



Independent Regulation in Infrastructure Sectors: The Case for Regulating Local Transportation Markets in Belarus

Summary

This paper is dedicated to the problem of independent regulation in infrastructure sectors. It starts out with a general part presenting some of the common arguments for independent regulation. It then turns to describe some current practices in England and Ukraine, and delineates the current situation on the local passenger transportation markets in Belarus. The paper argues that independent regulators should be established to regulate these markets. The functions of independent regulators are described and proposals on how to transfer to the new system are made.

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1. Introduction

Classical economics suggests leaving the task of balancing the opposing interests of consumers and producers to market forces, i.e. to competition. However on markets such as infrastructure services, competition cannot simply balance the interests of consumers and providers because such services are prone to a number of market failures. Providing infrastructure services is very costly since substantial initial investments are needed, markets are often locally separated, and limited access to the necessary networks create several bottlenecks. As a result, infrastructure service providers are in monopoly positions, and state regulation is necessary to prevent abuses of market power. Possession of monopoly power by an enterprise may require its prices and service quality to be controlled. Some infrastructure services may also give rise to public health, safety, environmental, and other concerns.

The best way to balance the interests of all stakeholders is to transfer the regulatory power to a separate institution that regulates the price setting and controls the performance of the service providers. This institution must be independent from political interference (both from central state ministries and from local governments and other authorities), endowed with the legal power necessary to implement its instructions on the market, and obliged to render its decisions in a clear and transparent manner so that they will be accepted as fair and legitimate. Endowed with such support, this central regulator can balance the interests of consumers and service providers by guaranteeing economically justified cost-covering tariff levels, while providing sufficient incentives for improving the efficiency through appropriate regulatory schemes.

This paper discusses the general approach to independent regulation in infrastructure sectors (part 2), describes some current tendencies concerning regulation in the United Kingdom and Ukraine (part 3), analyses the shortcomings of the existing system of public transport regulation in Belarus and argues the need for independent regulation in this sector (part 4). Final remarks and policy recommendations can be found in part 5.

2. Institution of independent regulation

2.1. *What is effective regulation?*

The role of independent regulation in natural monopoly markets is very important. It balances the interests of all stakeholders in a particular sector, and guarantees sustainable development in the sector. Thus, it aims to protect consumers from monopoly prices while ensuring that the service provider remains viable and has incentives to perform efficiently. Using its regulatory powers the regulator ideally maximizes total welfare, which consists of benefits for the consumers and the producers, including externalities. As a result of well-performing regulation, consumers receive a high quality of services at low prices, while producers earn sufficient profits and have incentives to make investments for sustainable development.

2.2. *Who regulates?*

The regulatory power is usually vested in a separate authority, called independent regulator. This institution has to be endowed with the legal power necessary to balance the interests of consumers and service providers. There are six criteria for an effective regulatory system: coherence, predictability, capacity, independence, accountability and transparency¹. Coherence implies that regulatory policies are based on laws, which are consistently implemented. In particular, there must be a clear division among the national and municipal regulators and the government ministries. Predictability means that there will not be sudden changes in the regulatory framework or in the way a regulator makes decisions. Predictability is particularly important for inves-

¹ Transition Report 2004: Infrastructure, EBRD, 2004.

tors. Capacity implies that a regulatory agency is staffed with qualified people, has the necessary authority, and has appropriate levels of funding to implement its mandate effectively. Coherence, predictability and capacity are general prerequisites for effective regulation. The remaining three criteria are more specific for each sector.

To perform effectively, the regulator must be independent from political interference (from the central state ministries, local governments, and other authorities) as well as from undue influence by industry, investors or customers. To ensure this, the institution needs financial autonomy, a fixed term of office, pre-specified appointment criteria, and sufficient resources. The regulator's activities must also be accountable, which means that it enforces rules fairly while protecting the legal rights and economic interests of the state, operators (providers) and users. This also means that it will be responsible for its actions. Transparency covers several issues. It involves the right of all stakeholders to be informed about decisions affecting them, and also relates to the lack of scope for corruption and secretive decision-making.

