When competitive tendering seems to risky. Evidence from regional railways in Poland

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ABSTRACT

This paper analyses the emergence of region-owned local operators to counteract opportunistic behaviour of the incumbent on the market of regional rail services after competitive tendering failed in Poland. Six local operators have been set up so far, their combined market share is significant (54% in passengers, 44.5% in passenger-km) and growing. The prior flawed liberalisation of regional rail market in Poland resulted in substantial barriers to entry for external competitors and strong incentives for incumbent's opportunistic behaviour toward regional authorities. Main reasons for regional authorities to vertically integrate are lowering transaction costs of providing rail public services and eliminating incumbent's market power.

1. Introduction

Contracting-out of public services in passenger regional rail transport in Europe has been examined by a growing body of literature. However, the previous papers have focused on the Western European evidence (e.g. Aleksandersson and Hultén 2007; Beck, 2011; Brenck and Peter 2007; Guihéry, 2014; Kain, 2007; Link, 2016; Nash and Smith, 2007; Preston, 2016; Thompson, 2007; Wegelin and Arx, 2016). Work showing the Eastern European experience with regional railways has been rare (Krol and Taczanowski, 2016; Taczanowski 2015; Taylor 2006; Tomeš and al., 2014). In particular, a closer examination of the Polish evidence in contracting of rail services has not been presented so far.

This paper aims to fill this gap by showing unexpected results of regional railways reform in Poland, stemmed from regional authorities' actions to mitigate their exposure to incumbent's opportunistic behaviour.

The infrastructure unbundling (2002) and the devolution of organizing (2001) and funding (2004) of railway services to regional authorities made competitive tendering theoretically possible in Poland. However, due to general lack of bidders, tenders became in practice sole source negotiations with the sinking national incumbent PKP PR. The cooperation was hard-going and became further complicated when the government decided to devolve the company to the regions (2008).

The regional authorities were given the incumbent against their will and never started to treat it as an internal operator. Rather than keeping it afloat, the most prosperous regions have chosen to set up their own local operators to award them public service contracts directly. As a result, the Polish regional rail market has a unique structure: in 2015 the combined market share of six local operators was 54%, the market share of the national incumbent operator was 43.6%. Only the remaining 2.4% belonged to an external operator (Arriva) which was granted contracts via competitive tendering[1].

Section 2 provides the context and premises of Polish railway reforms. In Section 3 we discuss the main motives for failure of competitive tendering in Poland. The regional authorities' relations with the national incumbent operator and the emergence of local public operators are covered in Section 4. Section 5 provides a discussion and conclusion.

The methodology adopted in the paper can be referred to as a micro-institutional analysis.

2. Context and premises of Polish railway reforms

As in many other European countries, both post-communist and Western European, also in Poland railway reforms were driven mostly by persisting financial problems of an incumbent operator. The characteristic context of the initial period of the reforms were, however, dramatic patronage and coverage decreases in passenger services of Polish State Railways (PKP). Within only a decade after Poland started its transition towards market economy (1989), number of passengers fell by more than one-half (Fig. 1). PKP's transport performance dropped even faster (Fig. 2). There were at least three factors behind this.

Firstly, due to explosion in car owning in Poland, railway demand ceased to be relatively inelastic. Since PKP had been underfunded for years, the rolling stock was outdated and the infrastructure in bad condition. The poorly trained staff lacked customer-oriented culture. As passengers were not captive anymore to the public transport, inadequate standard of services started to play an important role.

Secondly, when due to the dropping patronage PKP proposed to cut services, the government did not show the commitment to maintain the spatial coverage of rail transport in Poland. Just the opposite, the outflow of clientele was accompanied by severe cuts in government funding of passenger services. According to Taylor (2006), the rail subsidy fell radically in absolute terms, as well as a percentage of the state budget.

Possible explanation of this unusual governmental policy towards railway is the nature of Polish post-communist transformation. Although very successful in terms of economic growth, it undermined the social costs of the process. As Szahaj states (2015), unlike other countries in the region, Poland initially chose the Anglo-Saxon model of capitalism and

[1] Passengers (UTK, 2016).

interpreted it radically. Hence the desire to limit the role of the state and the belief in the market as an excellent mechanism for regulating not only economic but also social relations.

