

Monopoly Regulation in the Czech Republic and EU

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Abstract/Non-technical Summary

The paper concentrates on competition in the network (mainly telecommunication) industries in the Czech Republic. The major focus is to assess the existing state regulatory policies and compare them to those applied in other OECD countries and to the EU recommendations. The comparison namely includes OECD average, Germany, Hungary, United Kingdom and United States. Hungary can be considered as a state which had similar initial conditions and reveals how the approaches to transition differ from those selected in the Czech Republic. Germany is a natural European benchmark for transition countries. United States, as the state with the most developed (and a competitive) telecommunication infrastructure should reflect the goal to be achieved. Finally, the United Kingdom is a state which has pursued a rapid demonopolization and is introducing a competitive environment in all network industries, and its approach should be viewed as a guide in the transformation process of industries with natural monopoly into a competitive market.

The analysis itself consists of a comparison of markets and their structures in three major aspects, which should reflect the most commonly-debated issues in the network industries. The first comparison is focused on the legal framework in which firms operate, the degree and form of regulation of the provided exclusive services. The second view compares the possibility of introduction of competition, current price policies and levels and how these can be influenced by the way of the implementation of a future competitive environment. One should mention that if the competition is introduced without proper regulation of incumbent behavior, the resulting market can be a competitive one with monopolistic prices since the incumbent was left with the power to expropriate rents. The third and last point is based on the analysis of the possibility of access to Internet services and prospects of the information industry in connection with the probable developments in telecommunication markets.

Therefore, we should carefully judge the country's compliance with European Union Telecommunication Directive 97/33/EC, which provides a guide for correct implementation of

competitive environment. The key areas of reform include the redesign of law and service regulations, the redesign of the network structure, and the rebalancing of tariffs. As will be shown, the current structure of regulation in the Czech Republic is far away from the desired goal outlined by the EU directive. We can even say that the current situation contains all the flaws which are explicitly mentioned in the EC recommendation.

Introduction

As was shown in a study on long distance cost structure in the United Kingdom and United States, the actual costs of one minute call between US and UK is about 8 US cents, Newbery (1999). Since the common price even in these countries, with high degree of competition, is well above these costs, the resulting “conservative” estimate of deadweight loss is much higher than the profit of the (monopolistic) connection providers. Such estimates highlight the importance of competition in order to decrease the expropriation of monopolistic rents and also to reduce even higher deadweight loss. The estimated social gains are much higher than financial flow into the state budgets via taxation of the monopolistic profits by means of auctioning the monopolistic licences.

The Czech cellular phone industry provides an excellent example of possible price discrimination practiced by the unregulated monopoly. After the establishment of competition (monopoly changed into duopoly) the price fell to one fifth, as shown by Figure 1. These new, competitive, prices are close to the OECD average but still twice as high as the lowest ones (Table 1).

The expected social welfare increase should be the main reason, why the EU as a whole is pushing the existing legislative framework in favor of competition, abolishing the country-exclusive monopolies in most of the network industries. We can observe such movements not only in telecommunications, where in the past the competition was established de facto by the overseas “callback” services but even in the “diamond” industries of national pride like national air carriers.

EU directive like Telecommunication Directive 97/33/EC or directive 91/440/EC on introduction of competition into railways provide as well general as well industry specific guides for correct implementation of competitive environment. Although industry specific effects are usually highlighted, the common features are the ones to prevail, Bergman (1998). The key areas of competition “enforcement” into telecommunications and other network industries always include the redesign of law and service regulations, sometimes the redesign of the network structure, and usually the rebalancing of tariffs.

As will become obvious from the facts on the Czech legal framework and practices presented

further in this paper, the current structure of regulation in all network industries in the Czech Republic is far away from the desired goal outlined by the EU directives. We can even say that the current situation contains all the flaws which are explicitly mentioned in the EC recommendation.

Competition Enforcement

Liberalization - term often used to describe the complex process of introduction of competition into practice - is the way how to promote rivalry among firms with the benefits of product and productivity improvements and price cuts for the consumers. Even if the competition has been already introduced, there are still several critical issues to be checked. They can lead to efficiency and effectivity losses. These constraining factors are, but not limited to:

- control of monopolistic or dominant firm,
- public ownership and soft budgeting,
- political and institutional controversies,
- public service requirements,
- existence of natural monopoly as a substantial element of the whole network and the resulting need of unconstrained interconnectivity among these elements of interconnected networks.

Deregulation of network industries, or more properly liberalization, means that these industries are moving along path from monopoly (Phase 1) over monopoly with limited competition (Phase 2) towards full competition (Phase 3) as outlined in the Figure 2. From this schematic figure is clearly obvious why the term deregulation is misleading. During the Phase 2, when the competition is allowed, it is necessary not only to control the existing incumbent as the usual monopolist but also to protect the new entrants - and hence observe the incumbent more closely to prevent its “unethical” behavior. That's why the regulatory intensity increases at the beginning of the Phase 2.

The regulation during Phase 2 has to obey two rules - to protect against monopoly abuse and to protect competition. In other words, this type of regulation should combine “regulatory” practices for monopolistic environment and for competitive environment. Hence, combination of prevention of “abuse” and “unfair”. However, there are still many diverging forces during the liberalization

phase. These diversities can be classified into several groups, the number of groups depends on the classification view used.

Conflicting Priorities in the Czech Republic as Identified by the EC

The conflicting priorities during Phase 2 identified in Bergman et al. (1998) are:

1. Short-term vs. long-term objectives
2. Efficiency vs. equity objectives
3. Competition vs. monopoly (incorporating infrastructure vs. service-led competition)
4. Slow vs. fast liberalization
5. Public vs. private ownership
6. Sector-specific regulation vs. general competition rules (incorporating horizontal scope of regulation)
7. Rules vs. discretion
8. Permanent vs. temporary regulation
9. Centralized vs. decentralized regulation (incorporating geographical scope of regulation)
10. Light-handed vs. heavy handed regulation (incorporating vertical scope of regulation)

We can clearly distinguish three types of conflicts. The first one can be denoted as a political one and should reflect the society's preferences. In our list of conflicts, the political choice is represented by the first two points. The second type of conflict is related to the market structure and is represented by conflict 3, 4, and 5. The last category of conflict contains problems associated with the regulatory structure itself and consists of the remaining five conflicting priorities.

Let us further briefly comment on the nature of the listed conflicts and also elaborate on the status of the conflict resolution in the Czech Republic as of mid 1999.

1. Short-term vs. long-term objectives

The network industries are capital intensive and the return of capital is guaranteed only during its long-term in operations. Moreover, these investment are irreversible since they are very industry

specific and hence have always the characteristics of sunk costs *ex post* investment. Therefore, the investing firms need assurance of the cost recovery *ex ante* investment decision and thus the time dimension is essential for the investment decisions and the decisions are really sensitive to changes in the environment. Which also means that all decisions are really based on the credibility of the announced regulatory policies since the *ex ante* and *ex post* regulatory incentives are diverging. The regulatory policy is usually *ex post* (investment) cost based. Therefore investments made to lower the costs are not allowed to recover if “opportunistic” and *ex post* criteria are used. This may lead to socially unoptimal underinvestment if the firms behave according the opportunistic scheme. On the other hand, the stress on opposite regulatory side (*ex ante*) may lead to overpricing to unexpected technological advances reducing costs and to overinvestment (overcapitalization under ROE regulation, for example Alexander and Irvin (1996)).

