Center for Economic Development

Slovakia

Telecommunications in the Slovak Republic

SELECTED ISSUES:

REGULATORY FRAMEWORK

PRICE REGULATION

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Abstract

Three major issues are presented in the project, namely current situation of the main operator and its investments, regulatory framework and price cap implementation with applicable proposals.

In the first chapter, the current situation of Slovak Telecommunications, s.p.[1] (hereinafter referred to as ST, s.p. or Slovak Telecom) is presented. Investment programs Telecommunication Project I (1992-1995) and Telecommunication Project II are described in detail. For comparison purposes, a situation of Czech-based operator SPT Telecom is also briefly outlined. Privatisation concept as well as Slovak government's telecommunication policy until the year 2000 are summarised, too.

The third chapter presents a theory of regulation and functions of relevant bodies in the regulatory environment. The analysis of existing situation in Slovakia is followed by the proposal of a new regulatory framework.

In the fourth chapter, price cap formula, as one of the key regulatory mechanisms in liberalised market economy, is examined together with the proposal concerning application of such a mechanism in the Slovak Republic.

[1] s.p. is a Slovak abbreviation for state-owned enterprise

Introduction

Telecommunication sector all over the World is marked by dramatic changes. The character of natural monopoly is being questioned: competitors are entering markets not only in "settled economies" but also in countries in transition. Slovakia is not an exception: The Ministry for Transportation, Posts and Telecommunications issued two licences for GSM in 1996. The winners are Slovtel (later on renamed on Globtel) and Eurotel. Competition is also gradually increasing through using Internet voice mail and potentially through rapidly growing cable TV network. It is necessary to respond to these changes by adjustment of the whole regulatory framework.

Telecommunications in Czechoslovakia, as in all post-communist countries, represented the sector which was:

- dominated by one monopoly;
- politically very sensitive, so that its development was determined not only by economic reasons, but (mainly) by political motives and priorities;
- a permanent source of state budgetary income (in spite of functioning inefficiently).

The investments into telecom sector were allocated unevenly in the Czech and Slovak Federative Republic (CSFR). "Since the Velvet Revolution in 1989, the Slovak part of the state was seen as being dominated by Czechs which in turn gave rise to certain tension. The tension was evident even in telecom sector. During those several years, the federal solution of one network with two operators

(one in Prague and one in Bratislava) supervised by the Federal Ministry seemed to provide more infrastructure-aimed investments for Czechs than for Slovaks (CSFR average - 10 USD per person, Slovakia 7 USD - Hospodárske Noviny 1995, p.4). To some extent, the difference in investments reflected the larger and more urban-based population in the Czech Republic as well as larger business community." (Hills & Klucka, 1995, p.269).

Appendix 1 shows selected social and economic characteristics of the Slovak Republic.

Chapter 1 deals with the telecom institutional basis, i.e. governing and executive organisations, regulatory bodies and operators. Their authorities and future challenges are briefly outlined. The part of this chapter is dedicated to current status of telecommunications sector in the Slovak Republic together with Telecommunications Projects I and II expressing goals to be achieved until the year 2000. Privatisation of telecommunications represents a part of ST's strategy (ST is, for the time being, the monopoly provider of voice services).

Chapter 2 gives a brief overview of valid Slovak Telecom's tariffs, their structure and development trends.

Third chapter draws a picture of current regulatory framework in the Slovak Republic with all relevant telecom regulatory bodies. The analysis of existing situation and conditions necessary for effective regulation create a basis for a proposal of new regulatory framework.

Chapter 4 provides the readers with alternative approaches to price regulation and their practical implementation in the Czech Republic and Hungary. Based on gained information, overall price regulation model for Slovakia is presented in the final part of the study.

1. Telecommunications in the Slovak Republic

Developments in telecom sector are shown in the following table:

Table 1

Year 1989	**Quantitative characteristics**
Main Telephone Lines	673,000
Private Telephone Lines (in housing facilities)	487,000
Main Telephone Lines per 100 inhabitants	12.8
Revenues in Slovak Crowns (SK)	3,402,000,000
Local Calls in Slovak Crowns	578,000,000
Trunk (Long-Distance) Calls in SK	1,074,000,000
International Calls in SK	462,000,000
Unprocessed Requests for Telephone Lines	91,000

Source: SPT reports, Bratislava, 1989

After the division of Czech and Slovak Federative Republic on January 1, 1993, new operators were established- SPT Telecom for the Czech Republic and Slovak Telecommunications (ST) for the Slovak Republic. The establishment of those operators resulted from the divestiture of SPT Prague and Bratislava which were originally state-owned enterprises associating posts and telecom facilities.

A structure of the sector in 1996 is shown in Appendix 2.

The Ministry for Transportation, Posts, and Telecommunication (hereinafter referred to as "MTPT") is a central body governing post and telecom facilities in the Slovak Republic. It prepares and implements strategic goals and intentions in the

telecom sector and acts on behalf of the Slovakia in international governmental organisations dealing with posts and telecommunications. MTPT, which was established as a result of the division of Ministry for Transportation, Telecommunications, and Public Works, is now active in establishing state companies and contributory organisations in the area of telecommunications. MTPT acts as a telecom regulatory institution in the area of license-granting for services provided within the unified telecom network (UTN), it also determines international tariffs from Slovakia, governs usage of frequency spectrum for all branches of the economy, and supervises Telecommunication Office of the Slovak Republic.

Organisational chart of the department of posts and telecommunications at MTPT is shown in Appendix 3.

Telecommunications Office (TO) is a regulatory body for those telecom areas which are not regulated by MTPT. It approves technical parameters of telecommunication devices and sets conditions of their operation. In addition, TO also grants licenses for telecom service providers outside the unified telecom network (UTN), decides on connection and operation permits in case of radio transmission devices, grants connection and operation permits for other operators, grants frequencies and frequency bands, and supervises state telecom and radio inspection. It also serves as a specialised institution dealing with construction of telecom facilities.

Organisational chart of Telecommunications Office can be found in the Appendix 4.

Regulation department included in the chart has not yet been filled with respective officials. It is expected these days that a legal norm defining both the role and position of Telecommunication Office be passed (this norm shall also set up conditions for regulatory mechanism based on independent body). The main objective of the norm (act) is to phrase new set of regulation rules in order to create a standard type of regulatory environment.

Slovak Telecommunications, sp. (ST) represents a monopoly operator in the area of basic voice services. Its organisational chart is described in the Appendix 5. ST belongs to one of the biggest Slovak companies in both the number of employees and revenues generated through its activities. Entrepreneurial developments of ST are shown in the Appendix 6.