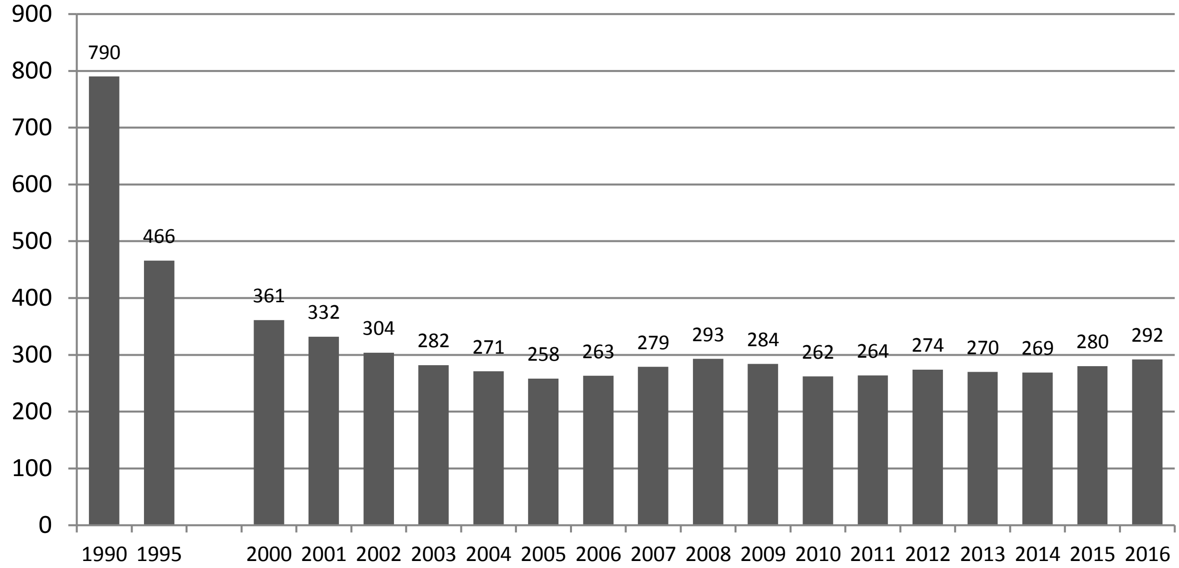

Figure 1. Passengers transported by railways in Poland in 1990, 1995 and 2000-2016, millions (UTK, 2016)

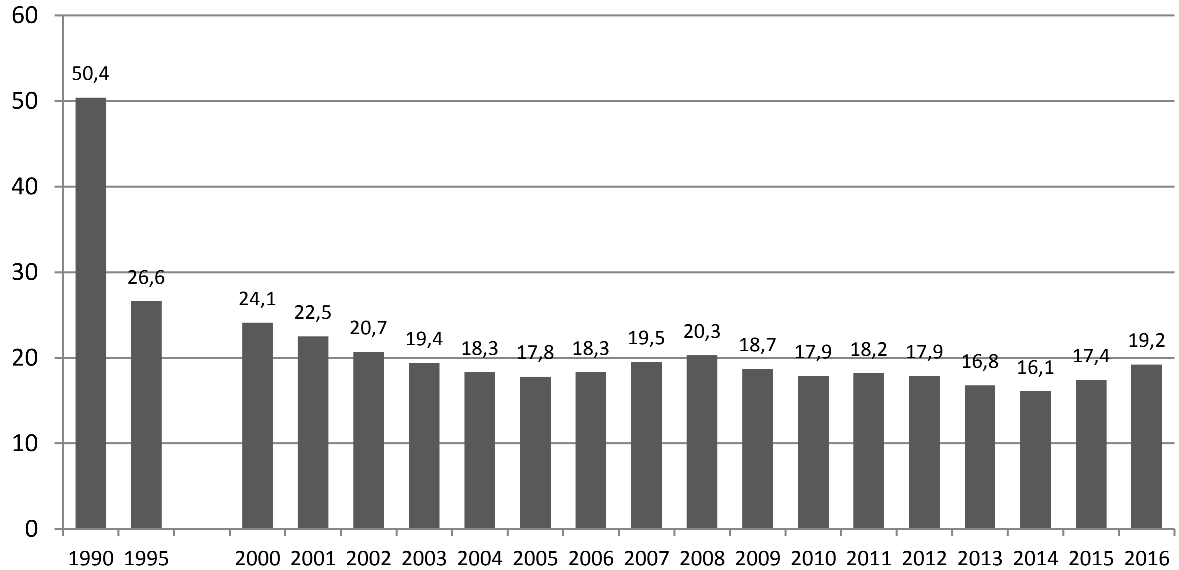

Figure 2. Transport performance of railways in Poland in 1990, 1995 and 2000-2016, billions of passenger-km (UTK, 2016)

Reduced ticket sales combined with lack of government's commitment to maintain operations inevitably led to massive railway closures to passenger services in order to cut losses. As most losses occurred in regional and local services, these were mainly affected. The length of the railway network used for passenger traffic decreased in Poland from 21,277 km in 1988 to 13,818 km in 2003, that is by 35% (Komusiński, 2010). Consequences of closures have been dramatic for many inhabitants, socially deprived and excluded (Taylor, 2006).

Thirdly, the government was late with the reforms. It seems fair to state that the politicians did not have an idea of what the approach to rail transformation should be. For almost a decade the national operator was left alone, and thus railway remained one of the ancien regime islands on the map of the fast changing Polish economy. PKP become emblematic for bad management, waste of assets, disproportionate strength of labour unions and nepotism. As Taylor (2006) observed, the commitment of the rail industry itself to the implementations of the reforms was hampered by only employing people from within its own circles.