One would expect that the “political” priority could be easily identified within the framework of each political party program and the parliamentary elections would lead to the resolution of this conflict. As far as the verbal description is concerned, no problem - we are able to identify policies from the “no change” over “slow” and “medium” to “as fast as possible” and also such identification ranges from the political extreme left over social democrats and conservatives toward the economic liberal parties. However, the observed steps are not so clear and we can clearly conclude that almost all the political forces are extremely short-term sighted: the steps taken are not made in favor of the economy but in favor of the next elections. The most radical steps were done by the “bureaucratic” government a two year ago.

2. Efficiency vs. equity objectives

The main political objective is to guarantee “certain essential services of high quality at affordable prices for everyone”. These ambiguous terms leave great deal of for interpretation and therefore are subject to political discussions. The original concept of public service - i.e., service the (monopolistic) firm would not choose to provide at set quality and given prices - is changing toward the concept of universal service - i.e., service everybody can use at given and generally acceptable conditions.

Current situation reflects the equity objective, no real steps toward efficiency were done in the

Czech Republic. A nice illustration of the status is the telecommunication regulation of tariffs: the Telecom was allowed higher price increase than it had asked for. The social government probably really needs money it can raise through taxes.

3. Competition vs. monopoly (incorporating infrastructure vs. service-led competition)

In practice, the universal service can be brought to consumers via monopolistic or via competitive environment. Even if competition is viewed as a superior structure, there are always differences in the opinion on the nature of competition. It can be symmetric (all firm are equal) or asymmetric (one firm controls assets of the natural monopoly characteristics). Since all network industries contains elements of natural monopoly, complete free competition in all levels may not be the socially optimal market structure since there might be substantial costs savings if there exist only one supplier of the “natural monopoly element”. Duplication of the element of natural monopoly is nothing but waste of resources but improper definition on the natural monopoly element leads to social outcomes clearly inferior to the possible optimal one with proper definition.

Natural monopoly elements are characterized by economies of scale and scope. Scale means that the average costs per unit are decreasing. Scope means that the costs of joint production are lower than those of separate production.

One of the regulatory issues is to properly define the element of natural monopoly and to be aware of the fact that it may, and probably will, change over time. Classical example are telecommunications where there is time to make the shift from the service provision competition even towards the infrastructure competition now. However, the introduced competition may not undermine *ex ante* investments into any segment of the sector.

In the Czech Republic the policy is still in favor of monopolistic provision since there was done no identification of the core “natural monopoly element” in most of the industries (with certain exception of energy distribution where independent studies were done). On the other hand, in telecommunication the building of parallel networks is in place in certain areas. These main second telephone infrastructure providers will be cable networks since they are just building their networks and they do not mind to lay several extra wires for the future voice services.

4. Slow vs. fast liberalization

The competition in the European countries is introduced gradually over countries and over industries. The speed depends on three major factors:

- tension between efficiency and equity objectives,
- lobbying by incumbents,
- resistance of workforce in the incumbent firms.

Moving towards competition means the rebalancing of tariffs since the past concept of public service usually left the tariffs at unreasonable prices not reflecting the costs. This may lead to situation when the incumbent is really not ready for the competition and/or fast price adjustment of public services up is socially unacceptable.

The liberalization is often viewed as a threat for the employees of incumbent firm. They believe that liberalization will lead to job losses and if the politicians are sensitive to this type of argument they might be willing to proceed slowly. These employees are not aware of the fact that the new entrants will demand skilled labor as well. This resistance can be documented by the situation of the Czech Rails, where the employees banned a major reform in 1994.

The Czech situation is in favor of slow liberalization with the problematic concept of identity between deregulation and liberalization, as can be seen on comparison of the proper theoretical regulatory approach shown on Figure 2 and the Czech beliefs schematically outlined on Figure 6.

5. Public vs. private ownership

This is not a real problem if the state is able to guarantee that the firm with public ownership will not be in advantageous position, as was typical for the national air carriers in the past when they were bailed out of losses whenever they needed.

On the other hand, it is crucial for the new private entrants to receive credible signals of **equal treatment** if one of the competitors is a publicly owned firm. This lead to transparent and simple regulatory rules and institutions. As the regulatory environment is more complex, the structure and decisions are less transparent and hence non-credible as fair and equal treatment point of view

is concerned.

Unfortunately, the current status in the Czech Republic is non-transparent (contradicting decisions, not well defined division of regulatory rights) and therefore does not provide the required credible beliefs of the fair and equal treatment.

6. Sector-specific regulation vs. general competition rules (incorporating horizontal scope of regulation)

As many of network industries are dominated by one incumbent firm, close attention will have to be paid to the proper price setting to allow competition. These complex tasks are best completed by specialized agencies, which are then able to better recognize vested interests of incumbents and react more adequately than general agency.

The other extreme has its fall backs as well. As the specialization narrows, there might be vested interests of the regulators - they are the only specialists with a specific human capital available - and the “revolving doors” problem appears. The regulators can expect lucrative jobs in the regulated firm and their interest is to have the regulation forever - otherwise they will shut their doors towards well-paid positions. This can be eliminated by contracts that prohibits the use of the revolving doors (not in practice in the Czech Republic).

Other problem presents the definition of boundary of the “specific” industry. Should we regulate air transport and railways separately or are they similar? What about gas and electricity? One would argue that close substitutes and/or complements should be regulated by the same agency (Newbery (1999), Bergman (1998) or interpreting Newbery (1995)). Separated regulation should be used if there exists one large incumbent firm operating in complex network industry. However, we should bear on mind that the lobbying incentives are to stress the “diversities” and not similarities since the more specific regulation, the more complex and less transparent is and hence it can be more favorable towards the incumbent.

We would say that the specific is the word that rules the ideas of the current Czech government.

7. Rules vs. discretion

This conflict is closely related to the previous one since we can view the “rule” as a general concept and “discretion” as sector specific concept. This conflict is again related to the trade-off between the degree of precision of regulation and the scope of bureaucracy. In other words, imprecise regulation via precise rules or precise regulation via imprecise rules.

Precise rules are easy to monitor and transparent, on the other hand they might be too inflexible and rigid to face and adapt to new situations. The second option, discretion, leaves too much space for non-transparent decisions and lobbying (if not corruption). Also the discretion is in conflict with the *ex ante* concept of efficiency and credibility of the regulatory authority. Again, a proper mix should be the adequate policy.

Since there are no rules given by the Czech law system, the regulation is done only by means of discretion. No clear rules are defined with exception of certain public tenders.

8. Permanent vs. temporary regulation

Once the competition will be sustainable without the regulatory authority, there is no need for such regulation and hence there should be well defined “sunset clause”. In practice this clause should define the movement from heavy-handed to light-handed type of regulation (and sometimes also shift of the regulatory authority toward a general office).

Since there are no rules defined in the Czech Republic, we are still in the stage of “permanent” regulation. No sunset clause is in power. Even the sunset clause of the National Property Fund was not fulfilled, so no sunset clause would be credible.

9. Centralized vs. decentralized regulation (incorporating geographical scope of regulation)

The geographical differences in the regulation should accommodate the legal differences among EU countries. The local authorities are better informed and hence are able to adopt the common regulatory policy to the local situation. On the other hand, too much differences may cause inconsistencies and diversities. The local regulatory bodies are also more in favor to ease the rules

in favor of the local firms. Thus the first extreme, central regulation, means slow and uninformed regulation while the second one, decentralized, leads to fragmentation, inconsistencies in policy and inefficient global resource allocation. A proper mix is again a necessity.