Following factors determine a current position of the ST on both domestic and international markets:

- a major investment program being implemented;
- comparing to the past, a wider variety of services offered to the customers;
- an increasing pressure towards efficient operation management;
- transformation of the company in order to become more customer-oriented;
- liberalisation and deregulation of the telecom market.

The process of adjustment to all those factors is not simple, nor is it a straightforward one. There are limits represented by an overall efficiency criteria, necessity to invest in new technologies, need to improve human resources management and implement marketing principles, and a necessity to secure independence and political neutrality of managerial decisions.

The entrepreneurial characteristics of ST are shown in the table below, together with parameters of some major international telecom operators:

Table 2

1995	Revenues (bn USD)	Profit (mn USD)	Profit Margin %	Net Debt (bn USD)	Revenues as % of capital employed	No.of Employees	Profit per 1 employee (thous of USD)
NTT	68.9	746	1.1	na	na	235	3.17
AT and T	47.3	5490	11.6	na	na	77	71.30
Deutsche Telekom	46.1	3500	7.6	67.7	52.9	210	16.67
France Telecom	29.2	1800	6.2	16.6	64.5	168	37.19
BT	22.8	3142	13.6	3.3	98.2	131	23.98
Average RBOC	12.8	1600	12.5	7.9	90.8	na	na
SPT Telecom	0.8	140	17.5	0.49	74.8	26	5.38
ST,sp.	0.3	71	23.7	0.2	126	15	4.73

Source: The Economist, June 1996, p.66, The Economist, October 1996, p.80, Annual Reports released by SPT Telecom and ST,sp., 1995

ST,sp., holds stakes in following companies:

- EUROTEL Bratislava - operator of mobile phone network (NMT 450), public packet data services (X 25 protocol), and also future operator of prepared digital mobile phone network. Eurotel Bratislava is a joint venture of ST,sp., and consortium consisting of US-West and Bell Atlantic. The developments in number of customers are shown in the table 3 below.
- RADIOCONTACT OPERATOR Bratislava - paging services. This organisation was established as a joint-venture between ST,sp., and Tele-Diffusion France. Table 3 below show the number of reached customers.

Table 3

Number of customers	1993	1994	1995
public radio-telephone network (NMT 450)	3,125	5,946	12,315
Public packet data services (x25 protocol)	626	972	1,974
paging services	660	1,106	1,680

Source: Slovakia -posts and telecommunications 1995/1996, MTPT Bratislava

- Post Bank, j.s.c. - ST,sp., holds the stake in this bank together with Slovak Posts, Osterreichische Postsparkasse Wien, MTPT and Bundesländer Wien.

Amongst other operators on the Slovak market, we should mention SlovTel, which will become (on January 1,1997) the other operator of digital mobile phone network. Shareholders are as follows:

- France Telecom - 35% of shares,
- Hanco, Ltd. - 29%,
- Slovak Power Plants Company - 11%,
- Slovak Gas Industry - 10%,
- West, East, and Central Slovak Energy Company each 5%.

There are several manufacturers of telecommunication devices:

- TESLA Stropkov -telephones
- TESLA Liptovský Hrádok - local telephone centrals
- ALCATEL-SEL Liptovský Hrádok - digital telephone centrals

Other private companies have recently been established:

- INOMA Liptovský Hrádok - telecom software,
- MASIP Moravany nad Váhom - cable connections, telecom energy generators,
- Sitel Košice - cable systems,
- VF Tech Prievidza - receiving devices for TV and radio signals,
- ELKOND Trstená - copper wire production,
- LYNX Košice - telecommunication software.

1.1. Telecommunication Project I (TP I)

TP I is focused on the development of modern, high-speed, and flexible telecom infrastructure with new services and technologies. The goal is to introduce a digitalisation of telecom and transmission technologies along with modern network (grid) management.

Telecommunication structure in the Slovak Republic used to consist of analogue network with 598 local telephone areas (MTO), 82 junction telephone areas (UTO), and 8 transit telephone areas. Within the Telecommunications Project P I, digital (DON) network is being developed with now 4 secondary and 14 primary centers finished (out of 25 planned)- see Appendix 7.1

Table 4 shows development indicators, as they were outlined by Telecom Development Concept:

Table 4

Year	1992	1993	1994	1995
capacity of telephone network	950,000	1,035,000	1,115,000	1,160,000
out which - analogue part	930,000	900,000	872,000	825,000
- digital part	20,000	135,000	243,000	335,000
No.of main tlph.lines	810,000	860,000	930,000	1,000,000
out of which -analogue	795,000	770,000	750,000	715,000
-digital	15,000	90,000	180,000	285,000
main tlph lines per 100 inhabitants	15.3	16.0	17.2	18.4
telephonization rate (priv.appartments) %	33.0	34.6	38.0	40.6

Source: Telecom Development Concept, MTTPW, Bratislava 1993

Development of local telecommunication networks has always been considered as one the most costly projects. The table below shows estimated costs in 1992-1995 time period:

Year		**1992**	**1993**	**1994**	**1995**	**Total**
capacity	thous.of kmp	95	167	263	259	784
estimated costs	mn of SK	475	835	1,315	1,295	3,920

Source: Telecom Development Concept, MTTPW, Bratislava 1993

Table 6 shows financial coverage, as it was planned in Telecom Development Sector:

Table 6

Expenses	**Domestic Currency (mn SK)**	**Foreign Currency (Sources) (equivalent mn SK)**	**Total**
local digital centrals	780	3,120	3,900
regional digital centrals	75.8	313.2	379
inter-city cable grid	757.4	1,136.1	1,893.5
local tlph networks - fibre optic	75.48	113.72	188.7
local tlph networks - metallic	3,231	689	3,920
local tlph networks - other	848	942	1,790
technical assistance, trainings	195	195	390
financial reserves (15%)	867	968	1,935
total costs	7,969.18	7,158.02	15,127.2

Source: Telecom Development Concept, MTTPW, Bratislava 1993

All financial resources (except for suppliers' short term loans) were covered by state guarantees. Within the credit contracts with EBRD, WB and EIB, additional conditions were included:

- financial conditions - at least 55% coverage from own resources;
  - operational ration at least 65%;
  - 2.5 maximum indebtedness ratio
- corrections in tariffs structure;
- institutional development program;
- application of public procurement procedures;
- establishment of PIU (Project Installation Unit).

