liberalization (2003) the share of incumbent telcos operator (*Lattelecom*) dropped substantially; then slowdown took place and market remains highly concentrated (while total number of active electronic communications service providers is permanently increasing – from 202 in 2005 to 396 in 2010). It is habitual to speak about existing strong competition in mobile telephony, but calculations show even higher concentration than in fixed market. Only analysing unified market of electronic communications services one can find situation that is very near to moderately concentrated market.

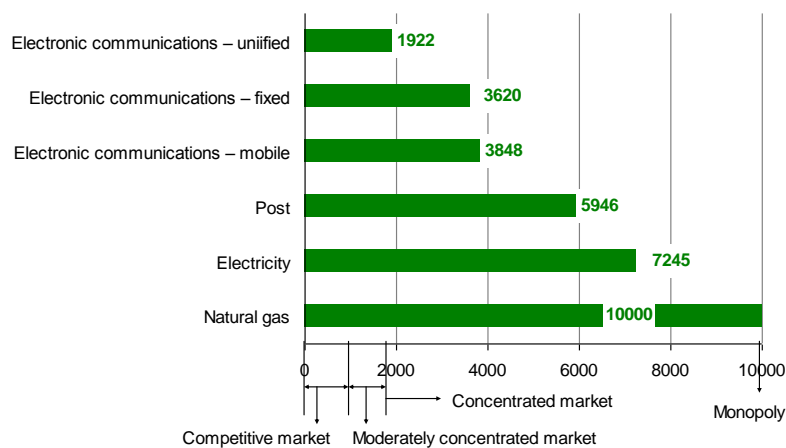


Fig. 2. Network industries: market concentration in Latvia by HHI (2009)

Review of the postal market (including traditional, express, direct and other services) also shows high concentration (reserved area till 2013). New entrants (50+ companies) are processing postal items in profitable segments (provision of value added services, delivery in cities only); some of them are looking to be quite *innovative* in reserved area. Statistics clearly

shows *cream skimming*: new entrants are processing 7% of total number of items, but their contribution in total turnover of the sector is 28% (2009).

Electricity market in Latvia started to develop in 2006; theoretically market is fully opened, however households and small business are consumers of the partly regulated market till today. Although 128 licences have been issued for electricity generation and 33 licences for electricity trade (2010), share of the largest generator (*Latvenergo*) remains near 90%; its market share is similar. Nevertheless, due to existing regulation of the electricity sector, prices for domestic consumers (2010S1) are the 5th lowest electricity prices in EU (fig. 3).

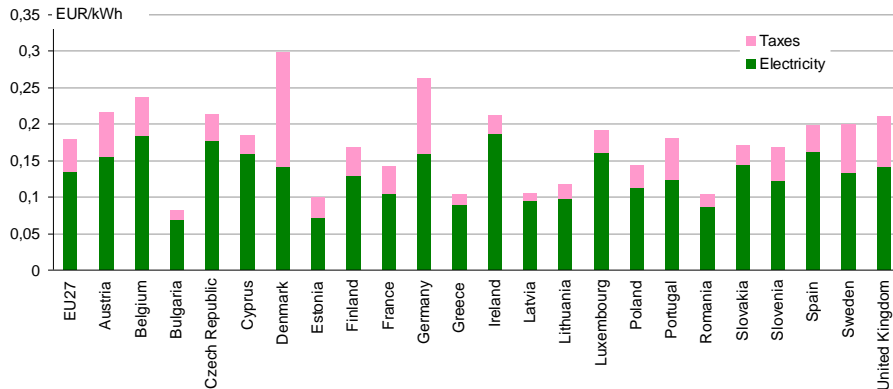


Fig. 3. Electricity prices – domestic consumers; consumption 1000 – 2500 kWh

Latvian natural gas system is fully isolated from EU gas infrastructure, there is only one gas supplier (*Gazprom*). Derogation of articles of EU Gas Directive, which relate to unbundling and third party access, has been approved for Latvia because of isolation. Really natural gas market will remain a monopolistic one till 2017. Latvia's domestic consumers enjoy the 3rd lowest natural gas prices in EU in spite of 100% regulated non-competitive environment (fig. 4). Long term review of processes in company *Latvijas Gaze* shows radical increase of efficiency of company as well reliable and sustainable gas supply.

Let us underline: low electricity and natural gas prices (70% of EU27 average prices in 2010S1) have been declared in the country, which imports 60% of necessary primary energy resources. Of course, it is an achievement of efficient and skilled regulation.

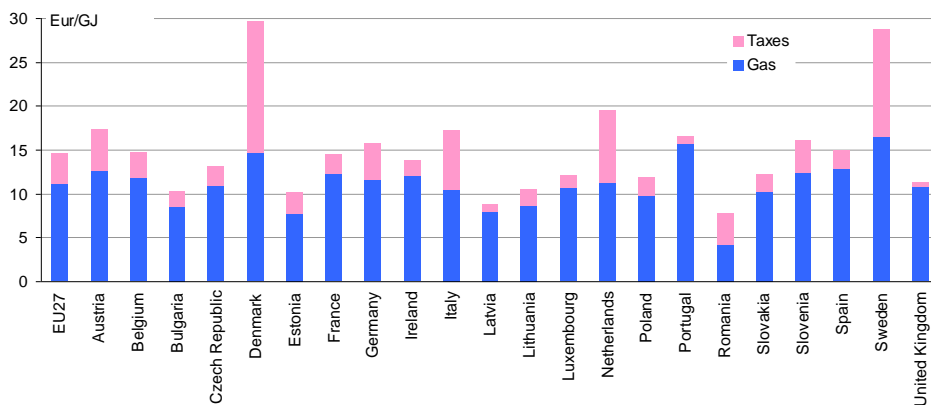


Fig. 4. Natural gas prices – domestic consumers; consumption 20 – 200 GJ

Current ongoing economic crisis has helped us to understand better weaknesses of neoliberal economy and to correct free market paradigm. Even more it relates to network industries. Therefore increasing state intervention in provision of the SGEI in interests of society is going on worldwide including EU. We are looking on enabling, stable and predictable regulatory system as a substantial instrument to strengthen reliable and sustainable SGEI provision.

Choice of regulatory model: multi-sectoral vs sectoral

Basically there are two alternative regulatory models that may be implemented – separate regulation for every network industry or unified multi-sectoral regulation (see, e.g., Micallef, 2007; Samarajiva, Mahan et al, 2002; Smith, 2007b).

Basic processes in all network industries are similar in terms of the development of competition, general availability and quality of services, regulatory balance, protection of consumers' rights, significance for social policy, etc. (see, e.g., Hempling, 2009). It means necessity of analogous regulatory activities; there would be harmonized, even equal regulatory procedures. Advanced regulation principles, procedures and instruments, which are closely inspected in one sector, can be applied to other sectors (varieties of services and tariffs, methodological principles for cost-based tariffs and payment systems, universal service, *soft* disconnection schemes, unbundling, communications procedures, etc.), at the same time using specific for this sector tactics, terms, numerical proportions, etc. This reduces regulatory risks (and investment risks as a result).