In principle, for each industry that requires regulation there can be a separate, specific regulator. Alternatively, there could be a general regulator who overlooks all infrastructure industries. The tradeoff is that branch-specific regulators have deeper knowledge about their respective industries, while a general regulator is easier (and cheaper) to set up, and less vulnerable to vested branch specific interests.

2.3. What to regulate and how?

The objective of the regulator should be to protect consumers from monopoly pricing while ensuring that the service provider can operate under economically sufficient conditions. To achieve this, regulation can focus on costs and profits of operations, output prices, productivity levels (measured e.g. in factor productivities), on other parameters such as quality levels, or on a mix of them. It can act either prescriptively, i.e. by fixing certain 'acceptable' profit levels, or by stimulating, i.e. by providing incentives for increasing productivity or reducing costs. However, since the specific tasks facing a regulator can vary greatly depending on the circumstances under which a respective industry is operating, there is no general blueprint for a successful regulatory policy under all possible conditions. Instead, the choice of an appropriate design of regulation is crucial for its success in every specific situation. The most-commonly used forms of regulation are the following:

The first approach is to set price levels to cover costs plus some given profit (cost-plus or profit-cap regulation). This purely prescriptive type of regulation is the easiest to implement. If specified in a sufficiently predictable and accountable manner, it is capable of attracting investors for large infrastructure projects because it minimizes the operating risks for both investors and government. On the other hand, the fixed rewarding system does not provide incentives to reduce costs or raise the productivity and quality levels. Since cost-plus regulation usually sets company-specific price levels, it also fails to improve the competitiveness between different firms. Rather, it can even stimulate manipulation by reporting/creating higher costs. Hence, cost-plus regulation is appropriate only for industries with high external risks and uncertainties, but private participation based on cost-plus regulation should be arranged for short periods only.

The second approach is to simply set a maximum tariff that the firm is allowed to charge (price-cap regulation). In general, this provides an incentive to reduce costs and to raise factor productivity in order to increase profits. Over time, however, price-caps have to be adjusted to prevent excessive profits. The problem is that if this correction is done for each firm separately, price-cap regulation does not provide strong incentives for cost reduction any more, because higher profits due to lower costs will be reduced through lower output prices. On the other hand, if price-caps are adjusted

based on industry averages, this can lead to an inappropriate treatment of firms that have to operate under specific conditions such as longer than average networks, low consumer density per square kilometer etc. Hence, the challenge facing the regulator with price-cap schemes is to identify clusters of firms that are sufficiently large on the one hand, so that incentives to reduce costs for each firm are not too much reduced by adjusted maximum prices, and still specific enough to consider the natural characteristics of different firms on the other. Obviously, such a regulatory approach is much more complex to be implemented since the regulator needs to monitor external (i.e. labor and energy costs) as well as sector-internal developments (i.e. changes in productivity) in order to adjust the price cap. This type of regulation also implies higher risks for business operations.

The third approach is to compare productivity levels of different firms that for reasons such as regional separation cannot directly compete with one another (yardstick competition). By making this comparison the regulator identifies the practices of best-performing firms in the sample. Then, he adjusts the firm-specific targets of the other firms accordingly in order to force them to strive for the identified best practices. In this way, the regulator sets tailor-made, firm-specific development targets without distorting incentives by hurting the best performers. In other words, all firms are put in conditions conducive to competition. As a result, a seemingly monopolized industry can still reap the fruits of competition such as enhancing technological advances, improving product and service quality and reducing production costs. However, applying this methodology is obviously a rather complex process and cannot be implemented over-night.