Fortunately, the Czech Republic is too small for anything else than centralized regulation, however this will be an issue after the association agreement, when certain regulatory responsibilities would be transferred to the European Commission.

10. Light-handed vs. heavy handed regulation (incorporating vertical scope of regulation)

Light-handed regulation means that there are only few general rules. In most cases it means the application of general competitive rules. The heavy-handed regulation means the existence of specific rules, sometimes detailed, and institutions. Solution depends on the legal framework in each country, certain legal systems are well functioning with general rules (Anglo-Saxon) while other require specific rules (Continental).

Since the light-handed regulation is not very specific and therefore sometimes ambiguous. It may take long time to wait for certain court decisions and hence the light-handed regulation might be extremely ineffective and rigid. The existence of heavy-handed regulatory rules is sometimes desirable at the beginning of Phase 2. The fall backs of improper timing of the light- and heavy-handed policies is shown on Figure 3.

The Czech Republic relies on the mix of light- and heavy-handed regulation but the state is not able to enforce any of the rules. Just to illustrate the ability of enforcement - common business cases take three or four years, complex ones last over eight years.

Czech Republic and Liberalization in Selected Network Industries

A nice comparison of the difference among the liberalization proceedings can be received by simple comparison of Figures 4, 5 and 6. Figure 4 shows the average status of liberalization across the EU countries. The next figure, Figure 5, contains the status of reform in the United Kingdom, which is usually considered to be the pioneering country in the liberalization (figures are based

on Bergman (1998)). And finally, Figure 6, depicts the current - June 1999 - status of the liberalization of network industries in the Czech Republic together with the wrong idea of the exchangeability of concepts of deregulation and liberalization.

A common feature of regulation for all network industries in the Czech Republic is the general regulatory structure, as outline for the telecommunication in Figure 7. There are four players involved, the Ministry responsible for given industry sector, Ministry of Finance, licencing office (usually semi-independent on the supervising industry Ministry) and antimonopoly office (Bureau for Protection of the Economic Competition). However, the major players are the Ministry for the selected sector and Ministry of Finance, these are responsible for the execution of ownership rights via National Property Fund and price settings.

Antimonopoly office has very limited power, basically it can only approve or disapprove mergers of firms if the final corporation would exceed 40% of the market size. Monopoly regulation is not a agenda of this (probably the most independent) unit.

We comment on the selected main network industry sectors in the Czech Republic separately below.

Railways

The benefits of separation of infrastructure (tracks) and operation (services) were broadly discussed in the past, EU directive 91/440/EC also goes in this direction, Thompson (1997). Indeed, even in the Czech Republic a reform of the railways was proposed within this framework. Kessides and Willing (1995) are arguing in favor of the vertical separation of the monopoly and the proposed reform followed this idea since it even demanded split of the monopolistic state enterprise into three types of entities. The first one, monopolistic infrastructure provider, should stay state-owned, subsidized and regulated. The second type should be carriers, there were also plans for competition in the future since there was proposed light licencing of new entrants. The third type should be auxiliary services like ticketing, booking, refreshment, repair services and depots.

This well designed reform was banned by a major strike of the railway employees, the government was forced to abolish any steps made towards the reform and so far only minor cosmetic changes were made. The Czech Rails are one of the major employers and in 1995 it had 120 thousand employees, which represented more than 2% of the total labor force.

There exists small local operators which were allowed to rent (for free) local, heavily loss making, tracks from the Czech Rails. The Czech Rails sometimes even intended to shut down all operations and services on these tracks because of heavy losses. The newly established local transport companies are usually municipality owned and hence provide an alternative for bus services. As turned out, these companies are able to work on zero-profit level with similar level of subsidies as the dominant Czech Rails has. Now there are extremely strong lobby pressures to cancel the free transfer of these tracks to the new operators and return the now well maintained tracks back into the monopolistic network. Tables 3a, 3b, 3c document the railway's greed for subsidies in 1996 as computed by Lizal (1997). The situation in Czech Railways is worsening over time so today results won't be better than those presented.

As the EU introduces competition, the Czech railroads will have to accommodate the new rules, which are likely to follow up the banned reform, as we can observe in the UK, Bergman et al. (1998).

Postal Services

The classical postal service is reserved for the state-owned company. However, the non-reserved services are highly competitive and with several exceptions the post-network does not stand aside. These competitive services include, but are not limited to, messenger services, DHL-type services (here the post-network successfully competes with its EMS system), money orders (competition with commercial banks) and parcel service.

Electricity, Gas and Water Utilities

Although electricity, gas, and water utilities are separated from each other there is a common pattern over all of these industries. First of all, all the network companies are based on regional monopolies following the former administrative division of the country - 7 regions (South-

Bohemia, North-Bohemia, Central-Bohemia excluding Prague, East-Bohemia, West-Bohemia, South-Moravia, North-Moravia) plus the capital city Prague. There is also a significant amount of small municipal companies in the water utilities.

The second common feature, with exception of the water utilities, is the existence of one dominant import/export contractor.

The last but not least common feature is so-called semi-privatization of these network firms. This is a direct consequence of the privatization method selected during the voucher privatization scheme. Moreover, the current government proposes to sell its stakes in the regional distributional companies in the electricity industry to the nation-wide dominant export/import contractor (!).

Air Services

The Czech air carrier is still state owned and dominant, however there are small private carriers which are able to compete with the incumbent, on the other hand the major source of competition are the other international carriers operating in the Europe. The Czech Airlines are so far well managed and over last four years they were able to recover from annual losses of 1bn CZK to profits of 0.4bn CZK. They seem to be ready for the European competition and, unlike many EC carriers, viable without any state support and soft-budgeting. Recently, the government decided on changes in the top management of the company.

Public Transport

There is a free competition in the regional public transport (interlata). Usually municipalities hire service providers (bus companies) to provide the transport services (we might consider it public service)¹ at regulated prices and the service provider receives subsidies directly from the municipalities and sometimes also indirectly from the state budget.

Public transport in large towns and cities (intralata) is provided by a commercial shareholder company set up by the municipality and 100% publicly owned (usually the municipality is a sole owner). In this case there is no direct competition possible. For example in the capital Prague the

¹ The official Czech term is “dopravní obslužnost.”

fare covers approximately 25% of the total costs, the rest is covered by subsidies from the municipality and state budgets.

Telecommunications Are the First to Face the Competition

Residential Telecommunications and Long Distance Carriers

We can say that there is only one, monopolistic, provider of all fixed-line voice services, SPT Telecom, which is 51% state owned. This incumbent has state granted monopoly till January 1st, 2001 on all long-distance calls and there are secondary operators in seven selected areas, so far the incumbent controls over 99.9% of the local services, OECD (1998).

The price regulation of telecommunication services consists only of price caps set up by the Ministry of Finance and Telecommunication Office. Other regulation (except licence conditions set up by the Telecommunication Office) is left on discretion rules and via ownership rights. On the other hand, as can be seen from the Figure 7, all the regulation including the prices is in hand of the government, which is also the major shareholder and tax-receiver. Therefore, there is clearly conflict of incentives, should the government collect taxes, improve services, keep services cheap or defend the consumers and potential new entrants against dominant power abuse?

Interconnection fees are left to commercial agreement and interconnection charges are not public information (i.e., no disclosure is required). Disputes are set by the Ministry of Finance and Telecommunication Office.

As the 97/33/EC directive states, the major focus in telecommunications should be put on the issues of interconnection. Namely the major task are to:

- introduce competition in public networks,
- set up effective licencing, interconnection conditions and universal service,
- let the interconnection charges be costs-based and transparent,
- introduce asymmetric regulation to facilitate entry.