Foreign financial institutions granted following amounts of money for the investment project:

Table 7

Source	Financial Participation (mn of USD)
WB	55
EBRD	55
EIB	55
Suppliers' short term loans	70
Slovak Telecom, sp.	298
Total	533

Source: Internal documents of ST,sp., Bratislava, 1993

1.2. Telecommunication Project II (TP II)

The main objectives to be achieved until the year 2000 are as follows:

- to reach the qualitative and quantitative telecom levels existing nowadays in some of the EU member countries (Spain, Portugal, Greece, Ireland);
- to improve basic telecom services so that:

  - 95% of requests related to new private telephone lines should be satisfied within 6 month since their submission, other 5% within one year;

  - 95% of requests related to new commercial telephone lines should be satisfied within 6 month since their submission, other 5% within one year.

The main goal of TP II is to develop digital network before the year 2000. The new digital network shall have two levels:

- transit centrals (international and national calls);
- local centrals (HOST,RSU).

The replacement of old analogue centrals will be done by following steps:

- full digitalisation to be completed in 2005 - 2008;
- majority of local digital centrals to be completed before 2000;

- the second international central will have been established by the end of 1996 in Banska Bystrica;
- before the year 2000, all main transit centrals and local junctions of first generation will be disconnected;
- the rest of regional analogue centrals will serve domestic market, while being administered by the respective HOST;
- all local analogue centrals of first generation will be replaced by 2000.

Table 8 shows structure of TPII capital costs while the Appendix No.8 contains estimated developments in selected telecom indicators and international comparison with special respect to the main goals set out in TP II. Appendixes 9,10,11 show developments in 1990-2000 time period.

Table 8

Type of Investment	**Financial Sources (bn of Slovak crowns)**
transport network	6.6
access network	15.9
connection systems	9.6
development of services, informatics, TMN	10.9
radio and TV transmission network	1.3
other investments	4.4
TOTAL	48.7

Source: Telecommunication Policy, MTPT, Bratislava, 1995

Table 9

Usage Area	**Financial Sources (bn of Slovak crowns)**
Investments	48.7
Instalments related to TP II	4.4
Working Capital	1.6
TOTAL	54.7

Source: Telecommunication Policy, MTPT, Bratislava, 1995

The Slovak government issued following guarantees for respective credits:

Table 10

Year	mn of USD
1995	19
1996	24
1997	27
1998	43
1999	41
2000	37

Source: Symsite, Bratislava, 1996, pp.1-2

If such an investment is to be fully covered, one can not do without certain reserves (additional financial resources). Privatisation process represents one way how to get them. Foreign capital participation in strategic cases has officially been mentioned as an appropriate way of implementing the whole process.

1.3. SPT Telecom- Czech Telecommunications

Digitalisation project results from one original basis, that is, from DON project prepared for the former Czech and Slovak Federative Republic. After the division of Czechoslovak federation and some minor corrections made, the project was further developed in the Czech Republic.

To compare level of telecom network in Czech and Slovak Republics, we show the main development indicators in the following table (compare this table to the table 1 describing Slovakia).

Table 11

Year 1989	**Quantitative characteristics**	**Comparing to SR**
Main Telephone Lines	1,557,000	+ 884,000
Private Telephone Lines (in housing facilities)	1,081,000	+ 594,000
Main Telephone Lines per 100 inhabitants	15.1	+2.3
Revenues in Slovak Crowns (SK)	8,961,000,000	+ 5,559,000,000
Local Calls in Slovak Crowns	1,407,000,000	+ 829,000,000
Trunk (Long-Distance) Calls in SK	2,614,000,000	+ 1,540,000,000

International Calls in SK	1,183,000,000	+ 721,000,000
Unprocessed Requests for Telephone Lines	243,000	+ 153,000

Source: SPT Reports, Prague,1989

In 1989, Czech telecommunications showed better development characteristics than Slovak telecom:

- the Czech telecom network had received more investments than the Slovak one;
- the economy and market was twice as big as the Slovak;
- stable macroeconomic policy which drew the attention of foreign investors.

Appendix 12 shows Czech digital coverage network in 1995. SPT Telecom was privatised through coupons and in 1995, a strategic partner was chosen (consortium TelSource consisting of PTT Telecom Netherlands, Swiss Telecom, supported by ATT). The consortium had bought 27% for USD 1.45bn.

Table 12

Year	1993	1994	1995
No.of main tlph.lines		2,150,594	2,398,238
out which - private		1,372,160	1,563,482
- commercial		778,434	834,756
main tlph lines per 100 inhabitants		20.7	23.3
main tlph lines per 100 line connections		35	42.2
No.of employees per 1,000 main lines	12.6	11.9	10.7
unprocessed requests for main tlph lines	572,752	634,591	657,483
extension lines (side tlph connections)		17,576	21,104
No.of employees	24,872	25,544	26,246
Operating revenues (mn of Ck)	18,102	22,550	25,425
operating costs (mn of Ck)	9,832	14,280	17,367
profit (mn of Ck)	3,638	3,897	4,216
Total assets (mn of Ck)	34,555	45,750	96,717
Equity	27,507	31,609	75,427

Source: SPT 1993-1995 Annual Reports

Financial sources used by SPT Telecom for investment purposes came also from WB,EBRD, EIB, suppliers' short-term loans, and credits granted by major Czech bank (Komerční Banka). To collect enough finance, bonds were also

issued, and a syndicated loan was given in 1995 (USD 150 mn) and further in 1995 (USD 750 mn).

At the beginning, financial institutions insisted upon state guarantees, but after a strategic partner was chosen, such requirements were no longer needed.

Since April 1, 1995, a new tariff system was in force with increased monthly fixed payments, more expensive (and shorter, for local calls) impulse, price changes in telegraph and telex services. Another price increases were introduced on April 1,1996. The main goal of a new tariff policy is to lessen the differences between tariffs and real costs incurred (since tariffs had not been subject to any price changes from 1979 to 1993).

In conjunction with strategic partner's involvement, the set of conditions related to development programs was incorporated into license agreement. According to those development intentions, TelSource will increase telephonization rate up to 40 main lines per 100 inhabitants, reduce the number of unprocessed line requests significantly (since there were, according to marketing surveys, more than 1,5 million of those requests), secure that 30% of new applicants will get the lines within 12 months, and increase the first-call-through rate from 65% in 1995 to 98% within 3 to 5 years.

Costs incurred in DON project has so far hit Kc 130bn, with 25% participation of foreign investors. SPT also borrowed Kc 7bn from WB, EBRD, EIB, and got additional USD 150 mn from the international bank consortium. The last CK 5mn was gained from a bond emission.