Table 1: Comparison of different approaches for regulation

Regulatory approach	Advantages	Disadvantages
Cost-plus/rate-of-return	Incentives to invest Simple to implement	Risk of overstating cost No incentives to improve efficiency
Price-cap	Incentives to reduce costs Incentives to improve efficiency	More difficult to implement Higher risks for business operation
Yardstick	Incentives to reduce costs Strongest incentives to improve efficiency	Most difficult to implement

In summary, cost-plus regulation is easy to implement but fails to stimulate cost reduction. Price-cap regulation delivers such incentives, however to a limited degree and at the expense of complexity. Finally, yardstick competition is the most complex approach to implement, but it also creates the strongest incentives towards cost reduction and productivity increases. The above has been summarized in Table 1.

3. Current tendencies in regulation

In this chapter we will concentrate on the experiences of the UK and Ukraine with independent regulation. The regulatory system of the UK can certainly be considered as a benchmark. Having privatized most network industries and set up independent regulators for them, the country is a classical reformer of network industries that, in addition, appear to be the most successful one. Although Ukraine's regulatory experience with network industries is still rather limited, we believe it is nevertheless very instructive to study it, because of the common historical background of Ukraine and Belarus and the rather similar problems they face currently in their infrastructure sectors.

3.1. The UK's experience

The UK has broad experience with economic regulation. Currently economic regulators are set up for almost all network industries. Examples are: OFWAT, which regulates the water and sewage industry in England and Wales; ORR, the office of rail regulation; OFTEL, the office of communications; and OFGEM, which regulates the gas and

electricity markets in the UK. In the following we describe in more detail the activities of OFWAT, as it was one of the first regulators to have been established.

OFWAT was set up in the early 90s after the water enterprises of England and Wales had been fully privatized. This office is a non-ministerial government department responsible for protecting the interests of customers, while ensuring the proper performance of all water service enterprises. The regulation is organized in a way that provides incentives and encourages the companies to provide world-class service in terms of quality and value for customers in England and Wales. OFWAT is independent from the political system, and is endowed with wide powers to execute its duties. The regulator conducts all activities openly and publishes reports on all positions concerning specific problems and decisions it has taken. OFWAT is financed by an annual levy on the water companies. A director who is appointed for a fixed term heads OFWAT.

One of the main responsibilities of OFWAT is tariff review. Tariff setting is based on the price cap form of regulation. Every five years the regulator determines an average price change, which is calculated according to the formula $(CI - K)$, where CI is an average cost index, and K is a projection of productivity that the company should achieve. In the first years after privatization the average price change was around 5% per year. In 1994 OFWAT conducted its first price review, introducing more demanding efficiency targets and tighter financial assumptions. As a result, the permitted annual price increases fell to under 2% on average. Based on the 1999 review, tariffs were actually required to be reduced by 2.1% per year. The advantages of independent regulation can clearly be demonstrated by the successes achieved by OFWAT. Since its establishment, the standards of service provided by the water and wastewater sector have improved substantially, which now generally comply with the very stringent European Union standards. At the same time, the price of the services has also risen significantly (by over 22% since 1989) reflecting the high levels of investment required to upgrade the services. However, recently the bills have started to fall. Leakage was reduced by around 30%; capital and operating costs also went down.

3.2. Ukraine's experience: The National Electricity Regulation Commission (NERC)

Ukraine already has experience with establishing independent regulatory authorities. Currently two commissions are operating: the National Electricity Regulation Commission (NERC), which sets the domestic wholesale prices for gas and electricity, and the National Commission for Communication Regulation (NCCR), which mainly focuses on Ukraine's telecommunication market. The NERC has the mandate to regulate the electricity market as well as the extraction and distribution of gas and oil. The NERC was set up in 1994 by presidential decree. The main functions of the NERC are tariff setting in the respective industries, protection of customer interests, licensing of operations in the industries and controlling that the license requirements are being fulfilled. For tariff setting the NERC uses a cost-plus approach that ensures normative profits for operators, but fails to provide efficiency-stimulating incentives. As a result, the regulated firms do little to improve their performances (e.g. through increased energy efficiency or reduction of losses), since any cost reduction achieved will translate directly into lower consumer tariffs. On the contrary, guaranteed cost coverage stimulates misuses by generating higher costs than necessary. Nevertheless the NERC is currently playing a key role in adjusting household and industrial tariffs to cost covering levels, which presents a novel challenge to the Ukrainian economy: significant increases in energy prices.