The results of the delayed reforms not only led to the decreases in patronage and decapitalisation of PKP's production assets. Perhaps, the most fundamental has been the final erosion of the traditional mission-oriented organisational culture of the company. This process started much earlier, as the economic crisis of the communist state (growing since the late 70s in Poland) had greatly affected the rail transport, also impinging on its professional value system and work ethos. However, when the overstaffed PKP was left alone during the transition, the immediate result was the fast pauperisation of railwaymen; since they had previously considered themselves part of a privileged profession, this led to their frustration, disheartenment, sometimes demoralisation.

It seems that it has been a decisive circumstance that the traditional perspective of a public utility acting for public interest has evaporated. It happened before a new organisational customer-oriented culture could have emerged. We underline this circumstance as it seems to have played further an important role in the incumbent's relations with the Polish regions.

The first visible reforms occurred only with the Railway Transport Act of 1997. Although in theory they started the liberalisation of the sector, they were not motivated by a real intention to introduce competition. Their aim was to achieve a more commercial orientation of PKP by just a mere threat of new market entries. Plus, they formally implemented the Community acquis needed for Poland's future accession to the EU. Very limited results of these reforms are summarised in the first column of Table A.1.

The reforms took impetus in the new millennium. The financial crisis of railways arose and its operating losses became too high for the state to afford. The Act of 2000 on Restructuring PKP has been finally agreed with the railway unions. Divestiture, both vertical and horizontal, took place in 2001. The national incumbent PKP has been transformed into so-called PKP Group. Three new incumbent operators (PKP IC, PKP PR and PKP Cargo) have been formed out of the former passenger and freight divisions of PKP. The newly-created infrastructure manager PKP PLK published its first access charges list and network statement on 1 April 2002. This date is sometimes considered to be the truth beginning of rail liberalisation in Poland.

With Poland's entry into the EU near to happen (2004), the new Railway Act of 2003 was issued to achieve a regulatory framework consistent with the Community legislation. Among others, a regulatory body (UTK) was established. The effects of the alleged liberalisation policy in different time frames and market segments are summarised in Table A.1. In short, the reforms succeeded only in freight rail.

In regional railways, liberalisation remained on paper for the reasons that we examine in Section 3. Instead, Poland has seen the walking devolution in this sector of the economy. Regional authorities became obliged to plan and organise public rail transport in 2001. Starting 2004, the responsibility for financing it has been also shifted from the central government to the regions. The pinnacle of this policy has been an unexpected devolution of the incumbent to all sixteen regional authorities in 2008. Thus, compared to other European countries, “regionalisation” reached a very high degree in Poland.

The opinion that the government’s crucial motivation behind this has been to get rid of the responsibility for the public regional transport in Poland may be exaggerated, but there is certainly a grain of truth in this: regionalisation was heavily underfinanced. The government rightly wanted the regional authorities to decide about what level of the supply of public services would be socially desirable on their territory, but did not care enough whether regions can afford what they had decided on, whether it can be delivered, and by whom. Instead, the government simply entrusted regional authorities to the promises of the competitive tendering while completely underestimating the commitment required to introduce such model of the provision of public services.

The scepticism about the government’s motivation has been partly risen by the fact that the first legal basis for devolution was (until the Railway Act of 2003) the Act of 2000 restructuring PKP. Hence the opinions that it was driven by financial crisis of the national operator.

The compulsory competitive tendering formally came into effect in 2004, with a regulation implementing the Railway Act of 2003. Direct awarding only remained possible when “in house”. Tenders were single-stage, open or non-open, with sealed bids. The type of contract was the net-cost contract. Weighted criteria to select the winning bid could include committed reliability, frequency and standard of services, and some other options, but the most important was the amount of subsidy needed by a bidder. The maximum length of contract was 3 years (5 was possible in exceptional circumstances).

The clear aim of the competitive tendering has been never formulated, but – as in many other countries on the early stage of experiences (Kain, 2007) – there were hopes for the future that competitive tendering would significantly reduce reliance on subsidies. In anticipation, in 2001-2003 – when the government was still responsible to fund regional public transport – the subsidies were much lower than agreed with regional authorities[2]. This heavily affected patronage (Fig 1. and Fig. 2) and almost killed the financial performance of the newly created incumbent on the regional market – PKP PR.

Moreover – in marked contrast to PKP IC and PKP Cargo, intended to go public eventually – after breaking-up of the old PKP in 2001, PKP PR found itself the most overstaffed and with the most decapitalised rolling stock. The company was considered the sick man of the PKP Group, but the government kept postponing its reestablishment. It seems fair to state that it was left alone. Therefore, on the eve of the revolution in contracting-out of public rail services in Poland the incumbent was sinking.

[2] They amounted to 66.3%, 51.8% and 31.4% of the promised figures in 2001, 2002 and 2003, respectively.

3. Failure of competitive tendering in Poland

Successful competitive tenders largely depend on the organisers' ability to attract a sufficient number of eligible participants. Public authorities in Poland have failed to achieve this with regard to regional passenger rail market.