The most important items are the last two, as was pointed out by several studies, for example Newbery (1999). Once we decide to allow competition, we have to set up rules of the game. The new entrants should be less regulated than the incumbent and the incumbent should be prevented

to siphon money out through the means of “access” charges to the unified network or unique essential part left under its control. Otherwise the resulting situation is a sort of pseudo-competition, there are competing firm in the sector but the prices are the same as under unregulated monopoly (!).

Major comparison of applied policies within selected OECD countries and the EU recommendation can be found in Table 6. As you can see, the Czech Republic is lacking behind the UK and US. Situation in Hungary and Germany seems to be similar, however these countries already made substantial changes in the legal environment and are ready for the competition.

Internet

According the OECD (1999), the total costs of off-peak Internet access (defined basket) in terms of PPP were the highest in the Czech Republic among all of the countries and totaled on \$74.6, while the lowest costs \$19.8 are for Finland, OECD average is \$46.6. These figures do change for peak-hours, where the costs are \$105.8, \$28.4 and \$58.3, respectively, however the Czech Republic is still the most expensive country in this respect and Finland the cheapest one.

The SPT Telecom is also ISP (Internet Service Provider) and there are continuous complains on unfair competition from the other ISPs, namely on existing cross-subsidization of the Telecom’s ISP division. However since all ISPs have to purchase line capacities from the SPT, no one of them has started a commercial dispute so the case stays unresolved.

Mobile Telecommunications

This is a really competitive industry. So far there are two operators and there has been started licensing of the third one. Let us start with just brief summary of the recent history. The second operator entered the market in 1996 and one can see how the monopoly revenues dissipated over the two years in Figure 1. We should mention that the incumbent was unregulated (only licencing was involved) and was even free to select any price discrimination scheme before the entry of the second operator. In nominal terms, the original price of the incumbent in 1996 was about \$500 for setup costs and approximately \$200 fixed monthly charge plus \$.2 per minute of usage. The average monthly income was about \$300. Anyway, Table 2 documents the rapid increase of

cellular phone subscribers after the entry of the second operator in 1996. Current penetration of the market (June 1999) reached 13% of the population.

Last year the new entrant even challenged the fixed line provider; it introduced service named "Internet Call". This service used Internet to transfer the digitized speech into the destination state for international calls. This strategy allowed the new entrant to charge about 50% of the prices of the monopolistic nationwide voice service provider. A legal case evolved and illustrates the "professional" regulatory environment - the service was allowed, banned and will be allowed soon. There are no additional comments on the credibility of the state as regulator necessary.

Conclusions

The summary is quite pessimistic. So far no meaningful regulation of any monopoly was introduced nor is even subject to public, professional or scholarly discussion. The only interest is on academic side, the government pushes these issues apart, or it even favors re-creation of huge dominant firms with state involvement and control. Government itself still rely on ad hoc control via its property rights and price-cap regulation of the selected services and commodities and possible discretion. In line with the discussion of the property rights in Lizal (1998) we can arrive to the similar conclusion: The major problem of the Czech economy is the inappropriate institutional infrastructure. In addition to the protection of ownership rights, there is also a lack of transparent regulatory policy which leads to unstable economic conditions due to short-term sighting and regulatory opportunism.

There is also no significant pressure from the firm-level since the discretion rule is very favorable - there is a large space left for lobbying. One can have a look at the Corruption Perception Index as published by Transparency International; the Czech Republic is almost exactly in the middle of the selected countries with the score indicating that the corruption is a real problem (Table 4).

On the other hand, monopoly regulation and competition is an important part of the EU enlargement agenda so we can expect that the pressure from EU side will increase and the government will start to act.

References

Alexander Ian and Irwin Timothy (1996): Price Caps, Rate-of-Return Regulation, and the Costs of Capital, Public Policy for the Private Sector no. 87, The World Bank.

Bergman Lars, Doyle Chris, Gual Jordi, Hultkrantz Lars, Neven Damien, Röllner Lars-Hendrik, Waverman Leonard (1998): Europe's Network Industries: Conflicting Priorities, CEPR, London.

Dnes Anthony (1995): Post-Privatization Performance - Regulating Tele-communications in the UK, Public Policy for the Private Sector no. 60, The World Bank.

Juan Ellis (1996): Privatizing Airports - Options and Case Studies, Public Policy for the Private Sector no. 82, The World Bank.

Green Richard (1997): Has Price Cap Regulation of UK Utilities Been a Success?, Public Policy for the Private Sector no. 132, The World Bank.

Kessides Ioannis and Willing Robert (1995): Restructuring Regulation of the Railroad Industry, Public Policy for the Private Sector no. 58, The World Bank.

Lizal Lubomir (1997): Kvantifikace daňových výnosů v oblasti silniční a železniční dopravy, mimeo, study for Ministry of Environment of the Czech Republic.

Lizal Lubomir (1998): Lecture for Transparency International and the Senate of the Parliament of the Czech Republic "Nezastupitelnost vlastnických práv pro efektivní alokaci zdrojů" [Non-substitutability of Property Rights in the Efficient Allocation of Resources] (conference "Etické a právní předpoklady ekonomické transformace" [Ethic and Legal Conditions of the Economic Transition]), Prague, December 1998.

Lizal Lubomir (1999): Internet and Monopoly Regulation in the Czech Republic, presentation at the EPI Workshop "The Regulation of Network Industries", Hungarian Academy of Sciences,

Budapest, March 1999

Newbery David (1995): A Template for Power Reform, Public Policy for the Private Sector no. 54, The World Bank.

Newbery David and Pollit Michael (1997): The Restructuring and Privatization of the UK Electricity Supply - Was it Worth It?, Public Policy for the Private Sector no. 124, The World Bank.

Newbery David (1999): The Regulation of Network Industries, presentation at the EPI Workshop "The Regulation of Network Industries", Hungarian Academy of Sciences, Budapest, March 1999

OECD (1998): OECD Country Reports used by OECD to prepare OECD Communication Outlook.

OECD (1999): OECD Communication Outlook, OECD.

Rohlf Jeffrey (1996): Regulating Telecommunications, Public Policy for the Private Sector no. 65, The World Bank.

Smith Peter (1995): Subscribing to Monopoly, Public Policy for the Private Sector no. 53, The World Bank.

Smith Peter (1997): What the Transformation of Telecom Markets Means for Regulation, Public Policy for the Private Sector no. 121, The World Bank.

Thompson Louis (1997): The Benefits of Separating Rail Infrastructure from Operations, Public Policy for the Private Sector no. 54, The World Bank.

Wellenius Björn (1997): Telecommunications Reform - How to Succeed, Public Policy for the Private Sector no. 130, The World Bank.

Table 1 Revenues per Cellular Phone Subscriber in US\$

| Year | CZ | OECD | D | HU | US | CA | FI | DK | UK |
|------|------|------|------|------|-------|-----|-----|-----|-----|
| 1993 | 3486 | 766 | 1055 | n.a. | 695.8 | 682 | 551 | 535 | 584 |
| 1995 | 2452 | 804 | 1126 | 1097 | 597.4 | 540 | 504 | 379 | 466 |
| 1997 | 705 | 708 | 816 | 1090 | 597.2 | 496 | 379 | 402 | 806 |

Note:

| | |
|------|----------------|
| CZ | Czech Republic |
| OECD | OECD Average |
| D | Germany |
| HU | Hungary |
| US | United States |
| CA | Canada |
| FI | Finland |
| DK | Denmark |
| UK | United Kingdom |

Table 2**Penetration (Number of Cellular Phone Subscribers, in thousands)**

| Year | Subscribers |
|-------------|-------------|
| 1992 | 4.7 |
| 1993 | 11.1 |
| 1994 | 27.3 |
| 1995 | 45.7 |
| 1996 | 200.3 |
| 1997 | 521.5 |
| 1998 | 960.0 |
| 1999 (June) | 1300 |

Note: Population is almost exactly 10 mil people, therefore the number of subscribers in the table can be interpreted as “100*(penetration ratio in %)”, i.e., 200.3 means approximately 2% penetration.