Convergence of industries is another tendency that unifies all sectors; it is increasing the economic effectiveness of the business.

Providers are using complex technological instruments to provide several complementary services. Co-generation (CHP), unified production of electricity and heat is a bright example; typically it covers around 40% of generated electricity and around 50% of produced centralized heat in Latvia. Predominantly CHP is based on natural gas supply; usually it is connected with district heating and sometimes with waste burning too. Triple and quadruple play, convergence of electronic communications and IT services with media and content industry today is a well-known process. Usage of power lines for broadband communications has been proposed as a solution for last mile connection of end-users to broadband backbone network; developers of this technology are close to its practical implementation (see, e.g., Park, 2008).

Multi-utility companies are developing in Latvia, scope and scale of activities have a positive impact on their business. Traditional district heating companies are developing CHP generation and thus enter in electricity market too. Many regional companies provide heating, water supply and sewage services in small cities and villages. Electricity and railway infrastructure companies have entered in the electronic communications market using their existing technological data transmission network. Although common fixed market share of

Latvian Railway and *Latvenergo* was only 1,2% in 2009, in next decade they would become considerable electronic communications service providers. Concentration and harmonization of regulatory functions improve business environment and decrease administrative barriers as well considerably facilitate supervision of the intersectoral cost-allocation in multi-utilities.

Consumers (both business and residential) use a lot of utility services; they require coordinated and predictable *rules of game*.

Few arguments in favour of sectoral regulation are built up; discussions have not finished yet although our experience shows weakness of argumentation applied.

Problems could arise in relation of variety of the legal framework in sectors and policies of sectoral ministries as well different level of sector liberalization. Lack of coordination among DGs of European Commission and consequently among sectoral Directives and Regulations is the real source of these doubts; actually this creates very unfavourable working conditions for multi-sectoral companies. Our experience shows that exactly single strategic trend of multi-sectoral regulation to great extent softens varieties and facilitates perfection of pan-sectoral harmonized business environment in the country.

Another set of arguments relates to potential low sector-specific competence in multi-sectoral regulator that would result in a lower quality of regulation; regulator cannot concentrate only on problems of one sector, there is some concern that regulatory failures in one sector could be transferred to other sectors. In reality Latvia's multi-sectoral experience shows intersectoral benefits and experience sharing; the real positive transfer is much more significant aspect in comparison with doubts on regulatory failures.

Regulatory experience in liberalized electronic communications markets has started to be useful in gradually developing electricity market, e.g., market analysis strategy, shared usage of infrastructure, switching service providers. At the same time current weaknesses of unbundling strategy in electricity market (separation of transmission and distribution) very helped to fight against initiated mandatory structural separation of integrated telecommunications companies. Provision of non-discriminatory access of all operators to critical infrastructure is a non-disputable thesis, but it is non-achievable by mandatory formal division of companies; the result is decreasing efficiency and value of companies, growing administrative, logistic, service and other expenditures as well lack of investments in infrastructure.

In addition some institutional aspects have been mentioned – multi-sectoral regulator is preferable mostly for small countries and as a new-created institution (instead of merging existing sectoral regulators). But exactly this is the Latvian case.

Subsequent chapters show that achieved competence level of multi-sectoral regulator refutes mentioned arguments; positive statistics of court verdicts also confirms it. Harmonization problems of multi-sectoral regulation are much lower than those with a lot of uncoordinated sectoral regulations. But in order to keep better to sectoral individualities several sectoral

departments were created in the structure of Latvia's multi-sectoral regulator (Energy Department, Electronic Communications and Post Department, Municipal Service and Railway Transport Department).

Altogether it means that the harmonised regulation for all sectors is very acceptable for both service providers and consumers; unified regulation is more competent and even cheaper (Karnitis, 2005). In general we can appraise multi-sectoral regulation as more advanced and efficient model. Also latest global and European tendencies show the movement to the harmonized multi-sectoral regulation.

Regulation is organized as multi-sectoral model in USA states (as the most experienced case) and Brazil states, while keeping coordinating sectoral regulators on the federal level. World Bank experts have recommended multi-sectoral model for developing countries. Several Latin American, Asian and African countries (e.g., Costa Rica, Jamaica) have introduced multi-sectoral regulation by World Bank support.

Luxembourg was the first European country that formally established the multi-sectoral model, but without any implementation of unified regulatory principles for sectors.

By retaking regulation of the railway infrastructure Germany has developed a common National Regulatory Authority (NRA) from 2006 – the Federal Network Agency – based on the existing before telecommunications and postal regulator; it has already added energy regulation too. Hungary integrated in one body the National Radio and Television Commission and National Communications Authority in 2010. Lithuania is discussing merging of Electronic Communications and Post Regulatory Authority with Energy Regulator starting from 2011.

A special commission of the UK pointed out the lack of coordination among its regulatory institutions in 1996 and concluded that the UK's regulatory system as a whole has been unstable. Therefore regulators' merging was started, currently it is performed on sectoral scale; UK (the traditions respecting country!) step by step is moving to more unified regulation. The Office of Communications (Ofcom) performs functions of five previous regulatory bodies. The Office of Gas and Electricity Markets (Ofgem), was formed by the merger of the Office of Electricity Regulation and the Office of Gas Supply.

Estonian regulators have merged from 2008, including also a competition body in the NRA. This is a disputable issue, currently it is too early for evaluation of results (e.g., regarding to correlation of *ex ante* and *ex post* activities). Such consolidation would be beneficial for SGEI to eliminate sometimes converse approach to market development (triple play issues in electronic communications is a bright example), but contests among real estate companies or fair competition in food market are totally disparate problems.

In general the multi-sectoral model remains a new model for Europe till today; a policy of EU in regard to SGEI is a very slow movement to unified regulatory approach in all sectors. No practical activities have followed "White Paper on Services of General Interest" (EC, 2004).

Some flush of hope was emerged by the special protocol on SGEI amending “Treaty of Lisbon” (EU, 2007); it was declared that the Protocol “provides a coherent framework that will guide EU action and serves as a reference for all levels of governance” (EC, 2007). There were underlined number of common components, which should be harmonized to achieve high level of quality, safety and affordability of SGEI: general access to services, financial affordability (including special schemes for low income people and those with special needs), complete territorial coverage, high quality and choice, transparency and access to information on services, consumer and user rights.

Continuation of actions “to consolidate the EU framework applicable to services of general interest” was accented as the next step; unfortunately no practical activities have followed also this political declaration till today. Uncoordinated sector-specific policies characterize SGEI, sectoral normative acts in general remain separated and inconsistent; one can find only some coordination steps in sectoral Directives related to energy or communications sectors, but there is lack of intersectoral consistency. No one institution in EC framework is responsible for SGEI in total, only sectoral and *ad hoc* activities have been performed in practice.