There is no information available about how many tenders have taken place since they were introduced in 2004. Given the number of regions in Poland, the length of a typical contract and the gradual increase in the use of direct awarding since 2008, we can conservatively assume that there have been no less than 50-60 of them. However, to the best of our knowledge, only about 10 tenders attracted the attention of potential newcomers (which requested the tendering documents) and in only three of them a would-be competitor decided eventually to make a bid. These three tenders were organised by Kujawy-Pomerania Region in 2007, 2010 and 2013 and won by Arriva against the incumbent[3]. However, in the vast majority of tenders there has been only one bid, made by the incumbent.

This very modest interest in competition has been due to several barriers to entry that have combined and reinforced each other. Some of them have resulted from the clearly demonstrated government's lack of commitment into regional passenger rail transport in Poland. We cover them separately for two reasons.

Firstly, we don't mean here the lack of commitment to set the barriers to entry low, but – quite the opposite – the lack of commitment that has resulted in setting them high. Secondly – in contrast to a more literal definition that a barrier to entry is anything that reduces entry – in this paper we take the Gilbert's (1989) view that a barrier to entry is a rent that is derived from incumbency. And yet, uncertainty created by government's lack of commitment also affected the incumbent, although – as we present in Subsection 3.1 – it had an adverse effect on this company.

3.1 Government's lack of commitment

This uncertainty factor has been probably decisive for failure to attract serious international bidders, especially in the first years of tendering. Firstly, there have been many visible symptoms that the government may not be very interested in improving the functioning of regional railways in Poland. They included the postponement of the PKP PR restructuring, lack of financial commitment into subsidies and neglect of regulatory considerations. Secondly, the economic mechanism was triggered as follows.

The degree of uncertainty was relatively high in Poland that was a new market and an emerging economy. With no visible commitment from the government, however, there was even more caution over the likely success of tendering in this country. Especially devastating for the perceived risk was perhaps the fact that in 2001-2003, thus immediately before competitive tenders were introduced, the government's subsidies for public service contracts dropped radically. Therefore, the view of the would-be bidders had to be that public

[3] Arriva bid for only part of the packages. The rest fell to the incumbent.

funding for passenger services still lacked sustainability in Poland. All in all, as the perceived risk was high, the potential newcomers needed high risk premiums.

By contrast, the sinking incumbent was prepared to submit aggressive bids just to keep afloat for one or two more years. The government's lack of commitment to restructure PKP PR resulted in creating an extremely strong incentive for this company to win any tender at any price with the aim of renegotiating contract in the future. Thus, incumbent and potential challengers were responsive to the uncertainty resulting from the government's lack of commitment in two extremely different ways.

The important issue here is that bids for public contracts in Poland have been typically evaluated on the basis of lowest cost. Other terms, including deliverability or standards of service, have been neglected or underestimated. This did not apply exclusively to the railway sector and on many occasions resulted in strategic bidding or winner's curse phenomenon.

The most notorious example is a contract with a Chinese company Covec to build a stretch of the motorway between Warsaw and the German border in 2009. Covec won after submitting an extremely low bid. Once the construction got under way the company quickly ran into financial difficulties, halted work and tried to renegotiate. Although the investment was crucial for EURO 2012 football championships co-hosted by Poland, the government rejected the attempt and cancelled the contract in 2011 to avoid strategic behaviour from construction firms in the future.

In the railway sector, however, the government lacked the commitment that it showed in the Covec case. Moreover, the newcomers realised that strategic bidding has been made very hard to counteract by an organiser of tender. The most important weighted criterion to select the winning bid had to be an amount of subsidy needed by a bidder. The official information is scarce, but to the best of our knowledge the weight of this parameter has never been lower than 70%. What is even more important, in the light of the legal framework the organiser of tender could not estimate the deliverability of the contract. As long as the bid was formally acceptable, he only could take into consideration the committed terms of the offer.

All in all, potential competitors who needed high-risk premiums to consider entry into the Polish market expected the incumbent to bid strategically, win against them and renegotiate the contract in the future. The threat of incumbent's aggressive behaviour was probably enough to turn their eye away from this market.

Using the terminology of McAfee and al. (2004), the government's failure to commit has resulted in an ancillary barrier to entry. This one has combined with others (as shown in Subsection 3.2) to create a primary barrier or barriers to entry.

Additional issues to cover in this subsection are also the costs and the risk associated with infrastructure access charges in Poland. Until recently access charges not only remained much higher than in most other EU countries, but also recurrently lacked stability. Partly it was due to the inadequate level of public infrastructure funding. Another important reason was the absence of any incentives for the PKP PLK infrastructure manager to lower its management costs. This included a complete lack of any regulatory pressure on the upstream market. The regulatory body UTK has been politically controlled and lacked assets, tools and, most of all, independence to have any influence on the state-owned infrastructure manager.