Sources: OECD, Radiomobil, Eurotel

Table 3a Subsidies per 1km Ride of One Passenger

| | Subsidy (mil.CZK) | Output (mil. paskm) | Subsidy/paskm (CZK/paskm) |
|-----------------------------|----------------------|------------------------|------------------------------|
| Railway Passenger Transport | 5613 | 8111 | 0.69 |
| Bus Passenger Transport | 7388 | 15228 | 0.49 |

Table 3b Needed Subsidy per 1km Ride of One Passenger

| | Subsidy + Loss (mil. CZK) | Output (mil. paskm) | Need/paskm (CZK/paskm) |
|-----------------------------|------------------------------|------------------------|---------------------------|
| Railway Passenger Transport | 10290 | 8111 | 1.27 |
| Bus Passenger Transport | 7428 | 15228 | 0.49 |

Table 3c Needed Subsidy per One Ride of One Passenger

| | Subsidy + Loss (mil. CZK) | Passengers (mil.) | Need/Passenger (CZK) |
|-----------------------------|------------------------------|----------------------|-------------------------|
| Railway Passenger Transport | 10290 | 219 | 46.99 |
| Bus Passenger Transport | 7428 | 891 | 8.34 |

Table 4 **Corruption Perception Index**

| Country Rank | Country | Score |
|--------------|-----------------------|-------|
| 1 | Denmark | 10.0 |
| 2 | Finland | 9.6 |
| 3 | Sweden | 9.5 |
| 15 | Germany | 7.9 |
| 26 | Estonia | 5.7 |
| 33 | Hungary | 5.0 |
| 36 | Greece | 4.9 |
| 37 | Czech Republic | 4.8 |
| 39 | Italy | 4.6 |
| | Poland | |
| 47 | Belarus | 3.9 |
| | Slovak Republic | |
| 69 | Ukraine | 2.8 |
| 76 | Russia | 2.4 |
| 83 | Honduras | 1.7 |
| 84 | Paraguay | 1.5 |
| 85 | Cameroon | 1.4 |

Note: Ranking is from the least corrupted to the most corrupted country surveyed.