Regulatory system in Latvia: harmonized multi-sectoral trend

Creation of regulatory system in all countries of Central and Eastern Europe was started after collapse of the socialist system at the early 1990-ties. In Latvia, until 2001, regulatory functions were performed by newly established sectoral regulatory bodies (Energy Regulation Council and Telecommunication Tariffs Council) under the subordination of the corresponding ministry as well even by structural divisions of ministries (e.g., postal sector was regulated by the Communications Department of the Ministry of Transport) and by local governments (district heating, water supply). The regulation was inefficient due to fragmented institutions and limited resources; regulators were weak and dependent on the administration, they performed very few functions; the influence of monopolistic utilities on regulators was high.

To improve the regulatory system, the model was changed radically. During 1997–2000 global experience was analyzed and the new multi-sectoral regulatory concept was elaborated in cooperation with World Bank experts. The concept is based on above described idea that essence and basic processes in SGEI sectors (consequently corresponding regulatory activities) are similar. Taking into account these considerations a multi-sectoral regulatory model was developed and the relevant NRA – *Public Utilities Commission* (PUC) – had been established in Latvia in 2001 (PUC, 2011).

Unfortunately we were not fully consistent because of lack of competence. Two systematic imperfections were committed; this negative experience also would be a preceptive one for other countries.

Several services (district heating, water supply, sewage and waste management) have been withdrawn from the unified regulation level because of idea to implement subsidiary principle in regulation of SGEI. The other level – 16 municipality regulators – was set up in cities and regions. Following-up investigation of regulatory reform discovered that the two-level regulation has not ensured favourable regulatory process for SGEI:

- municipal regulatory institutions are dependable, they are a subject to strong local pressure and parochialism;
- there is lack of awareness and skills to develop competent regulatory system in small territories;
- interpretation of legal acts is very different and even totally wrong due to weak legal support;
- municipal regulatory costs have increased – doubled PUC regulatory costs were approved for them;
- interlinked processes and/or businesses of the same company (e.g., heat generation and delivery) were regulated by two regulatory bodies.

In reality two-level principle had become the major weakness of the Latvia's regulatory system. Therefore the conceptual decision was made by the government: to re-orientate the system to single-level regulation. To implement this concept, PUC took up regulation in the previously locally regulated sectors from 2008 in Riga and from 2009 throughout the country.

Fragmentation of regulatory instruments is another serious failing; several technological instruments, which relate to regulation of railway infrastructure, electricity supply and electronic communications were retained under the authority of sectoral ministries; there is a destructive tendency in ministries – to be the shareholder of state-owned service providers and simultaneously to perform regulatory functions. E.g., strategic and technical management of electronic communications scarce resources (numbering and frequencies) is done by Electronic Communications Office, an institution that long time was in the framework of Ministry of Transport, which also is performing activities associated with ownership and operational control in several state-owned companies. Logical result of this situation was an infringement proceeding against Latvia concerning structural separation opened by the EC (IP/08/1343). But instead of joining the Office and the PUC, the Cabinet of Ministers (CoM) decided to include the Office in the framework of the Ministry of the Environmental Protection and Regional Development.

In addition the mentioned tendency has emerged through some activities that are directed towards decreasing functionality of the PUC, e.g., in 2009 on initiative of the Ministry of Economy the CoM has accepted Regulation on superficial formula for CHP-generated electricity prices instead of strong economically-based tariff setting by the PUC.

Development of macrolevel's regulatory policy (objectives and strategic trends, priorities and accents) in Latvia's case was a primary task for the PUC to implement multi-sectoral model

(because of lack of experience in Europe). Strategic level has been elaborated very carefully to define principles and actions related to the competence of the PUC: goals and principles of the regulatory activities, equal distance of PUC from all involved parties (the government, service providers and consumers) reflected also by triangle in its emblem, stable and fair cooperation procedures with both utilities and consumers, long-term tariff policy and unified tariff calculation methodologies, protection of consumers' rights (PUC, 2002). A thesis *competition where possible and regulation where and how much it is necessary* had become the basic principles of the strategy.

A number of microlevel activities are devoted to implementation of principles which are defined in macrolevel strategy and to elaboration of standardized regulatory procedures, e.g., regarding submission of information for various regulatory issues, licensing, principles for determination of tariffs for services, cooperation and consultation with service providers and consumers, informing the public, out-of-court dispute settlement procedures, etc. The PUC has worked carefully also to minimize weaknesses, to eliminate threats of the regulatory risks, to remove possible day-to-day inaccuracies and to increase efficiency of regulation as a result (see also Flacher and Jennequin, 2008).

Multi-sectoral regulator: high independence and competence level

Full independence of regulator is a critical topic to ensure fair and predictable regulation process (see also Ibsen and Poulsen, 2007; Larsen *et al* 2005, Smith, 1997a). Alongside with common accent on financial independence and adequate human resources, EU Directives declare different positions related to institutional independence. Electronic communications and postal Directives emphasize functional independence from service providers as well their shareholders. Electricity and gas Directives handle concept more widely, though there is much stronger accent on independence from any public, government and/or political entity.

By establishing multi-sectoral NRA Latvia tried to integrate both positions – to avoid political influence of the government on regulatory procedures as well as pressure of strong utility companies that would result in *regulatory capture*.

Decision making body of the PUC (commissioners) has a strong mandate to make principled decisions. Five commissioners of the PUC are nominated by the Parliament (Saeima) for 5 years; nobody can dismiss them prematurely (including Saeima). This principle is not always fully observed although it is fundamental for independence and stability of NRA; the recent infringement cases against Poland (IP/08/142), Romania (IP/09/1650) and Slovakia (IP/09/775) are quite indicative. At the same time the PUC is accountable for its activities to the society and Saeima (e.g., mandatory annual public report).

There is a significant advantage of multi-sectoral regulation: one decision making board in the small country can be recruited by more responsible members than number of regulators. Political nomination of decision makers does not exclude their expertise (e.g., commissioners

of the PUC during 2006–2009 – three economists, lawyer, engineer; three *Dr. Sc.* were among them). Nevertheless it is desirable to formalize requirements regarding qualification (e.g., at least master degree) and to increase demands for competence on regulated sectors (e.g., speciality, work experience) for commissioners.

Status of PUC's institutional independency is defined by the Law on Regulators of Public Utilities. Although formally PUC is operating under the supervision of the Ministry of Economy (according to the Constitution of Latvia any public institution should operate within the framework of some ministry), supervisor's possibility to affect PUC's decisions and activities really is limited by the mentioned law. PUC's decisions are becoming valid without any approval by some minister or another person/body; nobody have the possibility to change or to repeal them. At the same time any decision of the regulator can be appealed in the court in defined time period.

There is a formal conflict of interests that relates to duties performed by the Ministry of Economy: the ministry is also a 100% shareholder in Latvenergo that includes also control of the Independent System Operator. Much more significant are concerns with regard to the tasks and duties which the PUC has to perform in line with the 3rd Energy Internal Market Package. In addition small occasional problems are arising time after time: attempts to involve the PUC in activities non-related to regulation (because of its competence), a cumbersome normative initiative (via Ministry of Economy only) or even indirect ambition to influence the PUC.