3.2 Barriers to entry

The barriers to entry that we discuss in this subsection are the barriers reported by the potential entrants and by the organisers of tenders. Thus, they may be referred to as the alleged barriers to entry.

The most commonly reported criticism has been that contracts in Poland are too short to allow the entrant to commit into the rolling stock. This trouble, pertaining to the investment horizon risk, has been experienced in many countries; e.g. according to Link (2016) a critique on too short contracts has occurred in Germany with much longer contracts (9.6 years long by average).

As Thompson (2007) explains, the issue involves a disjunction between the long working life of assets and the shorter life of the contracts. This can be mitigated either by increasing the length of the contract or by transferring the risk of long-lived assets. The latter can be achieved by the rolling stock pooling or leasing, using the instruments like a guaranteed re-purchase value of rolling stock at the end of the contract etc.

The problem is in fact embedded in the risk of stranded assets at the end of the contract. Due to the low interoperability of the European rail system, rolling stock is not only a durable, but also a specialised asset. Second-hand markets for such products are limited and sunk costs problem arises. If there were no risk of stranded assets, the short length of contracts would not be an obstacle for investors. Therefore, assets specificity combined with uncertainty are a primary barrier to entry here. The short period of contract is not an economic barrier to entry *per se*. Perhaps, it can be referred to as an ancillary barrier to entry that reinforces the primary barrier. This is an important theoretical consideration with clear implications for economic policy.

However, as the government did not commit to a sound economic policy towards the rail sector, the opportunities for rolling stock risk transfer were limited in Poland. Regional authorities lacked means and awareness to create solutions in this regard. They have been obliged by law to purchase rolling stock starting 2001, but typically these investments were scarce. Pooled ventures among the regional authorities have not emerged in Poland. Instead, unitary purchases led to proliferation in types, resulting in additional transaction costs of fleet management.

Interestingly, organisers sometimes inscribed into terms of tender that bidder must have a rolling stock at disposal at the time the bid is submitted. This could result from a cosy relationship with the incumbent, but probably in some cases was due to lack of understanding how destructive it was to competition.

As risk transfer was difficult, the would-be competitors lobbied for extending length of contracts. According to them, even 5 or 6 years was enough in some cases to commit into rolling stock. The extension of the allowed maximum period took place only in 2010 and it has been 10 years since instead of the prior 3 years[4]. However, the duration of contract specified in a typical call for tenders has never been close to the upper limit. A typical situation was 1-2 years until 2010, then 3-5 years. Many regions performed tenders annually, for just one year.

By lowering the specified length of a contract – thus elevating the ancillary antitrust barrier to entry – regional authorities reduced interest in competition to a minimum. Seemingly, such behaviour was irrational. The immediate consequence was that they could not expect any choice of operator. Instead, they forced themselves into a very uncomfortable cooperation with the incumbent which was clearly focused on exploiting them (as shown in Section 4). Thus, regions seemed to increase their uncertainty.

In fact, it was probably a strategy to mitigate uncertainty in cooperation with opportunistically behaving incumbent. Barriers to entry were being set higher, but they had already been high before. Regional authorities did not expect nor have they experienced a real interest from other bidders. On the other hand, they were very reluctant towards longer contracts with the PKP PR, as they perceived contracts enforcing against the incumbent as unrealistic.

Regional authorities recognised that their bargaining power is greater when negotiating new contracts than enforcing or re-negotiating the old ones. Therefore, they preferred to keep the incumbent on short contracts and to reset them periodically. In this way, regional authorities could consider announcing tenders for short-term contracts a rational choice of the lesser of two evils. The greater evil being a long-term contract with the incumbent.

Another often reported hindrance for operators, thus the alleged barrier to entry, has been the incumbent’s advantage in terms of knowledge of market, revenues and other relevant information.

Informational advantages are considered a potential barrier to entry in economic literature. What is more, it has long been recognised that they can play particularly important role in net-cost contracts, where demand information is crucial. Thompson (2007) points out that as public operator is using public funding there is no excuse for not requiring the information needed for potential bidders – including past demand and current cost. However, PKP PR refused to develop and share the information. And due to weak institutional framework, it was impossible for regional authorities to enforce it.

Finally, the issues affecting timing of entry have been reported. Bidding, preparation and mobilisation times were very short, which partly resulted from short contracts duration. In case of annual contract, it was usually only few months. As there has been neither the staff nor the rolling stock transfer from the prior operator, it has been an important obstacle.

All in all, there have been many alleged barriers to entry in Poland. At least some of them can be considered ancillary barriers to entry that combine and reinforce each other to create a primary barrier to entry. E.g. uncertainty, reinforced by a threat of strategic behaviour

[4] 15 years has been allowed in direct awarding.

(covered in Subsection 3.1), can combine with asset specificity to produce a substantial primary barrier to entry.