Source: Transparency International

Revenue per Mobile Subscriber

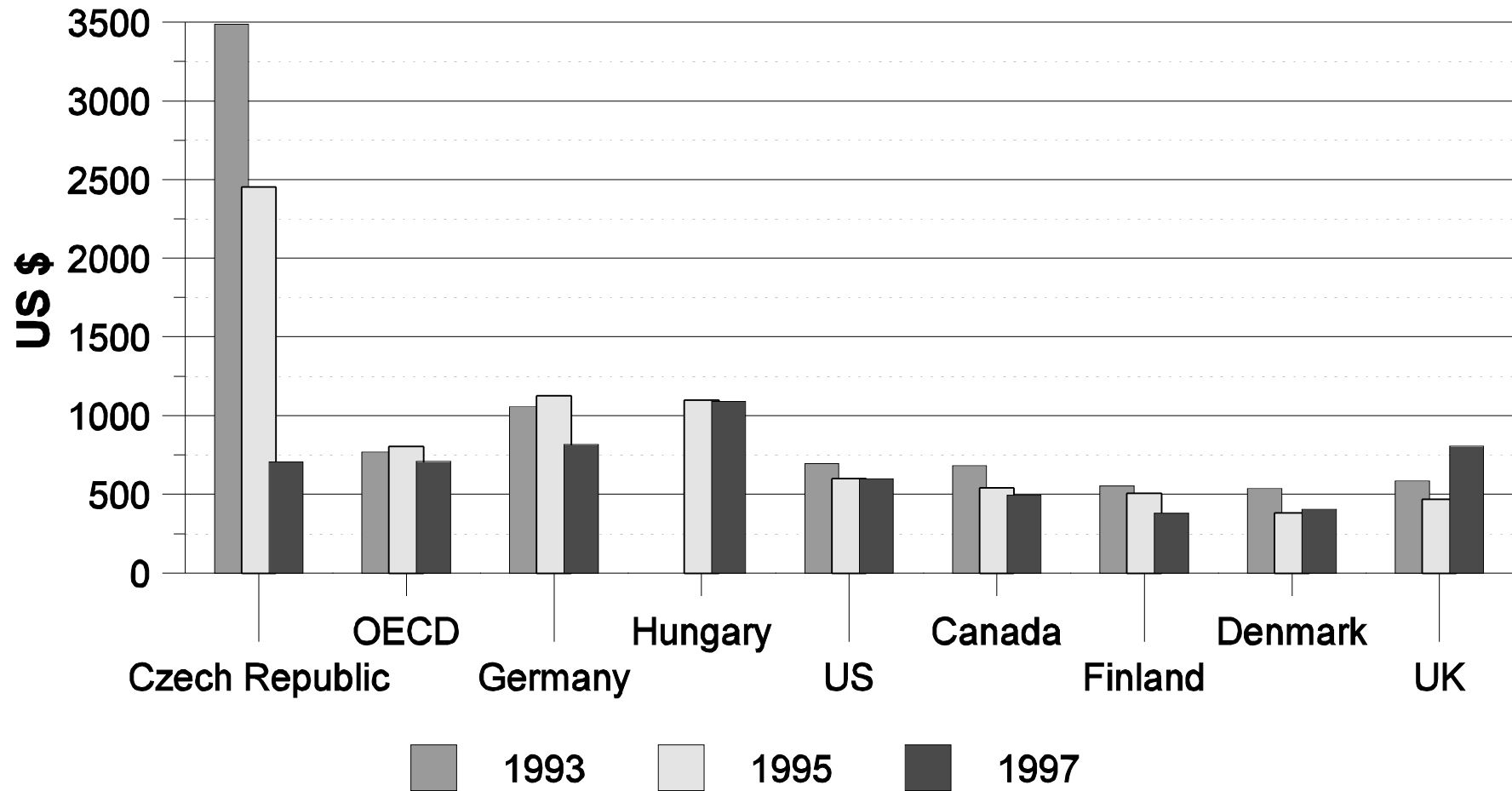
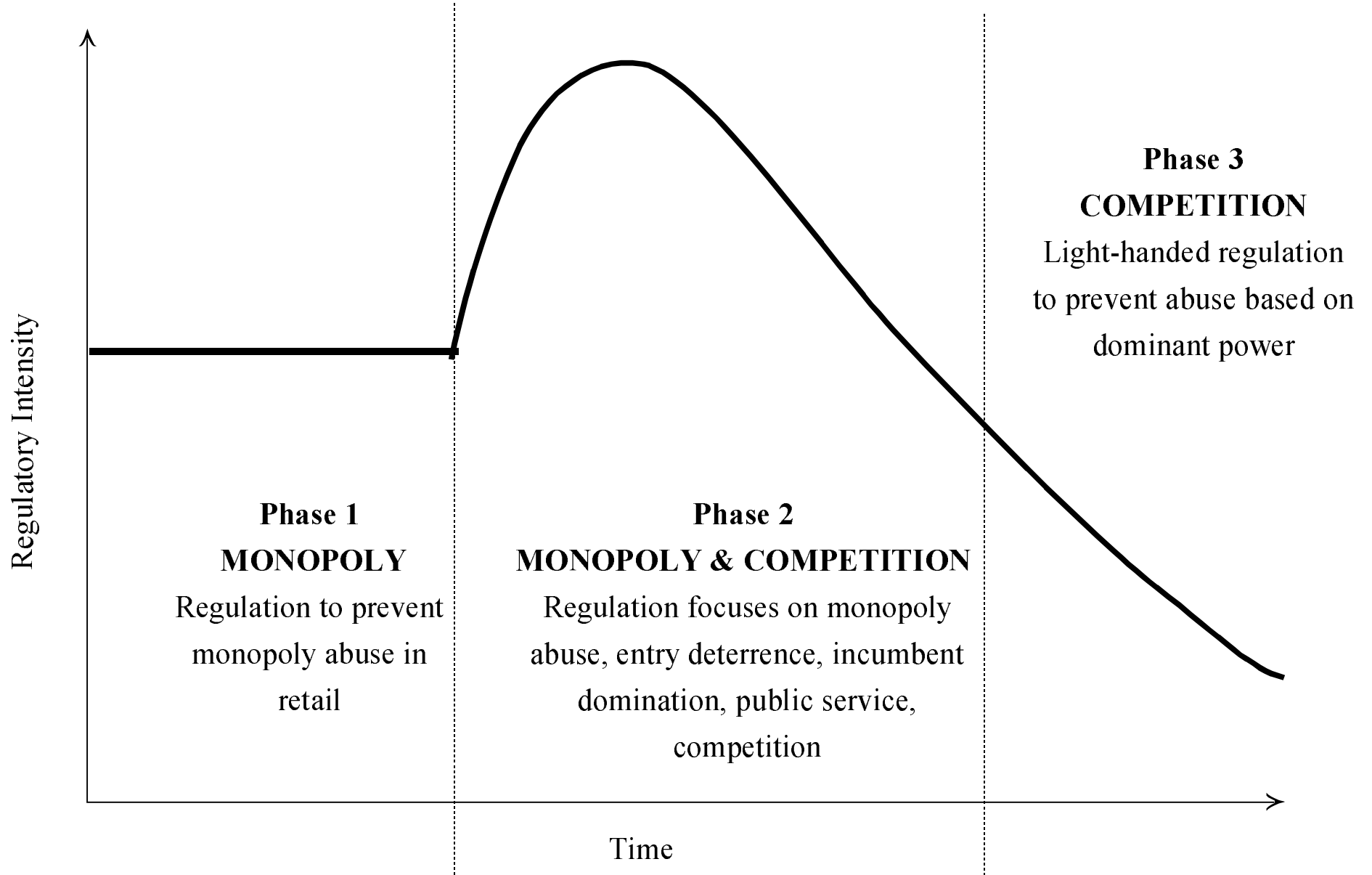
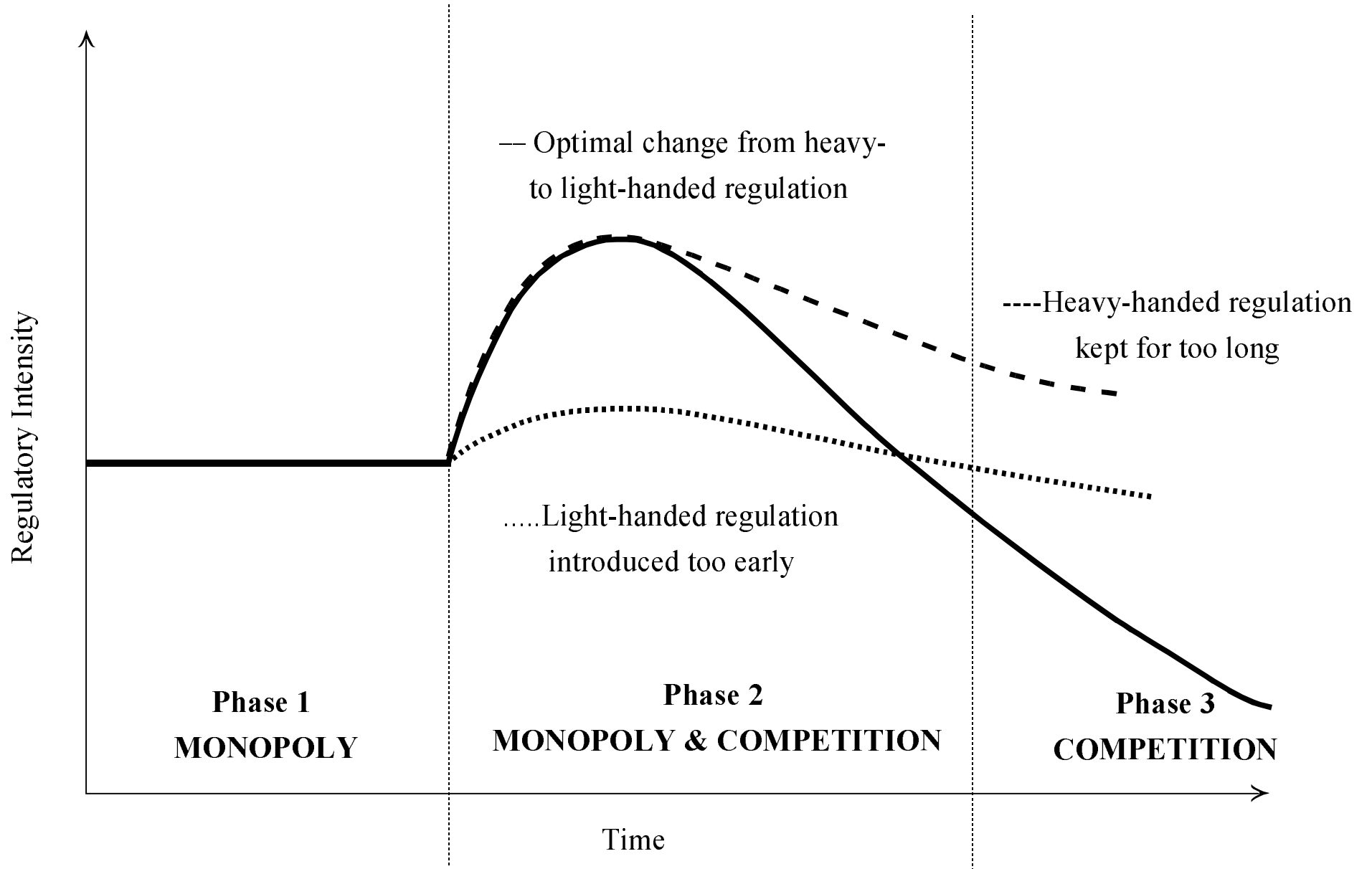