1.4. Privatisation of Slovak Telecom, sp (ST,sp.)

Privatisation strategy should take into consideration existing economic, political, and cultural situation in the country as well as relevant international trends. According to Kok (Kok, 1992, page 701), the objectives of privatization are defined as follows:

- from the financial point of view, privatization should reduce the government deficit and create a stable mechanism to raise investment funds;
- in the light of politics, privatization is to encourage free market and capitalism;
- and from the business point of view, through privatization, state monopolies are to be transferred in order to become competitive, to obtain technological and managerial know-how, and create international alliances.

"Within the privatisation process, there are 4 major players: shareholders and regulators in public sector, telecommunication companies, domestic and international investors, and users" (Kok, 1992, page 701).

The Act No. 192/1995 Coll. was passed in the Slovak Republic in 1995, setting the conditions for privatization of strategically important state enterprises and enterprises with state-hold majority stakes. The purpose of this Act is to:

- define the group of strategically important enterprises, while taking national interests into consideration. The property of those companies can not be transferred to other persons or entities according to any other legal norms;

- set out concrete conditions for privatization of other strategically important enterprises and joint-stock companies in which either state or National Property Funds holds the majority stakes;
- define other procedural conditions for ownership transformation from state companies to joint stock companies with 100% state-held stake;
- set practical methods of securing state interests in such established joint-stock companies.

Strategically important enterprises come from following industrial branches:
- gas and energy sector;
- postal services and telecommunications;
- armament and engineering industries;
- production of pharmaceuticals;
- agriculture, forestry, and water/sewage management.

Aforementioned companies will not be privatised, rather, they will be transformed into joint-stock companies with state as the only shareholder. In 1995, the Slovak government set out following telecommunication policy priorities until the year 2000:
- legislative corrections;
- liberalisation of telecom services providing;
- creation of a regulatory framework;
- transformation of telecom operator;
- speed-up in the area of research and development.

In conjunction with TP II, three financing alternatives were submitted to the Slovak government, out of which the government chose the one involving strategic

participation of foreign capital in Slovak Telecom. The other two alternatives were following:

- gradual changes in tariff systems completed by the end of 1996 + government guarantees for all external financial sources necessary for the project;
- only above mentioned guarantees with no changes in tariff policy up until the year 2000 which would result in SK 9.1bn decrease in internal sources and would create a need for additional external loans.

The chosen privatization scenario provides conditions to be met by strategic capital partner (it should come from telecom sector, should have an appropriate level of know-how and related technologies).

Summary

- telecom sector has been developing rapidly in Slovakia. However, investments necessary for DON project is influenced by limited internal financial sources;
- to remain competitive with improved management and full financial coverage of TPII, Slovak Telecommunications needs strategic partner (the scenario approved by the Slovak government);
- Czech telecommunications were privatised through strategic investor's participation, which resulted in strengthened financial position of SPT Telecom with no need to issue state (government) guarantees for restructuring loans;
- liberalisation and deregulation of telecom services have officially been included in the documents approved by the government.

2. Telecommunication Tariffs in the Slovak Republic

2.1. Basic Starting Points

Tariff system of ST,sp. results from its previous market position (single monopoly operator active during centrally planned economy era). That is why tariffs policy did not reflect real economic needs of both the enterprise and its customers since it was a policy directly ordered from the central state administrative bodies. A combination of a centrally planned economy and monopoly practically meant, that in 1979-1993 period, there were only two changes in tariffs, since telephone fees (initialization, rent, itemised bills) represented 87.28% of all telephone-related revenues and 62% of activities (see Appendix 13). Those changes were necessary because ST had to increase revenues, marketing and economic aspects were, however, vague and not clearly defined.

Increased pressure on liberalisation, deregulation, and large investment projects started to drive the actions after 1990, which was reflected in the new tariff policy and price strategy focused on:

- full price liberalisation in demonopolized telecom services;
- price structure comparable to EU member countries;
- new system of telephone tarification in close relation to DON project.

Tariffs structure generally has two parts: access fees and utilisation fees. In both cases, the fees should reflect real costs incurred in services and network maintenance.

The basic tariff structure is following (PA, 1992, p.34):

- Fixed tariffs
  - access (installation) fee;
  - fixes telephone bill (fixed rate for the line).

- Variable tariffs
  - local
  - long-distance
  - international.
- switch tariffs charged when operator (local central) has been changed;
- fees resulting from international agreements.

Appendix 14 shows price developments in telephone fees in OECD member countries.

Current tariffs charged by ST,sp. reflects the structure present in most of monopoly operators around the world:

- low installation fees and other fixed payments;
- cheap tariffs for local calls;
- relatively low tariffs for long-distance calls;
- high fees for other services. (Although the above mentioned characteristics relate to 1993, most of them remain in Slovakia even nowadays).

Tariff changes should be seen from two point of views:

- cost-oriented tariffs -the higher the tariffs are, the greater the amount of generated profit;
- customer-oriented tariffs focused on strengthened competitive edge.

Cost-oriented theory stems from empirical (and natural economic) requirement that prices should reflect direct costs related to product or service. Another factor is cross-subsidising which harms the economic environment and creates additional barriers to competition.

ST, sp. strategy is therefore oriented towards:

- cost-oriented tariffs (partially because of unsaturated market);
- rebalancing of existing tariffs (see PA analyses done in 1992).

2.2. Current Tariffs Structure of Slovak Telecom

The current structure of tariffs valid at ST,sp. is shown in Appendix 15.

Initialization (installation) fees are different for individuals and legal entities (SK 4,240 for an individual, SK 6,360 for legal entities). Such tariffs reflect the fact that price sensitivity is higher in case of an individual. Commercial lines are more important from purely business point of view, since according to statistical survey done in 1993, in the lowest category - 0-100 telephone impulses monthly - 70% came from individuals and only 26.15% from legal entities, which means that businessmen and companies had much higher number of calls. This statistics may have been biased by the fact, that a lot of small businessmen used their private lines for business purposes.

Utilisation (usage) fees are as follows:

- separate main telephone line - SK 63,60 (2 USD) monthly;
- two extension (side) line - SK 42,40 (1.5 USD) monthly;
- group lines - SK 42,40 (1.5 USD) monthly.

As the development of telecom sector become faster, we can expect that the number side lines and group-lines will go down. As you can see, there is no difference between tariffs paid for digital and analogue lines.

Local telephone connection means calls between users from the same local telephone area. If technical equipment allows so, digital telephone central

works with 6 minutes automatic impulses with one impulse priced at SK 1,80 (6 cents).