Tenders in Kujawy-Pomerania were successful because several circumstances happened simultaneously. Firstly, the authorities of the region were committed and aware how to design tender. They decided e.g. for packages of services and offered transfer of infrastructure charges risk from the operator. Secondly, as they contracted relatively small number of train-km, they had relatively important amount of rolling stock at disposal which they made available to a winner. Thirdly, in the first two tenders (2007 for 3 years and 2010 for 10 years) the newcomer bid exclusively for non-electrified lines' packages, where specificity of assets plays less important role as a risk and timing factor. In the third tender a developed trusting relationship with regional authorities played probably important role for the newcomer to bid for relatively short contracts (2013 for two years) on electrified lines.

Authorities of Kujawy-Pomerania managed to remove barriers to entry and attract an eligible bidder to win against the incumbent. It would be, however, unjustified to state that barriers to entry and government's lack of commitment decided alone about the fiasco of competitive tendering in other regions. Although they were probably decisive, there were certainly other reasons. In many cases regional authorities could be reluctant toward tenders for different motives (other than presented above). In many cases cosy relationship with incumbent or lack of awareness could play role. Given the historical perspective of declining traffic in Poland, market trends could discourage potential entrants.

Nevertheless, tenders have typically attracted only incumbent's bid that was then subject to negotiations. The outcome of the reform has been thus sole source negotiations and not the highly desirable competitive tendering.

4. Regional authorities' relations with the incumbent and setting up local operators

Failure of competitive tendering in Poland made regions suffer the financial consequences of incumbent's inefficiency. Firstly, PKP PR tried to improve its financial performance by reducing output. Failure to fulfil contracts became a recurrent problem. Moreover, the financial crisis prompted the incumbent to opportunistic behaviour towards regional authorities which were dependent on him. The company not only engaged in renegotiating old contracts, but also started to raise the price of services at the contract renewals[5]. On several occasions, when potential newcomers appeared interested, PKP PR reduced its own offer significantly. Otherwise the company threatened to walk away from negotiations and discontinue services.

The incumbent's opportunistic behaviour affected inhabitants but the company became more interested in subsidies than passengers. The problem of organisational culture, signalised in Section 2, played here probably an important role. The company lacked long-term commitment to provide citizens with a durable public transport.

[5] E.g. PKP PR demanded PLN 34 million in 2005, PLN 39.6 million in 2006 and PLN 48.8 million in 2007 for the same number of train-km in Kujawy-Pomerania. The average inflation rate in Poland in 2005-2007 was 1.8%.

Instead, due to the government's failure to act, PKP PR had an important short-term internal objective – to keep afloat. The company focused on it and the result has been the increasing discrepancy between the operations and received subsidies (Table 1). At the expense of regional authorities the incumbent managed to improve its financial situation and even to regain financial balance temporarily (2007). On the other hand, it has also prompted the most prosperous regions to counteract the opportunistic behaviour by setting up their own operators.

Table 1. Operations (millions of train-km) and subsidies received (millions of PLN) by the incumbent (PKP PR / PR) in 2003-2014

Year	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
Operations	93	88	72	71	64	65	63	62	62	56	48	44
Subsidies	246	420	385	492	545	559	674	810	930	921	780	788

(Zajfert, 2016); cumulated inflation 2003-2014: 33.2%

Interestingly, the compulsory devolution of the PKP PR (renamed hence to PR) in 2008 did not change too much in this regard. Sixteen regional authorities were given against their will the company which they considered to be hostile. Only six regions had a share higher than 6% and the ownership was far too dispersed to have a real control over company's actions. Plus, due to demographic, socio-economic and spatial differences among individual regions, they did not have a sense of common interest in the company. Business oversight reasons added to the picture, including persisting lack of transparency and flawed system of subsidies settlement. Moreover, although PR was keeping afloat again, it still needed restructuring and massive investments.

Therefore, regions became business partners not only without a real control over the company, but also without a real motivation to gain it. By the incumbent's devolution, the government was trying to shift the remaining risk in the regional rail sector away to the regional authorities. However, instead of underwriting this risk, regional authorities chose not to commit.

All in all, the only observable immediate result of the incumbent's devolution was that regions could now avoid the inutile procedure of tenders for nothing and award contracts directly to the company they technically co-owned. Many of them did, but length of contracts remained low. However, the most prosperous regions kept establishing their own operators.

They have followed the example of the wealthiest Mazovia that already in 2004 had set up *Koleje Mazowieckie* (literally Mazovian Railways) to award this operator long-term contracts for the all rail public services in the region. Local operators have been set up so far by Lower Silesia (*Koleje Dolnośląskie*, operating since 2008), Silesia (*Koleje Śląskie*, 2011), Wielkopolska (*Koleje Wielkopolskie*, 2011), Małopolska (*Koleje Małopolskie*, 2014) and Łódź Region (*Łódzka Kolej Aglomeracyjna*, 2014) and awarded long-term contracts (typically for 10-15 years, after a shorter initial contract).

The local operators are monopolistic and due to limited area of operations they can not benefit from the significant economies of scale. Their services are thus not necessarily less expensive for regions than incumbent's ones. Sometimes, they are even more expensive

(Table 2). However, regions are evidently ready to pay high premiums for mitigating uncertainty in providing public services to their inhabitants. This is discussed in Section 5.