Figure 1



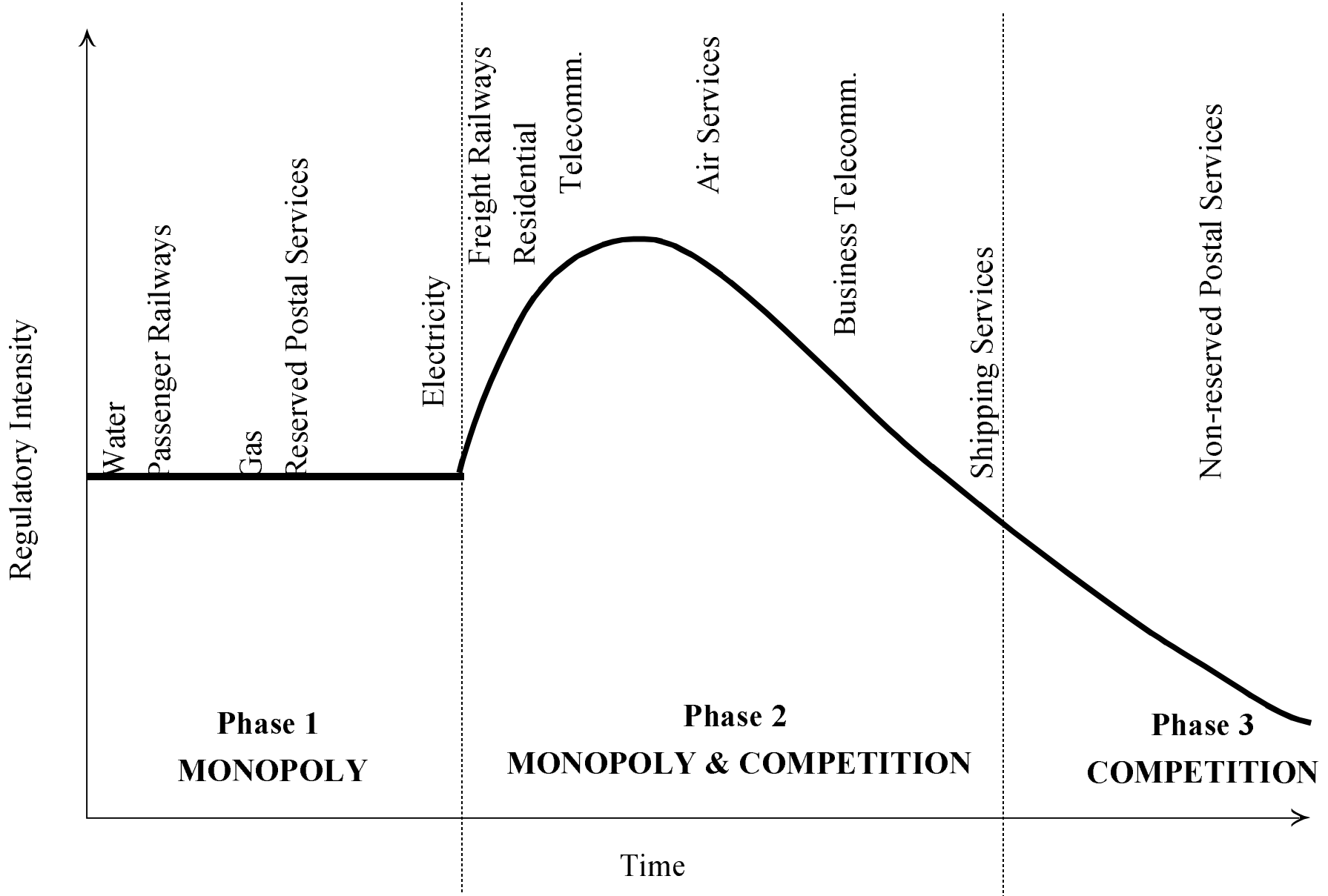
Evolution of regulation

Figure 2



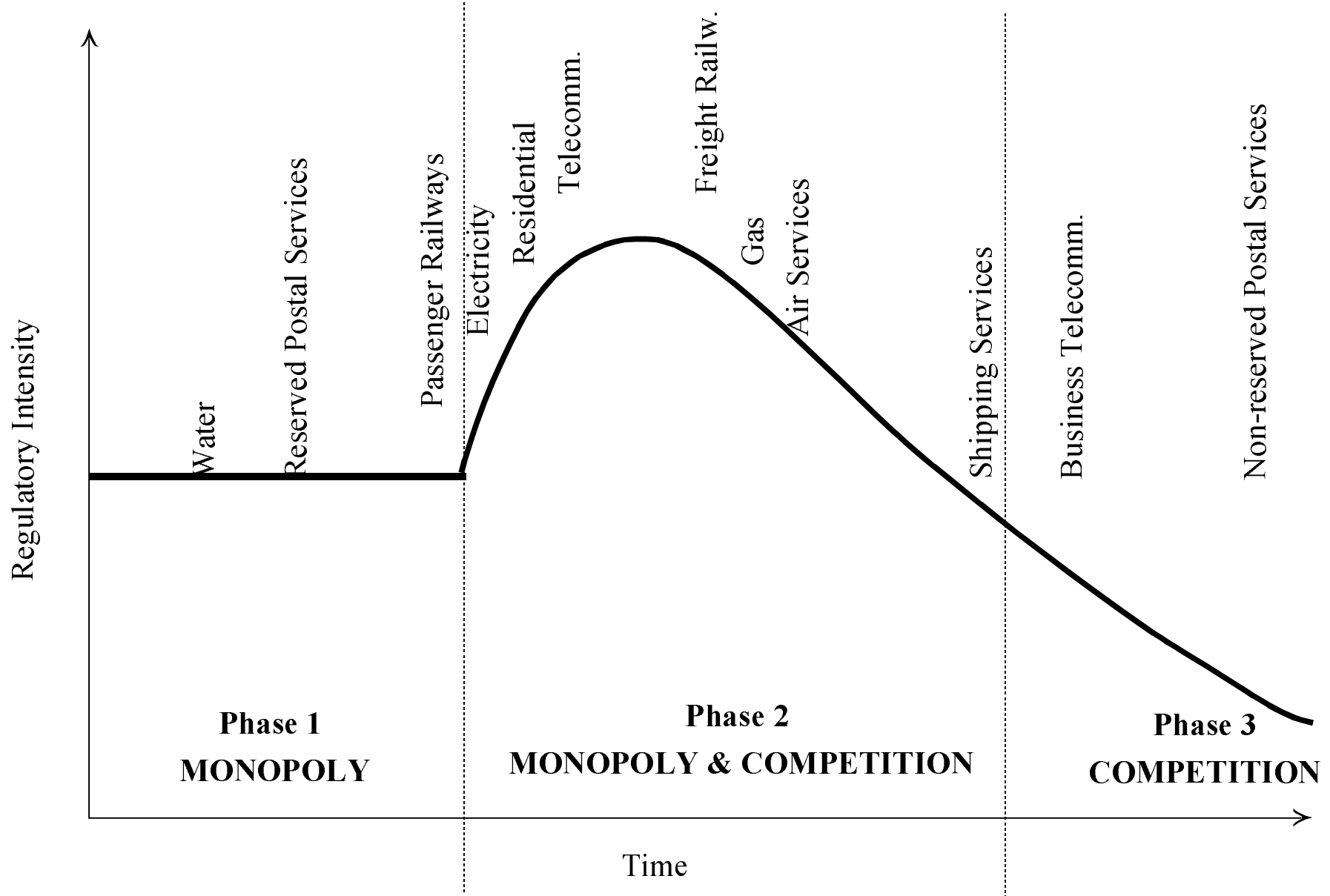
Light-handed vs. Heavy handed

Figure 3



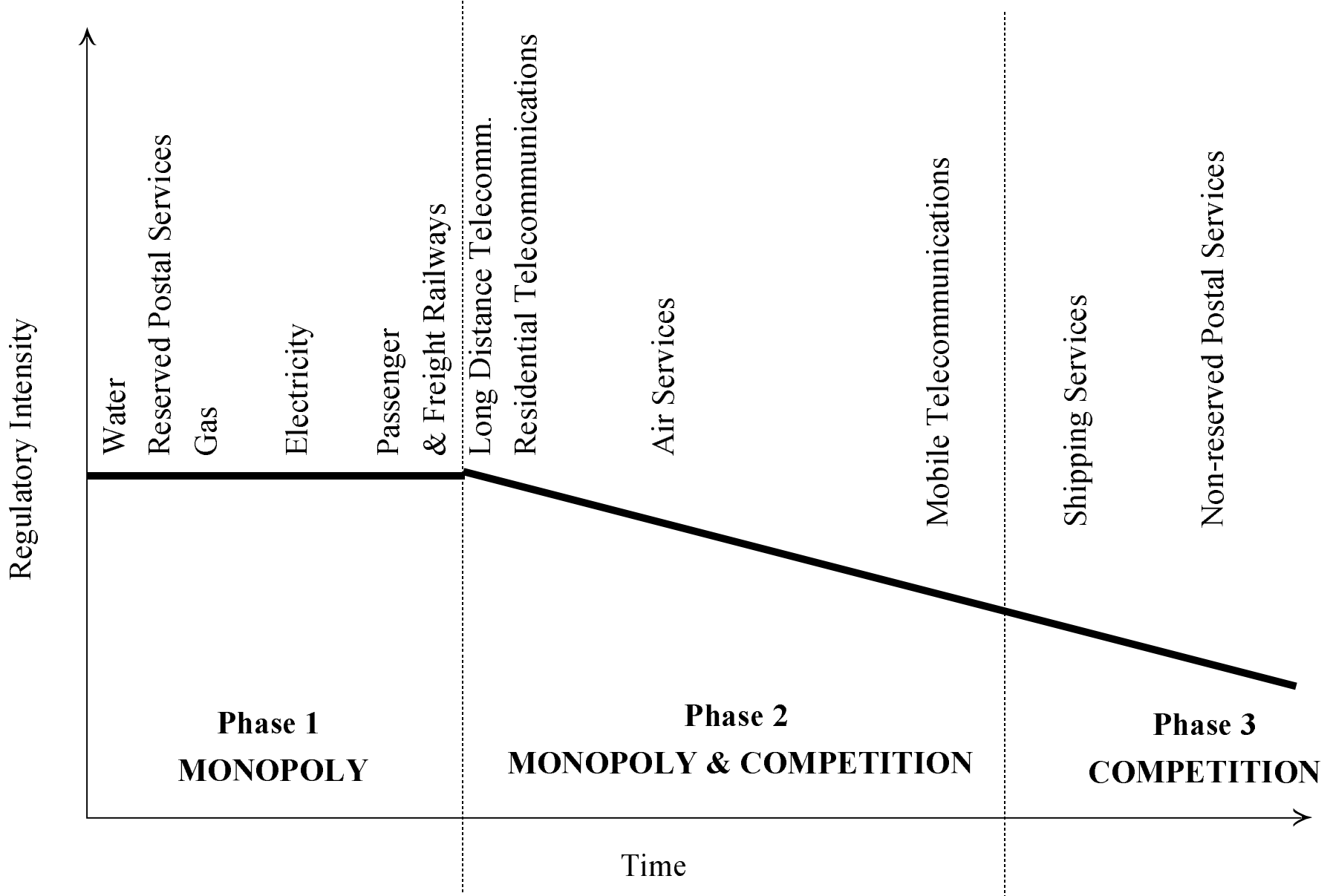
Where is Europe?