Long distance calls are connected automatically or through operator. There are three zones, with peak hours from 7am to 19.00 pm, Monday through Friday. A new proposal is being prepared for long-distance (inter-city calls) with the impulse shortened from 6 to three minutes. In the night hours, the price is supposed to remain the same - SK 1,80 per 6 min call.

International calls are connected automatically or through operator. There are 8 zones with the tariffs different for the first and consecutive minutes of the call. Appendixes 16,17,18 show price trends in international calls.

As from October 1, 1996, a new set of conditions is in force for international calls:

- peak hours are applied for countries from zone I,II, and III;
- night hours would also have voice operator service;
- decrease in rates;
- Israel moved from higher to lower (cheaper) zone, Japan was classified the other way around.

Summary

Several trends are apparent in tariff policy applied by ST,sp.:

- increase in local and long distance calls;
- decrease international rates;
- peak and weak hours are being introduced in local and long-distance hours.

Weaknesses of current tariff policy are as follows:

- inflexible system of tariff changes which are subject to ministerial approval - both Finance Ministry and Ministry for Transportation, Posts, and Telecommunication are involved, and additional government approval;
- tariff system has not yet been fully structured, i.e. there are no discounts for regular large-scale customers;
- accounting system does not provide for itemisation of costs of various telecom services, it means that it is hard to connect concrete costs with the respective service.

Improvement proposals:

- an efficient regulatory framework should be developed (see following chapters);
- a new, tailor-made accounting system should be introduced in order to better allocate incurred costs;
- a new policy for ST,sp. should be developed, implemented, and enforced, in agreement with recommendations from PA (see PA, 1992, p.42)

- tariffs for digital overlay network should be cost-based;
- rebalancing of residential user on the analogue network should be gradual while rebalancing business user on the analogue network should be faster;
- interconnection charges should be cost-based (gradual increase)
- leased lines should also be cost-based.

3. Regulatory Framework in the SR

3.1. Basic Terms

B. Carlsberg (Director General of Oftel) formulated the two most important regulatory activities: ” promotion of competition and the development of incentive regulation” (Carlsberg 1991: 5). To fulfil these objectives a regulator should:

- create rational mechanism with described responsibilities and relation with other - governmental and non-governmental bodies,
- define and implement tools which will allow incentive regulation.

In summary the following questions should be answered: why regulate, how to regulate, and what to regulate? (Tyle&Bednarczyk 1993: 652) in order to establish a functional mechanism of regulation.

In principle there are four characteristics which are crucial for the regulatory framework: openness, accountability, independence, costs.

Openness means how the whole regulatory process is under public control. Accountability means definition of control mechanism and procedural forms where and how regulator describes its activities or asks for their approval. A certain level of regulator’s independence from official political bodies in decision making process is other factor. All regulatory activities are time consuming and within a certain organisational structure. The financial needs reflect costs (the more bureaucratic the more costly).

The ideal is to maximise value of all variables, but in fact openness , accountability and independence are in contradiction with costs. Moreover each country has its own cultural background, political history and structure of political bodies. Therefore any solution should be taken as a consensus among these variables.

The basic regulatory functions are:

These functions imply areas which should be considered as the essential:

- recommendation, advice to the Ministry concerning licences
- fair competition
- standardisation, type approval & testing equipment
- frequency management
- interconnection
- tariffing (price control)
- numbering and number portability
- control function (protection of customer interests)

- application of international agreements into national telecom legislation and regulatory documents
- licences.

3.2. Situation in Slovakia

The major players in the regulatory issues are Ministry of Transport and Communications (MTC) and Telecommunication Office (TO). Based on the analysis of regulatory functions and their day to day applications it bas been prepared table 13:

Table 13:

REGULATORY FUNCTIONS	MTC	TO
Recommendation, advice to the Ministry	-	-
Fair competition	(yes ?)	-
Setting standards	yes	yes
Frequency management	yes	yes
Interconnection	(yes ?)	-
Numbering and Number portability	?	-
Control function	-	yes
Application of international agreements	yes	yes
Licences	yes	-

- some functions are formally declared to be associated with TO. In fact due to lack of experience, expertise and political will, many functions are not clearly delivered to the regulator,
- the whole regulatory process is not open and transparent. There is lack of predefined procedures, which could guarantee openness of the regulator's decision making process,
- accountability is absolutely insufficient. Any of these institutions have not defined rules, forms to present efficiency of internal procedures and reasons for decisions,
- the question of independence is not clear because of not unambiguously defined responsibilities and the political culture which is more keen to accept strong position of the Ministry.

3.3. Regulatory Framework Proposal

How should be the regulatory framework structured and what should be the roles of relevant bodies in the process of telecommunications reform ? A concise answer to these questions is presented in Nambu`s paper: "The process of telecommunications reform evidently will be most effective in an institutional structure that clearly defines separate and distinct roles for policymaking, regulation and management. The policymaker concentrates on log-term objectives, the structure of telecommunications sector, its importance in relation to other sectors, and the financing of its investment. Specifically, the policymaker sets rules with respect to the scope of competition, pricing, quality and condition of service, network interconnection, provision of leased lines for resale, approval of network facilities, application of technical

standards, and sale of terminal equipment. In contrast, the regulator is responsible for implementing government policy, ensuring that the operator is accountable for responding to economic and social objectives, resolving disputes between competitors and between consumers and operators, and monitoring the cost efficiency and tariff adequacy as a buffer between telecommunications operators and policymakers" (Nambu 1994: 76).

If any changes are to occur in Slovakia`s telecom market the first must be the creation of an independent regulatory body - TO.