So important is financial independence of the regulator. To achieve it source of PUC's financing is determined as fixed purposeful state duty (that can be used for PUC funding only) assessed by the CoM and paid by providers in the special State Treasury account (0,17% of provider's turnover in service sector in 2011; for comparison – 0,4% in Luxembourg); thereby PUC's budget becomes a component of the national budget and it is approved by the Saeima. Chosen balanced financial model allows constructing a maximum independent regulator's budget, minimizing possibility of any direct financial pressure of government as well companies on the regulator. The last could take place in the case of general financing from public budget (like in Estonia, Poland, Slovakia, Slovenia, Germany, Denmark, France) or direct payments of utilities for regulatory services (as in Sweden, UK).

On the other hand the PUC staff has been included in the salary system of civil servants, although, legally, the PUC employees are not legal servants. As a result the PUC has no full decision making power to decide about human resources required. More flexibility in this respect is necessary in order to ensure adequate resources in the future when regulatory functions will increase, e.g., due to requirements of 3rd Energy Internal Market Package and/or because of the procedures of the Body of European Regulators for Electronic Communications (BEREC).

In total it can be appraised that chosen unified regulatory model has been very helpful to achieve real independency level of the PUC that is one of the highest not only among EU NRAs (see also EBRD, 2008; Montoya and Trillas, 2008); such level of independence would be unachievable for any sectoral regulator. NRA's power and independence remains limited even in many *old EU Member States* in significant aspects – guidance from ministries, undermining tenure of decision-makers, flexibility for determining the pay scales of their employees, imposing fees, administrative appeal procedures before political bodies, etc. (ECTA, 2009).

At the same time independence of the PUC has to be perfected and formalized. Therefore there are discussions (on parliamentary and governmental level) on special adoption of PUC's full legal independence in the Constitution in order to strengthen its independency level and to achieve also full formal autonomy of the PUC from the administration.

Another as important issue is capacity of the regulator and skills of its staff. Unified regulation enables a wider insight in the processes in regulated sectors, ensures mutually complementing and more accurate analysis of the existing situation in each sector in the context of other sectors, national economy and general development trend. To implement it, high knowledge and competence level of the PUC is necessary; in addition to sectoral competence (communications, energy, etc.) high economic and legal expertise is essential for performance of the regulatory functions.

Growing competence level of service providers also asks for increasing regulatory skills. Latvia's companies are incorporated in world scale corporate groups (*Gazprom, Dalkia, DHL, TeliaSonera, Tele2*, etc.); turnover of investors/shareholders is compatible with GDP of Latvia. High level experts maintain opinions of these companies; specialists of the PUC have to be equal discussion partners for them. In addition, traditional information asymmetry presses the regulator to work in incomplete information regime.

It is obvious that staff of the single regulatory body in the country (especially in the small country) could be much better made up by professionally skilled people in comparison with case when human resources are dissipated in number of sectoral regulators (our experience related to municipal regulators corroborates this postulate).

PUC's staff policy is focused to small number of high-skilled employees. At the end of 2010 the total number of PUC employees and officials was 108. 91 persons have higher education of which six people have a Doctor's degree and 54 employees have a Master's degree. It can be mentioned that NRA of Poland, Slovakia and Slovenia which are completely state-funded have noted some difficulties in attracting the qualified staff.

Internal structure of the PUC ensures both unity of the regulation and observance of sectoral individualities – common Legal Department and Economic Analysis Department as well as respective sectoral departments have been formed. Three regional divisions were organized in

2010 to consult regional companies in regulatory issues and thus to minimize administrative burden on them.

In addition local experts (leading researchers and economists of *Academy of Sciences, University of Latvia* and *Riga Technical University*) and foreign specialists are involved time by time to perform specific tasks or to solve *ad hoc* problems thus promoting adequate decision making. Expertise of the *PricewaterhouseCoopers and Deloitte* was used to evaluate cost accounting, allocation of administrative costs and revenue adequacy principles for development of tariff calculation methodologies. In the electronic communications sector PHARE Twinning project “Improving the System of Public Utilities Regulation in Communication and Information Sector” in cooperation with Spanish partners was directed at strengthening the capacity of the PUC including appropriate alignment with EU electronic communications *acquis*, market analysis, interconnection regulation, universal service and other issues. Twinning Light Project with German partnership contributed development of PUC capacity to promote competition in postal sector.

To organize knowledge management in the PUC, to implement strict information exchange with utilities, national information systems (company register, statistics, etc.) and international bodies (DGs, regulatory associations, etc.) the regulatory processes are managed in accordance with the quality management system; the PUC has received ISO 9001:2000 certificate in 2004.

Successful electronic communications market analysis is a direct acknowledgement of PUC’s capability. Latvia was in the group of countries which from very beginning notified market definition, market analysis and draft decision of proposed remedies in a single packet for each of markets; currently such approach is recognised in practice as a preferable one. PUC was also among few NRA, which during the first round of market analysis applied the *three criteria test* for two of markets. And the only complaint in the national court on the first round of market analysis was withdrawn by the applicant.

Nowadays specialists of the PUC already are invited to support new-established regulators. E.g., electronic communications experts are participating in bilateral TAIEX capacity building projects to share regulatory expertise to potential member countries of EU (Croatia, Kosovo, etc.) as well as to assist the countries of the EU Eastern Partnership Program (Ukraine, Armenia, etc.).

Balancing stakeholders’ interests: proportionality, notification and involvement

Huge number of stakeholders is interested in reliable and sustainable SGEI. Every inhabitant is using electricity, post and water supply services; district heating ensures around 50% of total heat consumption. Fixed penetration rate is around 28% in Latvia and mobile telephone penetration rate of active users exceeded 160% by the end of 2010. Around 40% of households are using natural gas in their kitchens. On the other hand, although liberalized

utilities sectors remain highly concentrated, more than 650 providers have been registered in electronic communications sector, near 400 licenses have been issued in various energy segments; 57 companies provide postal services and more than 400 local companies – water supply and sewage/waste management. Saeima, number of ministries, local governments and other administrative institutions are forming political and normative environment for provision of SGEI.

Stakeholders' understanding on enabling environment for the provision of SGEI is very different, even contradictory; therefore the balance between all involved parties (the government, service providers and consumers) is becoming important (fig. 5).

In the best case both the normative and regulatory environments will be some compromise between interests of three parties (Smith, 1997a). Inclination to one of them contains strong risks – business will become unprofitable or services will become unavailable. Both cases are contradictory to general national interests. In order to create multi-dimensionally balanced regulatory environment which is enabling for all parties the key principle for PUC is keeping equal distance from all parties.