Figure 4



Where is UK?

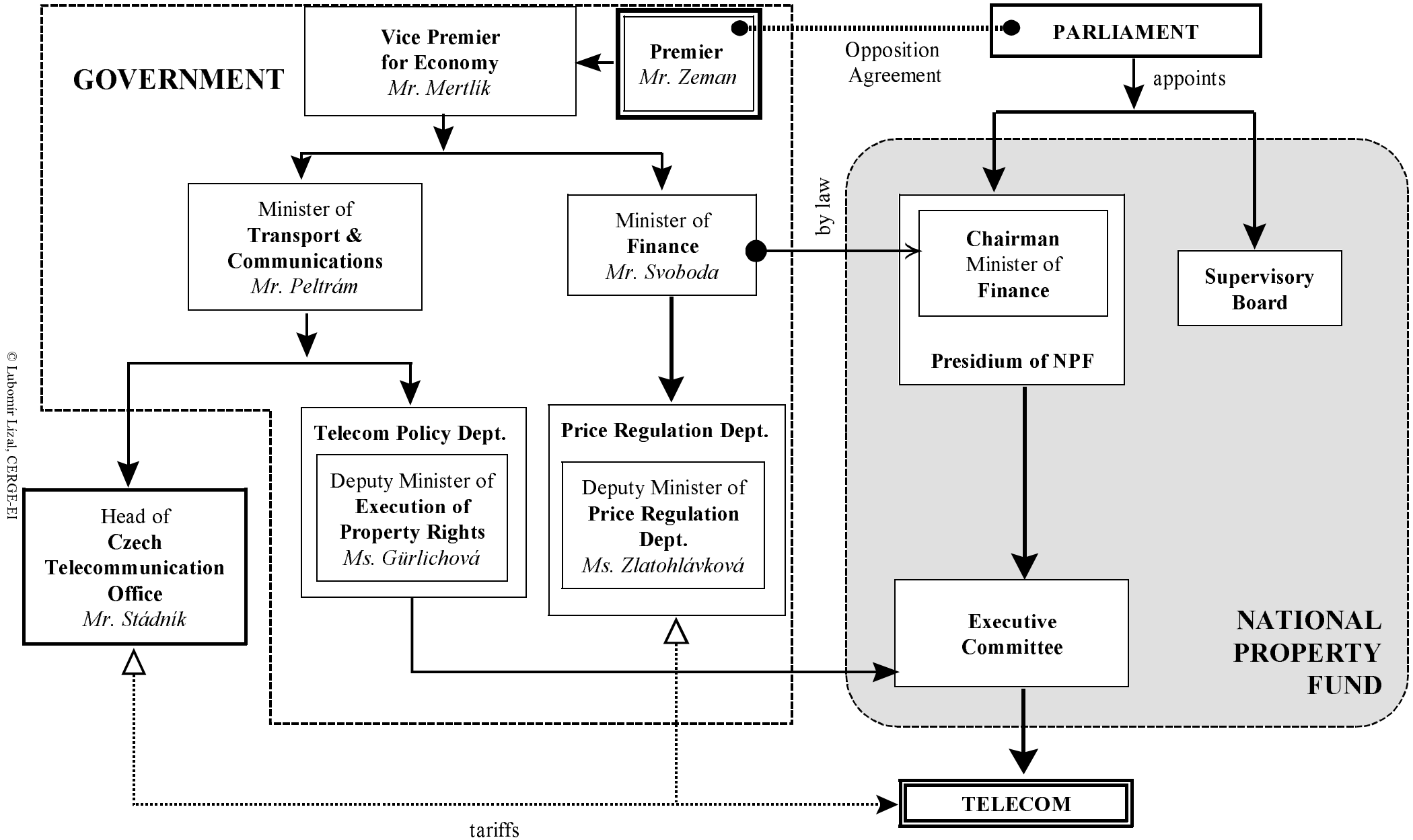
Figure 5



Where is Czech Republic?

Figure 6

TELECOM'S REGULATORY STRUCTURE (Spring 1999)



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Figure 7