The classical approach to regulating a network industry in the UK and the first attempt to implement independent regulation in Ukraine both present useful lessons about independent regulation. First, independent regulation prevents conflicts of interests in the regulated industries, which is a very important task of economic policy in infrastructure industries. Then, it prevents political influence and insures stability and

transparency of the economic conditions, which is extremely important in promoting investment activities in these sectors. Beyond that it promotes efficiency and encourages competition.

Thus, independent regulation has proved to be very successful for promoting restructuring and investments in many infrastructure sectors including public utilities and transport.

4. Independent regulators in Belarus: The case for local passenger transportation markets

Belarus requires independent regulation in all infrastructure sectors. Although in some sectors a shift in regulatory policy from a highly centralized administration to an independent regulator would be quite difficult to achieve, in others sectors this could be done very easily, without causing any serious problems. In these cases the positive outcomes of such a policy shift would not take long to become evident.

As the examples in the part 3 suggest, independent regulatory bodies are established mainly at the central level in (technologically) highly centralized industries such as electricity and gas supply, railway and air transport. These sectors in Belarus are still in 100% state ownership, and are managed similarly to ministries.² Certain other sectors have seen some progress in market reforms, e.g. automotive freight transportation, taxis, telecommunications (cell telephony, Internet), and local passenger transportation. In fact, local passenger transportation appears to be one of best-suited sectors for introducing independent regulation. There are several reasons for this:

- **The markets are competitive.** Local transportation markets in many Belarusian towns are highly competitive, where numerous private providers compete with public providers and with each other. The nationwide market share of private providers is about 10%, rising to 30-50% in the transportation markets of some cities. Only a small fraction of entrepreneurs desiring to provide passenger transportation services actually receives permits, since the number of licenses is limited.
- **The markets need to be regulated.** Existing route networks consist both of profitable and unprofitable routes, which depends on factors such as population density, passenger flows, etc.³ Different routes generate different rents, so the question arises how to share out routes among providers. Obviously, profitable routes are more popular.
- **Legislation has been already developed.** National legislation to regulate local transportation markets is quite well developed, in the sense that the term 'regulator of transportation services' is legally defined.

The absence of independent regulatory bodies leads to some unusual patterns in the regulation of transportation markets by local authorities. The administrations of some towns have started to auction off routes without any legal basis.⁴ In Babrujsk the procedure was organized like a regular auction and bids for permits reached as high as USD 7000. In some other cities the local authorities have proposed that providers rotate the routes among themselves, thus giving all providers an equal chance, although achieving technical efficiency under such circumstances becomes doubtful. Sometimes the authorities force private providers to operate several unprofitable routes along with some profitable ones. However, it is unlikely that the regulators have sufficiently precise knowledge of the profits made on profitable routes and the losses at unprofit-

² See Belarus infrastructure monitoring, 2004-2006, <http://www.research.by/eng/bim>.

³ In practice, unprofitable routes are mainly suburban rather than urban ones.

⁴ The national legislation requires government administrations and state-owned companies to request competitive bids for any service or good they buy, but clearly, private provision of transportation services does not fall under this requirement. It would be a good idea to include transportation services, especially if the bidding was properly organized, but under current legislation bidding is illegal.

able ones, to allow them to define a reasonable ratio of unprofitable to profitable routes to be assigned to a provider.