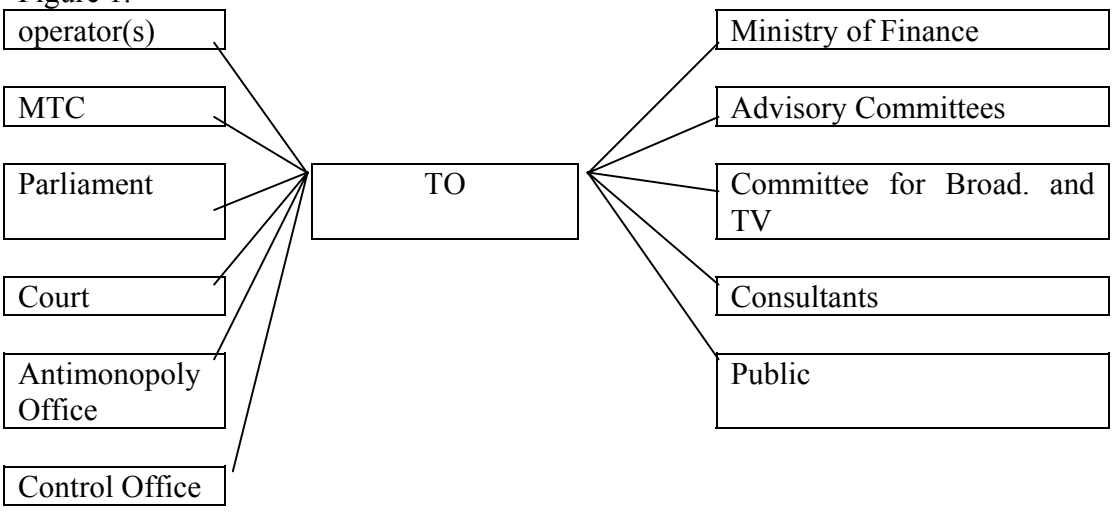
In order for the TO to act efficiently it must have links to other bodies, as follows - see Figure 1.

The link between TO and operator(s) is important because there is a need for cooperation on all relevant functions concerning regulatory procedures. Regulator contacts with operator(s) will create a basis for regulatory activities on monitoring and modification of licences, control of prices, control of anti-competitive practices, interconnection agreements, monitoring quality of service, complains, numbering and others. If any operator breaks a licence then TO will be eligible to withdraw the licence.

The link between TO and MTC is important because the MTC creates and develops telecommunications policy. MTC issues licences by taking into account recommendations of TO. The reasons of any decision should be within the framework of the policy and the whole decision process must be stable, consistent and transparent. Licence fees are the major financial recourses of the TO.

The link between TO and Parliament is important because the head of TO should be answerable to (any member of) the Parliament and also should present report about TO activities. Based on this report the Parliament can create a budget for the TO. The head of TO is appointed by the Parliament and it is only Parliament who has the power to dismiss.

Figure 1:



The link between TO and Court is necessary because the court can intervene if TO has acted unlawfully or not proper procedures which have been applied in decision making process.

The link between TO and Antimonopoly Office is important to assure fair competition as in any market. For this reason any decision concerning fair competition will have to be consulted by the Antimonopoly Office.

The link between TO and Control Office is important because the Control Office will be the place where one can register a complaint or any apply for an appeal for any decision given by TO. Also the Control Office will monitor the TO by means of internal audit and this audit will be presented to the Parliament which will define the efficiency of TO.

The link between TO and Ministry of Finance is important because all financial conditions of licences and tariffs must be consulted by Ministry of Finance (to achieve sustainable tariff policy in accordance with government financial policy). However the responsibility for monitoring and controlling tariffs must be by TO`s price control mechanism.

The link between TO and Advisory Committees is important because the objectives of Committees (Numbering, Radio Frequency Allocation, Telecommunications Standards, Telecommunications Users and Consumers) will be promoting the development of telecommunications technologies and the improving quality of services. Such information channels and consultations between Committees and the TO will improve professionality, independence and openness of the regulator's decision making process.

The link between TO and Committee for Broadcasting and TV is important in monitoring the content. Based on the content analysis, if relevant, Committee can present a suggestion to the MTC, after consultation with TO, to cancel the licence.

The link between TO and Consultants is important because Slovakia has problems including limited number of professional staff, limited financial recourses and lack of experience in regulation field. Each step of the decision making process should be documented in order to present professional and independent suggestion. Consultant will be asked to study relevant subjects and present reports which will be appendix of the TO`s report (advice) to the MTC.

The link between TO and the public is important because the majority of the TO`s decisions will effect the public who are the customers of the telecommunications services. Therefore the regulator should release public consultative documents, which will explain current problem and possible solutions. The public is urged to comments on such proposed actions by the TO. Taking into account costs, the regulator will establish various types of information channels like statements, reports, working papers, news, seminars and annual reports.

Summary

The ITU recently make recommendations to the regulation to all developing countries and they are as follows (ITU 1991: 27):

1. establish regulatory body distinct from PTO operations

2. clarify the degree of independent review and the rights of appeal to which the decisions of the regulatory agency are subject
3. clarify the relative roles of the telecommunications regulatory body and the competition policy body
4. extensively publicise issues that are going to be considered by the regulator
5. foster “transparency” in the decision making process.

Many of the suggestions of this chapter are apparent in the recommendations of the ITU with special emphasis on items (2, 3 and 5). The most important objective should be seen in encouraging liberalisation and therefore the regulatory process should be reasonable and efficiently structured

4. IMPLEMENTATION OF PRICE CAP FORMULA IN SLOVAKIA

4.1. **Basic Terms**

What does it mean when tariffs are not cost oriented and what are consequence of that ? These two questions are the most important to answer in order to identify possible price control mechanism appropriate for a regulator in a country.

In principle there are three most common forms of price regulation - price cap, rate of return and profit sharing.

Price cap applies formula RPI - X% which sets an upper limit for tariffs included in the basket. The features of this method are: price cap must be reviewed after certain period of time (3-5 years) and price cap is defined by formula RPI - X%, where RPI is Retail Price Index.

Rate of return is the ratio of company's profits to its capital employed. Each investor expects the rate comparable to the industry and to the risk of the investment. Rate of return is often used as a standard ration investment appraisal.

Profit sharing - this approach is based on the idea that an extra profit should be shared by customers.

In real life a regulator faces with following results of regulatory models: " The first arises where the regulator can not observe the cost structure of the firm, and generally sets an allowable price which exceeds the socially optimal price. The second result arises where the regulator is able to use competitive forces to push firms into revealing their information" (Adam 1992: 21). Implication for the regulator in the implementation of a practical regulatory mechanism therefore is: define relevant price regulatory mechanism and define ways, channels of getting cost, quality and efficiency information in order to improve efficiency of the regulator`s decision making process.

4.2. Applications of price regulation in Hungary and Czech Republic

In Czech Republic the government intends to apply a price cap mechanism in 1997. In the interim, the tariffs will not exceed the agreed rate 7% in 1995 and 3% in 1996. During this period the rebalancing of tariffs is to begin. (Hruby 1995:46)

In Hungary the price cap consists of three disagregated price caps(Kiss 1995:301):
a/ subscription fees
b/local short-haul (Zone I), domestic long distance tariffs
c/all other services (long haul domestic (Zone II and III) and all international tariffs.
An interesting idea is to set up a certain level for each basket in order to regulate the speed of rebalancing -"For a number of years, the desegregated price caps for subscription fees, and for local and Zone I tariffs, are allowed to be higher than the aggregate price cap (by multipliers of 1.05 and 1.07 resp.). At the same time the third desegregated price cap is constrained to be lower than the aggregate price cap by a factor of 0.96." (Kiss 1995:301). Operators will be allowed to change their tariffs twice a year - on January 1 and than in any time during a year.