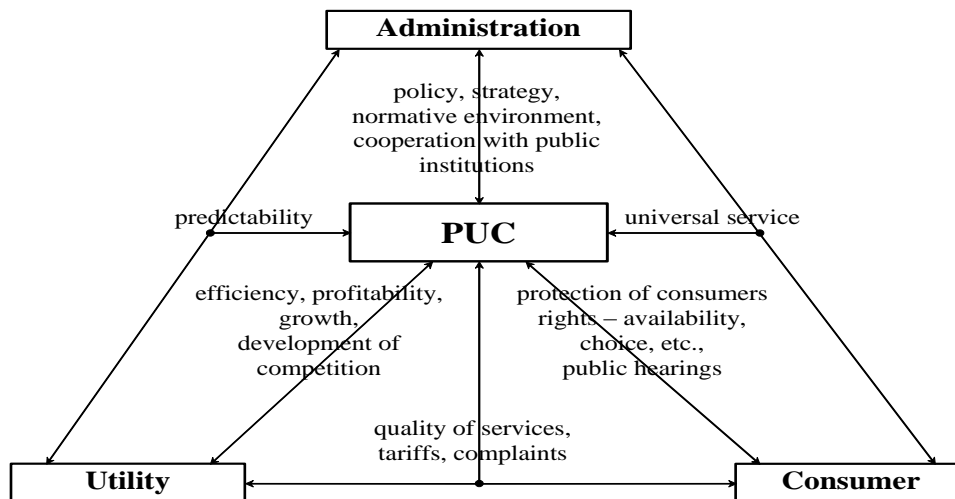


Fig. 5. Actors in SGEI markets and the regulator: activities and mutual relations

The PUC considers that possibility for all parties to be involved in regulatory process, to express their point of view during decision making procedure is a substantial precondition for implementation of fair, transparent and predictable regulation. For this reason a duty of the PUC is to inform any interested actor (providers and consumers, population and businesses, public and social institutions, experts and interest groups, etc.), to learn their opinions and to take them into account.

All regulatory decisions and their substantiations, licence data, annual public reports are available in printed and electronic forms. Public communications are also important for the PUC to explain the essence of its decisions; PUC's WWW page, national and regional printed and electronic mass media, sectoral editions – a lot of communication tools are used for this purpose. Information regarding tariff proposals is deemed as directly important for

consumers, therefore PUC had determined obligation for the provider to publish information on tariff proposal in the official newspaper; any consumer (as well competitor) can submit PUC his suggestions in defined time period.

Any service provider and consumer can appeal in the administrative court and ask to declare decision or administrative act of the PUC as illegal and to repeal it. The PUC has been involved in various lawsuits (e.g., on issued licenses, on various communications, electricity and natural gas tariffs, on assignment of scarce resources, etc.). Substantiation of the PUC's decisions and defending them in court is an indispensable part of daily work (fig. 6); court verdicts so far have confirmed that the decisions adopted by the PUC are legally correct. Only one court process has been lost due to imperfect (dual nature) legal document.

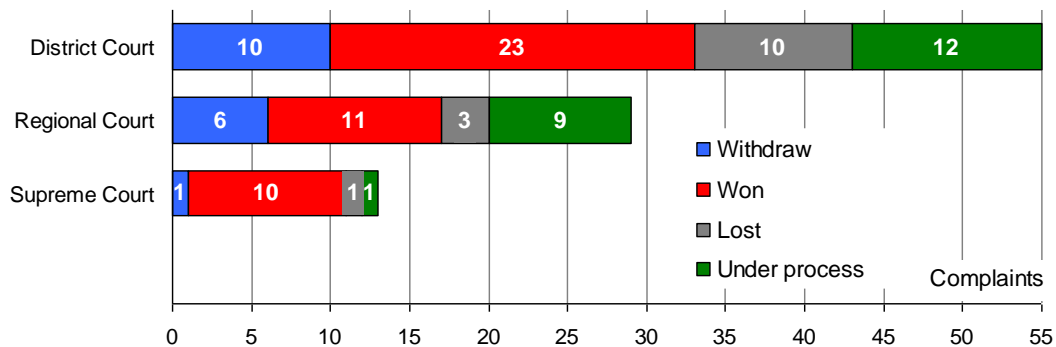


Fig. 6. Court verdicts on PUC's decisions (2002–2010)

Analysis of verdicts shows regularity: percentage of unfavourable for PUC results sharply decreases appealing against a sentence in the higher authority (the PUC has appealed all unfavourable sentences). A principal problem was identified – low skills of district administrative courts dealing with specific regulatory issues. Therefore the Saeima approved submission of complaints directly in the regional administrative court since 2010.

Relations and mutual collaboration with the government and governmental/municipal bodies (fig. 7) are particularly significant to prevent impact of short-term political processes on the regulatory environment and procedures (see also Andonova and Diaz-Serrano, 2009).

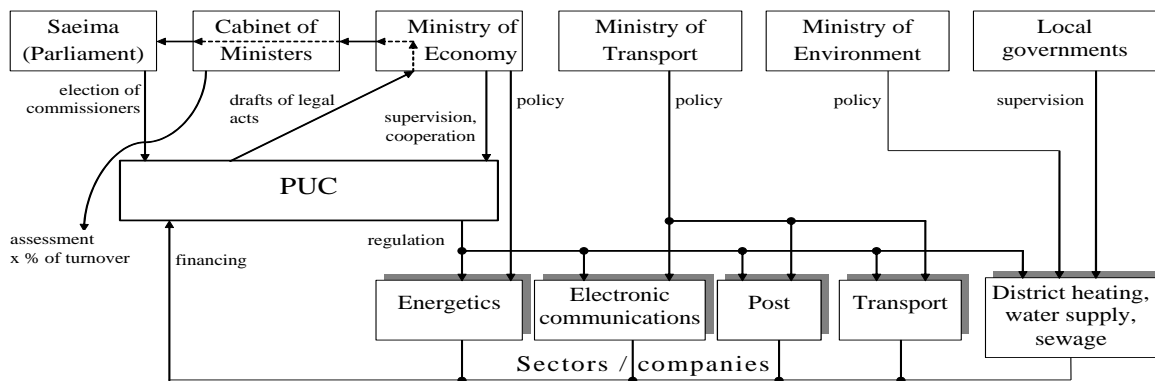


Fig. 7. Interlinkage of the PUC with administrative bodies

Cooperation between PUC and competition authority (*Competition Council* operates in the framework of Ministry of Economy) on a regular basis can be evaluated as successful; it

harmonizes regulatory activities and eliminates their doubling. E.g., during the analysis of electronic communications market No18 the PUC learned that the *Competition Council* has made an investigation of this market, has found a company with significant power in this market and has imposed obligations on the company to restrict the abuse of its significant market power. Therefore market No18 did not meet additional *ex ante* regulation by the PUC.

Also as positive can be evaluated collaboration with the *Consumer Rights Protection Centre* (framework of Ministry of Economy) related to consumers' complaints on provision of SGEL.

Converse example relates to abovementioned partial being of regulatory instruments in the framework of Ministry of Transport as well Ministry of Environmental Protection and Regional Development. As a result the universal service is underdeveloped (electronic communications and postal sectors), there are problems regarding to scarce resource planning and their efficient usage. As a consequence there is no *one-stop agency* in Latvia for electronic communications merchants applying for frequencies and/or numbering resources.

A number of activities are directed to creation and maintenance of stable and fair co-operation procedures with utilities; regular consultations with service providers are of high importance. Special consulting papers and drafts of decisions on various themes are regularly published and discussed. Especially popular this procedure is as a binding component of market analysis process (electronic communications sector), grid codex approval (electricity sector), development of tariff methodologies. All suggestions and remarks of companies and their assessments are published in the PUC WWW page; nevertheless the response of the PUC on them should be perfected. The main problem regarding consulting documents is that really only large companies have a capacity and expertise to comment the PUC submissions.