4.1. The present situation regarding the local transportation markets in Belarus

According to Belarusian legislation⁵ there are three major players in the transportation market: principals (contractors), regulators and providers. As the "Provisions concerning regulators of passenger auto-transportation services" puts it, the principals are the executive bodies of the local administrations for urban and suburban transportation, and the Ministry of Transport for intercity and international transportation. The principals are required to contract transportation services from a regulator. The regulator, as seen by Belarusian legislation, is a regulatory body that is responsible for organizing sound transportation systems for a given territory. According to the "Provision", the regulator from whom the principal obtains the service can be a legal entity or an individual entrepreneur. This means that, theoretically, any economic agent can become a regulator. Moreover, it is not specifically mentioned in the document that there can be only one regulator. In addition, no criteria are given for selecting regulators by the principals.

According to the "Provision" a regulator should fulfill the following functions:

- Advising the principal on measures to develop a route network,
- Operational control of keeping schedules by service providers,
- Signing contracts on provision of transportation services with providers,
- Coordinating bus schedules with the schedules of other modes of transport,
- Operational control for implementing the safety standards by the service providers,
- Checking tickets in the buses (with the help of Mintrans transport inspectors and representatives of the providers if needed),
- Regulating and changing schedules,
- Recommending tariff changes,
- Preparing offers for the principal to limit the number of permits.

The fact that the regulator can be a legal entity or an entrepreneur is interesting: a department of the executive body of a local administration cannot become a regulator according to the 'Provision'.

Currently, regulators are either local executive bodies (i.e. the principals themselves) or state-owned transportation companies that used to be regional monopolies. The latter contradicts articles 36 and 50 of the law "On automobile transportation services" as well as the anti-monopoly legislation, because here we have a case where the private service providers are regulated and controlled⁶ by their major competitor, the state-owned service provider. Usually regulators ask all service providers to sign contracts with them before they are allowed to provide service on their assigned routes. Since no standardized contracts are available, regulators write them as they see fit, so that they quite often contain illegal clauses. For example, in Gomel and Mozyr there are clauses in the contracts obliging all private service providers to provide one free seat for privileged passengers without compensation.

⁵ This sphere is regulated by the law "On automobile transportation services" (July 21, 2001), by "Rules for automobile passenger transportation" (Resolution of the Ministry of Transport, July 22, 2002), and by "Provisions concerning operators of passenger auto-transportation services" (Resolution of the Council of Ministers, February 8, 2005).

⁶ This control includes the authority to share out routes, to allow private firms to provide service, to control their activities, and to issue and cancel permits to operate routes.

The procedures used by regulators to share out routes are frequently obscure. There are no precise rules: thus there have been cases in which certain private firms with technically unsound vehicles (prohibited shortly after) received permits for the most profitable routes, while other entrepreneurs were driven out of business. In most cases, special 'competition committees' share out the routes. These committees consist of representatives of the local authorities (the principal) and regulators (state-owned providers), making fair competition among different providers nearly impossible.

Concession of routes, or in wider terms, making providers pay for using routes is not regulated by law. It has already been mentioned that administrations of some towns auction off routes without any legal basis. There are also cases (for example in Grodno) where private providers were asked by the local council to make contributions to the city coffers and those who contributed most (up to USD 10000) received permits to operate the most profitable routes. Theoretically, regulators should make an assessment of the rents generated at different routes and distribute these rents evenly among providers to ensure all of them receive a more or less equal rate of return. Alternately, high rents could be captured (through concession, auctioning and the like), to be later channeled to service provision on unprofitable routes.

Technical and safety standards are set by the central authorities (e.g. the Ministry of Transport). They do not take into account regional differences. For example, 7-seat vans are prohibited from operation. This may be a useful measure for Minsk, where the flows of transport and passengers are massive, but is quite unrealistic in other cities where many suburban routes are used by only a few passengers. In practice, regulators in large towns receive many requests for route permits from various firms and entrepreneurs. Obviously, the ones that use vehicles specially constructed for urban transportation (generally weighing more than 5 tons and having more than 9 seats) should be given priority. Yet, if there are routes that only providers with small vans are willing to take, they should be permitted to do so.