There is no doubt that implementation of the price cap has been desirable in Hungary. But there is a fear of various weaknesses and identifying ways how to overcome them. " The weaknesses exist in the following forms: (1) low initial rates and insufficient allowed rate increases for the next few years, (2) unnecessary restrictions of corporate freedom to price, (3) "white spots", gaps and inconsistencies, (4) a general lack of detail and elaboration with respect to procedures, (5) some technical errors, with respect to the calculation and use of index numbers" (Kiss 1994: 302).

The Czech approach can be explained as follows: there is lack of experience, company is in the transformation period with incentives to rebalance tariffs and the government has formulated coherent regulatory policy.

The Hungarian approach has impacts on the rebalancing and the regulator is aware of the timing of the whole process. This approach takes into account possible problems with universal service obligation (affordability, equal access and geographical access) in the case of not proper timing of rebalancing.

4.3. Implementation of price cap formula in Slovakia

Current situation to apply price cap is following:

The positive direction for the application could be seen in the fact that a successful PHARE project Tariff Setting and Business Planing were finished in 1993, together with training and receiving of software package for price cap by Slovak authorities. Moreover, an existing model is linked with two other models such as World Bank Model (long term financial analysis) and Network Planning Model (for optimisation of network planning). These models were completed 1993. Therefore it is possible to assume that there is an expertise and basic knowledge in this field.

The negative direction must be seen in the fact that the priority of the current government is to keep monopoly and the idea of a regulation seems to be uncomfortable for the government. Operator's cost accounting system should be created by hiring of external consultants. The reasons can be seen in the lack of financial expertise. Despite the fact that financial management has rapidly improved, there should be applied new procedures and methods to support cost accounting. Operator should define internal procedures for setting tariffs within the organisation. Existing system is going to be more efficient but the fact that changes of tariffs should be developed by a multi-disciplinary team (i.e. horizontal cooperation) allow to suppose that this process will be at the beginning inefficient and inflexible. The reasons should be seen in the fact that this kind of cooperation is one of the operator's weaknesses.

The steps of implementation of price cap regulation should be:

- Incorporate the price cap regulation into the legal obligation of the operator (The Telecommunication Bill or The Licence). It should be an obligation that the operator must keep price cap as regulatory mechanism.

- Create a functional mechanism of bodies involved in regulation; each body responsible should have clearly defined strategy and objectives within the regulatory process.
- Price cap will cover public telephone services. “The operator should give reasonable notice to the regulator of any proposed changes in capped prices, together with supporting evidence to show that the proposals fit with price cap” (PA Consul. 1992: 42). Before that the structure of the basket(s) and “X” should be defined as well as reviewing frequency of possible tariff changes and qualitative characteristics of the network or services to be monitored.
- Slovak Telecom should develop and implement plans for rebalancing.
- The operator’s goals will be - sustainable profitability of a company, competitiveness of each product or service, price changes should be within the predefined price cap, and be relevant with operator’s pricing strategy.
- Set up cost accounting in operator’s company and define content and form of financial statement for price control - see (BT 1995). For this reason use financial recourses from the loans delivered for the improvement of management in finance and accounting. For this purpose external consultants would be reasonable to use - Coopers and Lybrand, who started this job in Czech Telecom.
- Set up system of monitoring quality of services. The system should reflect existing situation (long waiting list, low quality of basic telephone) as well as the basic objectives of the regulator which come from the telecommunications policy.

Summary

The reasons for price control should be seen in the “need to accommodate an initial uplift in prices, to help finance investment in modernisation; the need to shift responsibility for telecommunications prices from Ministry of Finance to the operator, subject to appropriate levels of regulation; the need thereafter for rapid tariff rebalancing towards a more cost-oriented basis” (PA Consult. 1992:68).

Price cap seems to be a reasonable price regulation mechanism applicable in Slovakia for the following reasons:

- price cap mechanism makes pressure on the operator to improve efficiency,
- there is a basic know-how and a tool (software) to use price cap,
- price cap is recommended by EU, where Slovakia is expected to join later.

The background of all proposals is in fact to bring Slovak telecommunications to the level where the presence of reliable communications tends to stimulate the national economy as well as keep the telecommunications progress in line with the world trends.

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Appendix 1

Statistical Indicator	**1993**	**1994**	**1995**
Population (thous.)	5,336	5,356	5,367
GDP (mn of USD)	11,000	12,400	14,078
Real GDP Growth (%)	-3.7	4.9	7.4
Private Sector Share on GDP (%)	39.0	58.2	64.9
GDP per capita	2,061	2,315	2,623
Unemployment Rate (%)	14.4	14.8	13.1
Annual Inflation Rate (%)	25.1	11.7	7.2
Average SK/USD Exchange Rate	33.2	31.3	29.6

Source: National Bank of Slovakia, Statistical Office of the Slovak Republic

Appendix 2

Ministry of Transportation

Posts and Telecommunication

of the Slovak Republic

Telecommunication Research Institute

Telecommunication Office of the SR

Slovak Posts, sp.

Slovak Telecommunications, sp.

Private telecom sector

Source: Slovakia -Posts and Telecommunications 1995/1996, MTPT Bratislava, 1996

Appendix 3

Source: Slovakia -Posts and Telecommunications 1995/1996, MTPT Bratislava, 1996

Appendix 4

Source: Slovakia -Posts and Telecommunications 1995/1996, MTPT Bratislava, 1996

Appendix 5

Organisational Chart of the Slovak Telecommunications, sp.

Director Director's Office

Operational Dept Construction Dept Finance Dept Internal and Foreign Affairs Dept PIU Dept

Section of Technical Development Marketing Section Human Resource Mgmt Informational Technolog. Section

General Directorate Bratislava
West Slovakia Directorate Bratislava
East Slovakia Directorate Kosice
Central Slovakia Directorate Banska Bystrica
Radiocommunications Bratislava
TUT Bratislava
Telemont Bratislava
VST Lamač

Appendix 6

Selected Economic Indicators of Slovak Telecommunications, sp.