Public hearings have been chosen as the procedure that gives the possibility for everybody to express his attitude and propose motions (e.g., universal service model was discussed several times in the context of all sectors); tariff proposals and strategic issues are topics for mandatory meetings with interested people. Subject and time of hearings are announced in the official newspaper, full text of corresponding drafts of documents is available on the WWW page of the PUC and in the PUC office.

In order to help customers to understand various regulatory and sectoral issues a *Client Compass* is created and maintained since 2006 on the WWW page. Electronic communications sector was a pioneer and this section is the most developed today; it contains information about service providers, their obligations, declared and real quality of services, information on switching service providers, international roaming and other useful issues (fig. 8). The first steps have been made in energy sector. PUC is working on upgrade of current site to expand it for service providers too and to make it more user-friendly for all stakeholders.



Fig. 8. Client compass, electronic communications sector

Protection of customer interests

Consumers are not only the most interested stakeholders - they are the most vulnerable too. Therefore it is extremely important to balance interests of the population with sustainability of the operation of providers, by protecting consumers and ensuring safe and continuous general availability of SGEI at present, in the medium and long term. The universal service principle is regarded as a real instrument to support availability of various services throughout the country for any individual.

The PUC has worked out and submitted to the CoM the unified innovative universal service model for the provision of all SGEI (unified principles, methodology, procedures, management) taking into account individualities of every sector (sector specific services, quality criteria, financing). In the model electronic communications, post and electricity supply has been chosen for primary implementation taking into account legal demands (EC Directives) and current stage of market liberalization; model is opened for other SGEI in the future (natural gas supply and district heating seems to be a significant challenge).

Set of services is based on demands of sectoral Directives, slightly modernizing them, e.g., access to any electronic communications network (instead of fixed network) and additional postal delivery of subscribed periodicals is included in proposed approach.

Sectoral contribution in respective sections of the special Universal Service Fund is preferred (fair dealing for consumers, market is not distorted, proportional participation of all providers of the sector) to budget financing (not related to sector, support of *cream skimmers*). At the same time small budget partnership (max 10% of total funding) for motivation of contributors is advisable (which should be set according to annual decision of CoM).

Special support to vulnerable consumers (low income households, disabled persons, population of remote countryside regions) is a key topic (see also Hauge *al*, 2009). Amount of the support will be related to average use of services: to OECD low/medium usage baskets (EC, 2010a) for electronic communications sector and to statistical average consumption of electricity in Latvia. Rate of duty for any provider would be near 1% of its turnover. It is proposed that annual decision of CoM will approve precise figures.

Therefore a customer-oriented mechanism for implementation of end-users support would be introduced by decreasing their bills when using provider's billing system. Universal service providers will receive compensation of their net costs *post factum* – according to audited annual reports for really provided/used services.

Any service provider (who enables standard of quality set by the PUC) will have a chance to become the designated universal service provider; on the other hand any vulnerable consumer will have a right to designate his universal service provider according preferable for him basket of services and prices (it should guarantee maximum efficiency exactly for every concrete consumer).

Proposed universal service model really will solve several problems, which exist in many countries: equal possibilities for small local/regional service providers, territorial segmentation of the country, transition to Next Generation Networks and intelligent energy grids. General SGEI principle of special protection of vulnerable consumers would be transferred to postal services – subsidies and lower tariffs for senders of postal items and receivers of periodicals.

Quality of services is another issue that is important for any consumer of SGEI. Quality demands to universal service providers and mandatory declarations for other companies (communication sectors), annual quality reports in all sectors are among regular PUC's activities.

The PUC is directing attention of service providers on customer oriented quality criteria; e.g., there was established a demand to fix the guaranteed Internet download/upload parameters in customer's service agreement. An innovative system for measurement of quality of electronic communications services was developed and introduced by specialists of the PUC to have an objective and credible information on quality and to provide it to end-users. Testing of voice telephony quality parameters is performed by a special automatic system which includes fixed and mobile phone terminals serving as call simulators. The widely accepted PESQ algorithm for end-to-end connections is used to perform objective comparisons of voice telephony traffic. The speech quality in mobile networks can be performed also during drive tests. Any consumer can test his Internet connection by measuring downloading and uploading data rates till national GIX server and by checking packet loss, jitter and latency (fig. 9). As the access to Internet testing entity is provided also to service providers therefore they have the possibility to check the real parameters of their Internet connections provided for customers.

The result is evident: a study of global broadband quality shows a very high global rank of Latvia (fig. 10), which is classified among countries “already prepared for the internet applications of tomorrow” (Oxford, 2010). All basic quality components rank highly: upload speed – the 4th global rank, download speed – the 6th rank, latency – the 5th rank. Important for Latvia is ranking outside major cities (we are on the 9th position) as well continuing dynamics – the 5th highest quality increase in comparison with the score 2008. Real technological base has been prepared for adoption of the advanced business models, for wide partnership of companies that in turn will radically minimize current gap between broadband availability and penetration indicators.

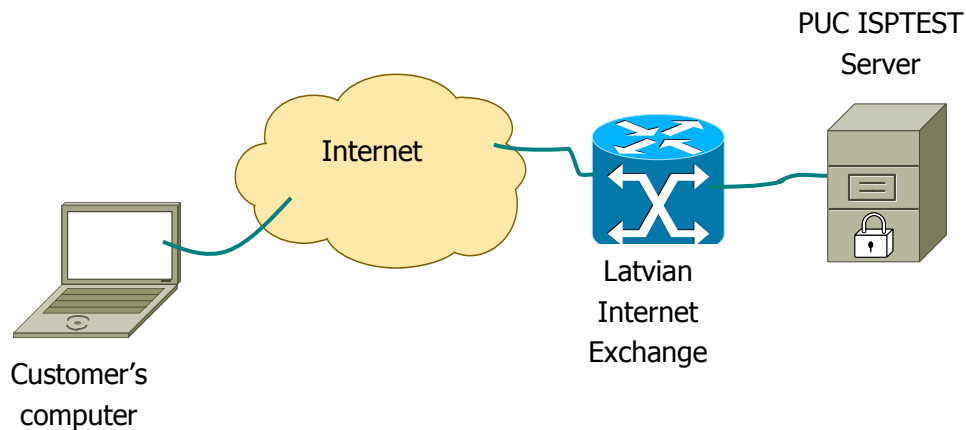


Fig. 9. Test of quality of Internet services by customer; the principle

Consumers' assessment of provision of the SGEL, of quality, availability and affordability of services, of course, includes their assessment of operation of regulatory authority in corresponding market; really it is the most important evaluation of the ten-year' strategic and tactical activities of the PUC and exactly consumer is the major and the strongest evaluator.