Table 2. Average unitary subsidies for different operators in Poland in 2009-2014 (PLN/train-km)

Year	‘09	‘10	‘11	‘12	‘13	‘14
PR	10.72	13.05	14.93	16.57	16.37	17.98
KM	12.50	12.76	13.49	14.18	16.00	17.33
KD	18.44	17.98	20.36	20.09	21.66	21.92
KŚ	x	x	12.26	13.83	16.60	22.38

(Zajfert, 2016); KM – Koleje Mazowieckie, KD – Koleje Dolnośląskie, KŚ – Koleje Śląskie

The government has apparently recognised that it had not succeed to transfer the whole risk in the regional rail sector to the regions. Hence, it stepped in and took the controlling interest in the incumbent in 2015. Finally, its restructuring started. Characteristically, to secure its financial stability, the government has exerted pressure on the regional authorities to sign longer-term contracts with the company (usually for 5 years). Many of them obeyed.

Table 3 shows the market shares of the companies that are active in Poland. Mazovia and Silesia use exclusively their own local operators. Lower Silesia, Małopolska, Wielkopolska and Łódź Region share their contracts between their local railways and PR. The market share of the incumbent is, however, drooping there from one year to another. Yet, on several occasions, the incumbent has been used there as a last resort provider. Kujawy-Pomerania cooperate with both PR and Arriva. The other regions use exclusively the incumbent.

Table 3. Market shares of the operators active on the market of regional rail services in Poland in 2015

Operator	PR	KM	KŚ	KW	KD	Arriva	KMŁ	ŁKA
% of passengers	43.59	35.87	9.01	4.18	2.95	2.43	1.01	0.92
% of passenger-km	53.63	27.21	7.64	4.28	3.87	2.10	0.34	0.89

Calculated from (UTK, 2016); KM – Koleje Mazowieckie, KŚ – Koleje Śląskie, KW – Koleje Wielkopolskie, KD – Koleje Dolnośląskie, KMŁ – Koleje Małopolskie, ŁKA – Łódzka Kolej Aglomeracyjna

5. Discussion and conclusion

Setting up internal operators rather than contracting the public services to external suppliers can be referred to as vertical integration. We believe that there are at least two theoretical reasons providing possible explanations of this phenomenon in rail sector in Poland.

The more obvious possible explanation would be integration to eliminate market power. Competitive tendering failed in Poland. Regions responsible for subsidising public services found themselves at the mercy of the incumbent using monopolistic practices. Hence, they have created their own suppliers as the perceived benefits outweighed the perceived cost.

Another explanation, not necessarily excluding the prior, involves integration to lower transaction cost. When such costs are high, opportunistic behaviour – thus taking advantage of a transaction partner when allowed (or triggered) by circumstances – is more likely to occur. Contracts in which transaction costs are high enough to make vertical integration desirable may involve specialised assets, uncertainty that makes monitoring difficult or information that needs to be developed (Carlton and Perloff, 2005). Opportunities for exploitation are even greater when one contract party is dependent on another. This occurred in Poland when due to competitive tendering failure it became unrealistic for regions to switch provider.

Specialised assets involved in delivering a contract are enough to make vertical integration a considered option when it is impossible to switch suppliers in the short run (Carlton and Perloff, 2005). As regions in Poland found themselves locked in with PKP PR with uncertain time horizon, the use of the specialised assets (rolling stock together with maintenance facilities) provided great incentive to integrate.

Partial or quasi-vertical integration, involving only a specific physical asset and not the entire supplying company, may be enough to avoid opportunistic behaviour (Carlton and Perloff, 2005). In fact, when public authorities engage in rolling stock investment, which is common in Europe including Poland, they quasi-vertically integrate. Their motivation may be to benefit from competition through setting barriers to entry low, but at the same time they prohibit incumbent's opportunistic behaviour.

However, in the analysed situation in Poland, quasi-vertical integration could not solve the problem of being exposed to the risk (or rather uncertainty) of remaining with the incumbent if a competitive tender went wrong despite having made rolling stock available to bidders. For the set of reasons shown in Section 3, tendering seemed extremely risky both to would-be bidders and organisers. Hence, the regions able to afford crucial assets may have decided that spending some more money to establish their own operator is worth removing completely the uncertainty of remaining with the incumbent[6].

Moreover, there have been many other reasons in Poland to fully integrate that are related to transaction costs. With vertical integration costs of negotiation and renegotiation of contracts, costs of designing and organising tenders and costs of contract enforcing became inexistent. Furthermore, business oversight and contract delivery monitoring has been made possible and easy as the internal operator is now fully transparent. Thus, regional authorities possess finally detailed and trustworthy information about costs and demand – crucial when organising public service. The responsiveness of such operator to the regions' needs is also much more expanded compared to the cooperation with the co-owned incumbent. E.g. it is much easier to penalise the company's management when the ownership is not dispersed – but another circumstance seems to be more important here.