Almost all of the abovementioned shortcomings of the current legislation would be eliminated if independent regulatory bodies were established at the local level.

4.2. The role of independent regulatory bodies in local transportation markets.

An independent regulatory body is created to ensure fair competition among different service providers. In international practice, regulatory bodies (sometimes called 'boards') consist of representatives of all interested parties: local authorities, service providers, road maintenance providers, consumers and labor unions. According to the criteria for an effective regulatory system given in part 2.2, it must be independent both from the local administration and from the service providers, and a statute must regulate its activities. Compared with the situation in which the local administration acts as a regulator, such a body is likely to be more impartial, basing its decisions more on economic efficiency arguments than on political ones. All procedures within independent regulatory bodies should be fully transparent, especially route distribution decisions. The criteria for all actions and procedures should be clear and all decisions should be made in a public forum.

A World Bank publication gives an example of an Argentinean land transport regulator, as a typical regulatory body for economies in transition.⁷ The activities of the agency are focused on three main objectives:

- The interests of current users are taken into account in the operator's production decisions.
- The sector is competitive, intermodal⁸ competition works, and all users are treated fairly.

⁷ A primer on efficiency measurement for utilities and transport regulators. World Bank Institute, 2003.

- The sector grows appropriately, that is, the operators make the right investment, technology, and management choices to ensure that future demand will be met.

Thus, the regulatory body's activities are aimed mostly at ensuring sustainability of service provision and guaranteeing fair competition among providers. To take another example, independent bodies regulate the local transportation markets in many Polish cities.⁹

In contrast, existing regulators in Belarus being providers themselves are not able to ensure fair competition.¹⁰ Any regulatory system in the transportation sector should be based on the criteria of effective regulation given in part 2.2. The first step would be to amend the legislation to ensure independence and transparency of the bodies regulating local transportation markets. The range of functions they are to perform should include:

- Planning the transportation network: roads and bus routes,
- Determining which routes are profitable and which are not, and approximating rates of return for each route,
- Sharing out routes among different providers,
- Constantly controlling the costs and profits of the providers,
- Managing the transportation network infrastructure.

The independent regulators should ensure that sufficient amounts of service is provided on 'traditional' routes that may be unprofitable, and that all providers operate under similar conditions. No provider should be able to receive a monopoly rent, and if this is unavoidable, the rent should be extracted by appropriate measures. Also, it should be ensured that all providers contribute to the local road maintenance funds according to the damage they do to the roads.

5. Conclusions and policy recommendations

Independent regulation is very effective in all infrastructure sectors worldwide. It needs to be based on criteria such as coherence, predictability, capacity, independence, accountability and transparency. The main characteristic of independent regulation is that it is performed not by state administrations but by independent regulatory bodies.

For Belarus this is still a new and nonexistent phenomenon, though there are some sectors where independent regulation could be set up even in the short run. For several reasons, the most suitable sector to implement independent regulation is local passenger transportation. For its implementation, the government should take the following steps:

- Make amendments to the current legislation, that would prohibit transportation service providers to become regulators,
- Create the legal basis for establishing independent regulatory bodies for public transportation at the local level,
- Limit the functions of the regulators to a certain range and describe the system of control/audit they would be subject to,
- Develop a typical statute for a regulator.

⁸ This agency is in charge of all modes of land transport, not only automobiles.

⁹ For more detail on the Polish experience see "Regulating public automobile transport: the major issues", <http://www.research.by/pdf/pp2005e07.pdf>.

¹⁰ See "Major impediments to private participation in urban transportation in Belarus", <http://www.research.by/pdf/pp2006e02.pdf>.

Shifting public transportation policy from centralized to independent regulation would entail better services for local communities, reduce the burden on local finances, and provide more opportunities for small business development.

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