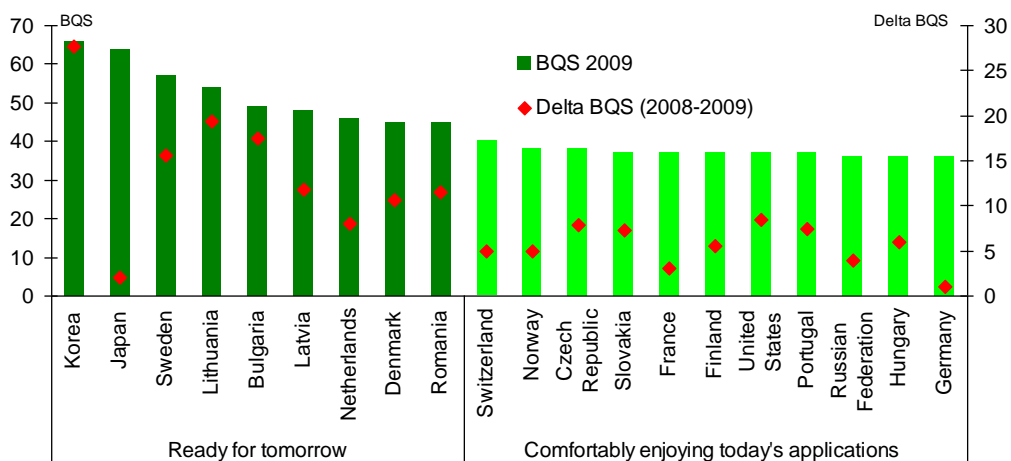


Fig. 10. Global broadband quality leadership top 20 (2009)

According to EU consumers' policy 50 services markets were analysed in order to pay attention to outcomes of policies in various markets and to be responsive to the expectations of citizens; well-functioning markets were identified as well markets that have risks of

malfunctioning (EC, 2010b). Analysis is based on opinion poll of experienced respondents/consumers on EU and Member State levels; the summary Market Performance Indicator covers five dimensions of consumer markets and incorporates comparability, trust, consumer satisfaction, problem and complaints as well switching components.

Eight of SGEI, which are regulated by the PUC, were included in the survey; overall their market performance in Latvia is estimated as much higher in comparison with average EU valuation of SGEI (fig. 11). Latvian consumers have evaluated seven of these services higher than EU average evaluation; hereto fixed telephony (the 2nd higher evaluation among EU Member States), railways (the 4th rank), network gas (the 6th rank), mobile telephony (the 6th rank) and Internet services provision (shared 7th rank) are ranked much higher than their corresponding overall EU ranking. Only water supply is ranked lower than EU ranking (that partly corroborates with unsatisfactory operation of municipal regulators till 2009).

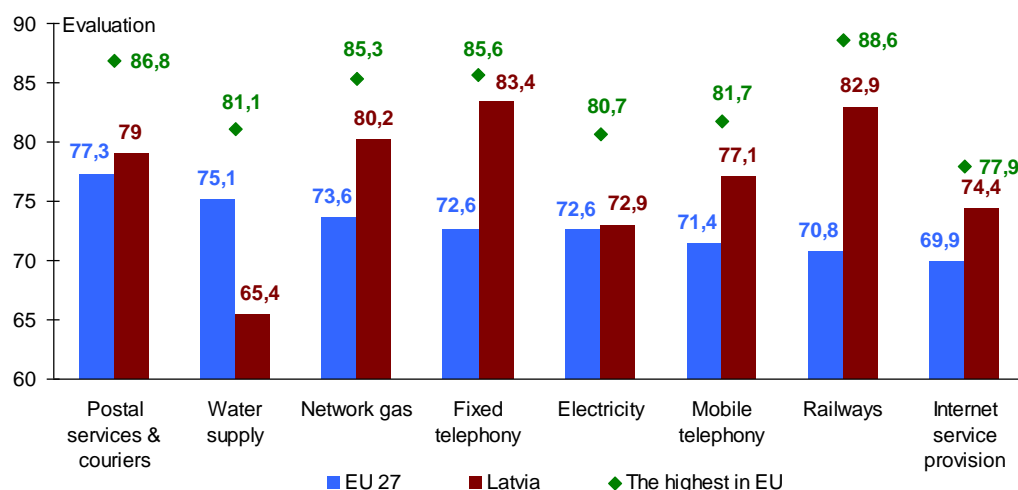


Fig. 11. Monitoring SGEI markets; consumers' evaluation (2010)

Conclusions

Latvia is on the way towards creation of balanced and fair regulatory environment, actually *learning by doing* principle is the only our real possibility. Implementation of multi-sectoral regulatory model and operation of the PUC is relatively recent.

During the gradual liberalization of SGEI sectors PUC's tasks as a whole have remained unchanged, but action priorities and significance alters depending on the degree of market liberalization (see also De Bijl and Huigen, 2008; Feijoo *et al*, 2006). At the same time there is not decreasing the regulator's supervision on sectors, which are formally liberalized. E.g., electricity market development, which currently originates new challenges for the PUC (e.g., independence of transmission and distribution operators, subsidies for *green electricity* generation, switching service providers), does not cancel tariff setting issues. Experience gained from formerly liberalized electronic communications market is extremely useful.

Ten years experience has corroborated initially anticipated advantages of harmonized regulation for both service providers and consumers. Level of technological, economic and legal competence of the regulator has strengthened the authority of the PUC in society and regulator's strategic influence on policy makers to implement *border spanning* principle and to decrease sectoral mismatches. At the same time ongoing weak intersectoral coordination and consistency in EC is a serious barrier for harmonization of business environment in network industries and thus for development of economy and country as a whole.

In total one can see that it would be impossible to achieve current efficiency of regulation, to manage all processes and to perform all activities having number of sectoral regulatory bodies. Although a comprehensive evaluation of the influence of this regulatory model on general development of Latvia is before us, the multi-sectoral model can be appraised as the most advanced and preferable one, especially for small countries (i.e., for majority of European countries).

Acknowledgements

Authors would like to thank colleagues for assistance in information gathering and processing.

References

- ANDONOVA V. and DIAZ-SERRANO L. (2009). Political institutions and telecommunications, *Journal of Development Economics*, 89 (1): 77-83.
- DE BIJL P. and HUIGEN J. (2008). The future of telecommunications regulation, *Telecommunications Policy*, 32 (11): 699-700.
- CENTRAL STATISTICAL BUREAU OF LATVIA (2011). Database. <http://www.csb.gov.lv>.
- DOMBROVSKIS A., FEIJOO C., KARNITIS E. and RAMOS S. (2004). Electronic communications sector and economic development in Latvia: regularities and individualities, *Communications & Strategies*, 56 (4Q): 77-109.
- EBRD (2008). Comparative Assessment of the Telecommunications Sector in the Transition Countries. European Bank for Reconstruction and Development. <http://www.ebrd.com/country/sector/law/telecoms/assess/index.htm>.
- EC (2004). White paper on services of general interest COM(2004)374. Commission of the European Communities. http://eur-lex.europa.eu/LexUriServ/site/en/com/2004/com2004_0374en01.pdf.
- EC (2007). Services of general interest, including social services of general interest: a new European commitment. http://ec.europa.eu/services_general_interest/docs/com_2007_0725_en.pdf.