Indicator	Measure	1992	1993	1994	1995
Revenues	thous.of SK	5,720,877	7,677,280	9,549,165	11,410,718
Costs	thous.of SK	4,128,148	5,711,860	7,432,453	8,608,514
Profit	thous.of SK	1,592,729	1,965,420	2,116,712	2,802,204
No.of Employees		14,765	15,683	15,480	15,397
Investments	thous of SK	1,601,616	3,783,663	4,624,085	11,493,057
Main Assets	thous.of SK	17,750,595	12,822,311	15,576,703	18,971,212
Local Lines Length	km	23,509	22,984	24,051	25,338
Local Cables Length	km	40,000	39,293	42,799	44,545
Long-Dist.Lines Length	km	8,854	9,161	9,989	10,601
Long-Dist.Cables Length	km	14,640	14,884	15,697	16,328
No.of Local Tlph Centrals		599	596	598	598
out of which fully automatized	%	99.83	100	100	100
No.of Regional Tlph Centrals		82	81	82	82
out of which fully automatized	%	96.34	97.5	98.33	100
Total No. of Main Tlph Lines		820,882	892,766	1,003,829	1,118,486
out of which - residential		611,250	661,548	747,566	830,413
- business		176,573	217,705	241,352	249,482
No.of Tlph Lines/100 people		25.64	26.62	28.24	30.86
No.of Main Lines/100 people		15.45	16.75	18.75	20.85
Period Till Line Is Connected	months	na	27	21	18.54
No.of Main Lines/1employee		55.6	56.93	66.92	73.03
% Main Tplh Lines Connected to Digital Centrals	%	na	5.17	14.85	25.68
Unprocessed Connection Requests	thousands	160,259	166,498	184,653	169,616
Unprocessed Transfer Requests	thousands	14,552	11,652	9,991	7,943
No.of Automatic Impulses	thous.of impuls.	3,162,621	3,147,884,200	3,497,683,960	3,926,925,805
International Calls from SR	thous.of impuls.	54,306	834,197	2,916,127	2,043,015
Telephone Automats	pieces	6,727	6,774	6,929	8,401
out of which - card operated			123	233	1,510
-coins			6,651	6,699	6,887

Source: Annual Report -Posts and Telecommunications, 1993-1995, MTPT, Bratislava

Appendix 8

Slovakia Telecom Indicators - European Comparison

Indicator	Turkey	Portugal	Ireland	Greece	EU 1994	Europe 1994	SR 1994	SR 2000	Europe 2000
Telephonization Density - Main Tlph Lines/100 people	18.4	31.1	32.8	45.7	43.98	30.8	18.8	35.2	40.4
Digitalisation Rate (%)	57.5	59	68	15	52	50.2	14.9	77.5	82.3
Period Till Line Is Connected	9.6	2.4	2.4	0.24	18	3,6	20	4	7
Tlph. Automats Density	0.9	3	1.8	5.9	3.6	2.5	1.3	3	3
No.of break-downs per 100 main lines per 1 year	27	52	38	---	---	52	66	48	43
No.of break-downs repaired within 24 hours (%)	95	79	85	58.6	---	79	65	90	90
Telex Devices Density per 1000 people	0.29	0.87	0.69	2	1.1	0.63	0.28	0.07	0.14
Telefax Devices Density per 1000 people	1.3	3.4	22.2	1.5	11.66	7.8	7.1	16.8	16.0
No.of Data Users per 1000 people	0.06	1.12	0.85	0.17	1.14	0.89	0.26	0.44	1.1
No.of ISDN Users per 1000 people	0.04	0.02	0.1	---	1.88	1.48	0	1.18	2.32
No.of rented circles per 1000 people	0.01	1.52	3.45	0.05	6.97	5.5	1.15	3.3	7.54
Mobile phones per 1000 people	1.4	9.7	17	1.6	12.6	11.7	1.11	28.1	36.8
Pagers per 1000 people	1.7	5.6	2.8	2.5	6.62	3.8	0.2	3.5	5.2
Main Tlph Lines/1 employee	116	155	90	180	172	126	65	140	178
Revenues per 1 inhabitant - USD	48.2	217.4	331.2	150.1	376.5	199.4	58.9	145	280
Revenues per one main line -USD	262	698	1010	328	856	640	315.0	415.4	696
Revenues per 1 employee - USD	30.5	108	90.4	59.1	150.9	80.4	20.5	53.5	125.8
Costs per 1 main tlph line - USD						270	178	160.4	242
Investment per 1 inhabitant - USD	21	57.7	67.4	76.9	134.2	63.3	29	71.4	94.6
Investment per one main line-USD	114.2	185.3	205.6	168.2	305.4	204.2	154.9	203.8	235.1
Investments/Revenues (%)	43.6	26.5	20.4	51.2	36	31.8	49.2	49.1	33.7

Source: Telecommunications Development Till 2000, MTPT, Bratislava 1995

Appendix 9 - Graph Headline - Telephonization Rate

Source: Telecommunications Development Till 2000, MTPT, Bratislava 1995

Appendix 10 - Graph Headline - No. of Main Lines/100 Inhabitants

Source: Telecommunications Development Till 2000, MTPT, Bratislava 1995

Appendix 11 - Graph Headline - No. of Main Lines

Source: Telecommunications Development Till 2000, MTPT, Bratislava 1995

Appendix 12 - Graph Headline - Digital Overlay Network in 1995

- international central
- digital transit central
- head central
- fibre optic
- digital radio relay route
- coaxial cable

Appendix 13 - Price Developments in Slovak Telecom Sector - 1979-1993

Indicator	1979	1993	price difference
tariff impulse price	SK 1	SK 1.49	+ 49%
domestic calls			
- local calls	SK 1	SK 1.49 (for 6 min call)	+ 49%
- regional within 100km area	30 sec.impulse	30 sec - night, 60 sec.- peak hrs	
- regional within 100-300 km area	20 sec.impulse	40 sec - night, 20 sec.- peak hrs	
- regional over 300 km area	15 sec impulse	40 sec- night, 15 sec.- peak hrs	
calls from automatic tlph machines	SK 1	SK 1.89	+ 89%
Initialization (connection) fee			
- residential	SK 2,000	SK 1,981.10	-0.95%
- commercial	SK 5,000	SK 4,952.80	-0.95%
Usage fees			
- main line	SK 50	SK 49.50	-1.00%
-two extension line	SK 30	SK 29.70	-1.00%
Line and Circles Rentals	100%	82%	-18%

Source: Objective of ST's Tariff Policy for the 1994-1996 Period, OPFC - ST,sp., Bratislava, 1993.