Both contract parties have the same long-term objective now: to provide inhabitants with a strong public transport. This is an important factor of a good-working, trusting relationship that allows business partners to keep long-run transaction costs low.

[6] Note that the uncertainty of remaining with the incumbent can also be analysed in terms of integration to eliminate market power, as well as in terms of integration to assure supply which is another theoretical motive for vertical integration. Service disruptions have been intermittently painful in Poland, so it could also play a role.

It does not mean that the solution that regions in Poland have found is perfect – far from it. The national *de facto* monopoly has been replaced by many subnational *de facto* monopolies, thus “the Polish model” can not be successful on the cost side. Especially, it can not be that successful in this regard as it possibly would be if a working competition occurred on the market. Yet, after setting up internal operators and awarding them 10-15-year contracts, opportunities to introduce a “working competition” in Poland are probably much lower than before – as more than half of the market (in terms of passengers) has been closed for the external entrants. Thus, technically, the wealthiest regions have traded-off the possible efficiency gains in the future for more substantial tranquillity today.

However, protection from uncertainty or risk can only be done at a price. It has long been recognised in the literature that one of the key issues in contracting out of rail services is risk allocation. Therefore, it should be a deeply considered element of regulatory design. Yet, the distribution of risks that we can observe in Poland does not belong to the rules of the game designed by a state as regulator. It is rather a result of the game that regions decided to play.

Moreover, while costs have not decreased, the quality of services have improved substantially due to commitment and a different business culture of local operators. Also, regions seem to be more eager to increase subsidies and invest in the new rolling stock when it is used by their own companies.

Total subsidisation by regions keeps increasing in Poland. However, this is no longer due to incumbent’s exploitation. Rather, it is the effect of regions’ efforts to restore and develop railway services after the years of neglect and shrinkage. Expansion of services not only saved further lines from closures, but also made possible to restore traffic on previously closed lines which is observable in Lower Silesia, Mazovia and elsewhere.

More services, new rolling stock and better quality of the offer are important factors attracting passengers to rail. That not only allows for more revenues to cover costs but also may result in more favourable modal split. The entire growth in patronage observable recently in Poland can be attributed to the activities of the local operators.

All in all, by setting up their own (internal) local operators regional authorities in Poland have managed to implement stronger public transport in weak institutional framework. They have been more successful in managing change in the regional rail sector than the government. Ironically, an important consideration becomes how they can prepare for the EU’s 4th railway package which will, some day, introduce a compulsory competitive tendering once again.

Appendix

Table A.1. The Polish railway market in 2000, 2004, 2010 and 2016

Segment of market	2000 (under Act of 1997)	2004 (under Act of 2003)	2010 (under Act of 2003)	2016 (under Act of 2003)
Passenger regional services (PSO)	Incumbent (PKP) has monopolistic position (receives subsidies from the state budget).	Regions subsidise services, competitive tendering only on paper; in practice, sole source negotiations with incumbent (PKP PR) are a typical form of contracting.	PKP PR devolved to regions and renamed to PR. Direct awarding is a typical form of contracting. Two regions (Mazovia, Silesia) set up local operators.	More regions established local operators. Government took interests in the sinking incumbent.
Passenger inter-regional services (PSO)	Incumbent (PKP) has monopolistic position (receives subsidies from the state budget).	Incumbent (PKP PR) has monopolistic position (receives subsidies from the state budget).	PKP IC receives exclusive subsides from a governmental PSO scheme. PR challenged PKP IC by offering commercial services on the same destinations (some of them received subsidies from regions).	PKP IC receives exclusive subsides from a governmental PSO scheme. PR only remained on one destination (Warsaw – Łódź) subsidised by Łódz Region.
Passenger inter-regional services (commercial)	Incumbent (PKP) has monopolistic position (open access possible in theory but there are no newcomers).	Incumbent (PKP IC) has monopolistic position (no newcomers).	Fierce open access competition between government-owned PKP IC and regions-owned PR; market share of non-incumbent operator (PR) reached 33% in volume (all inter-regional services).	PKP IC forced PR out of the market (2015) by the strategic use of the political process. Strategic lapses of the newcomer contributed largely to its failure. External operators about to enter the market in the nearest future.
Freight services	Open access, but lines in possession of vertically integrated incumbent (PKP); no regulatory body; 21 concessions awarded but activities of new operators generally limited to services provided via former industrial infrastructure.	Competition becomes visible but has purely regional nature: market share of non-incumbent operators reaches 42% in volume while only 8% in performance.	40 operators, fierce competition; market share of non-incumbent operators reaches 55% in volume and 30% in performance; the entire pre-crisis market growth since 2002 can be attributed to the activities of newcomers.	Mature market with successfully restructured incumbent operator PKP Cargo (IPO in 2013), PKP Group has only 33% stake in PKP Cargo; market shares of non-incumbent operators close to 50% in performance.

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