- EC (2009). Regulation (EC) No 715/2009 on conditions for access to the natural gas transmission networks. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:211:036:0054:EN:PDF>.
- EC (2010a). 15th Progress Report on the Single European Electronic Communications Market - 2009 (15th Report) SEC(2010) 630. http://ec.europa.eu/information_society/policy/ecomm/library/communications_reports/index_en.htm.
- EC (2010b). The consumer markets scoreboard. http://ec.europa.eu/consumers/strategy/facts_en.htm.
- ECTA (2009). Regulatory scorecard 2009. <http://www.ectportal.com/en/REPORTS/Regulatory-Scorecards/Regulatory-Scorecard-2009/>.
- EU (2007). Treaty of Lisbon; Protocol on services of general interest. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2007:306:SOM:EN:HTML>.
- EUROSTAT (2011). Statistics. <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>.
- FEIJOO C., GOMEZ-BARROSO J. L. and ROJO-ALONSO D. (2006). European competition law in the electronic communications sector: Evolution and critical analysis, *Annales des Telecommunications*, 61 (7-8): 847-864.
- FLACHER D. and JENNEQUIN H. (2008). Is telecommunications regulation efficient? An international perspective, *Telecommunications Policy*, 32 (5): 364-377.
- HAUGE J. A., CHIANG E. P. and JAMISON M. A. (2009). Whose call is it? Targeting universal service programs to low-income households' telecommunications preferences, *Telecommunications Policy*, 33 (3-4): 129-145.
- HEMPLING S. (2009) Multi-utility Issues at a Glance. National Regulatory Research Institute, No 09-04. <http://nrri2.org/index.php>.
- IBSEN C. L. and POULSEN L. S. (2007). Path dependence and independent utility regulation: the case of Danish energy and telecommunications regulation, *Scandinavian Economic History Review*, 55 (1): 41-63.
- JALAVA J. and POHJOLA M. (2007). ICT as a source of output and productivity growth in Finland, *Telecommunications Policy*, 31 (8-9): 463-472.
- KALASHNIKOV V.; KALASHNYKOVA N. (2008). A strategic model of European gas supply. *International Business & Economics Research Journal*, 7 (5): 43-50.

- KARNITIS E. (2005). Optimizing the regulatory environment in emerging economies. In: *Creating an Enabling Environment: Toward the Millennium Development Goals*, ed. Gilhooly D., 29-40. Berlin: United Nations ICT Task Force.
- KARNITIS E. (2006). ICT Development, Inclusion and Sustainable Growth. In: *Vit@l Society: the New Social Use of ICT*, ed. Mackie L., 48-59. Riga: Apgads Imanta.
- LARSEN A., PEDERSEN L. H., SURENSEN E. M., OLSED O. J. Independent regulatory authorities in Europe. <http://www.sessa.eu.com/documents/wp/D73.1-Larsen.pdf>.
- MICALLEF P. E. (2007). Utility regulation in a small island state – ensuring a fair deal for consumers of Malta. In *The Yearbook of Consumer Law 2007*, ed. Howells G. et al, 87-120. Aldershot: Ashgate Publishing.
- MONTOYA, M. and TRILLAS, F. (2009). The measurement of regulator independence in practice: Latin America and the Caribbean, *International Journal of Public Policy*, 4 (1): 113-134.
- Oxford 2010. Global broadband quality study. <http://www.sbs.ox.ac.uk/newsandevents/releases/Pages/GlobalBroadbandQuality.aspx>
- PARK S. D. (2008). The prospect of PLC business in KEPCO. IEEE international symposium on power line communications and its applications, 2008, Korea. <http://www.isplc2008.org/Keynote.asp>.
- PUC (2002). Strategy of Public Utilities Commission. <http://www.sprk.gov.lv/?sadala=133>.
- PUC (2011). Public Utilities Commission. <http://www.sprk.gov.lv/?setl=1>.
- SAMARAJIVA R., MAHAN A. and BARENDSE A. (2002). Multisector Utility Regulation. Delft University of Technology, Discussion Paper No. wdr0203. <http://www.regulateonline.org/content/view/218/64/>.
- SAUTER, W. (2008). Services of general economic interest and universal service in EU law, *European Law Review*, 33 (2): 167-193.
- SMITH W. (1997a). Utility Regulators – The Independence Debate. The World Bank Group, Issue 127. <http://rru.worldbank.org/PublicPolicyJournal/Summary.aspx?id=127>.
- SMITH W. (1997b). Utility Regulators – Roles and Responsibilities. The World Bank Group, Issue 128. <http://rru.worldbank.org/PublicPolicyJournal/Summary.aspx?id=128>.

E. Karnitis, Prof. (since 1998), Dr. Sc. eng. (since 1992), major field of interests – information processing and systems. Commissioner, Public Utilities Commission of Latvia (since 2001); Leading researcher, University of Latvia (since 1999). Expert, Subcommittee of National Development of the Saeima of Latvia (since 2007); Member, Advisory Board of Riga Technical University (since 2002); Expert, UNECE Committee on Sustainable Energy (since 2010). Worked as Researcher, Head of Laboratory and Departments of Institute of Electronics and Computing Science, Latvian Academy of Sciences (1962-1991); Director of Latvian Academic Library (1991-1999); Adviser to the Prime Minister (1999-2000) and to the Minister of Economy of Latvia (2000-2001). Visiting researcher, German National Research Center for Information Technology (1995); Local researcher, EU multicountry projects on analysis of development of information society and information infrastructure (1994 - 2000). Active in elaboration of national strategic programmes. As a local researcher has participated in EU multicountry analytic projects. Author of more than 190 scientific and technical publications.
E-mail: Edvins.Karnitis@sprk.gov.lv.

A.Virtmanis, Dr. Sc. eng (since 1992), major field of interests – information and communication technologies. Director of PUC's Department of Electronic Communications and Post (since 2001); Director of Department of Informatics, Ministry of Transport of Latvia (1996-2001). Between 1966 – 1985 a technician, engineer and researcher in the Institute of Physics and Energetics in the Latvian Academy of Sciences. A senior lecturer (1985 -1989) at the Riga Technical University, Deputy Dean of the Faculty of Radio Engineering and Communications (1986 – 1989); an associate professor with the Telecommunications Institute of the Riga Technical University since 1989. Deputy Chairman of Coordination Board for the National Program Informatics, Head of Strategic Working Group of the Program (1997-2001); Latvian representative of EU/CEEC Joint High Level Committee for Information Society; Chairman of the Latvian-Sweden IT Council, Baltic Sea IT Fund (both 1998-2001); in 1999 Government Coordination for the Y2K Project; Chairman of Supervisory Committee of the Mega-system Project (2000-2001); Head of Working Group of the Ministry of Transport, pre-accession negotiations of Latvia with EU on IT and Telecommunications (2000-2001); in 2000 Senior Official on Information Society, Nordis e-Dimension Project; since 2002 Member of Counselor's Convention of Riga Technical University; since 2003 PUC's representative at IRG and ERG/BEREC. Author of more than 70 publications.
E-mail: andris.virtmanis@sprk.gov.lv