Railway regionalisation in the Netherlands

Bachelor Thesis

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Abstract

This paper is about railway regionalization in the Netherlands. Regionalisation has come about after a number of railway reforms were made, beginning with EU directive 91/440. This directive required the separation of vertically integrated national railway companies into infrastructure and transport divisions to improve transparency. Later directives have enforced greater market liberalisation, accessibility and harmonization in an effort to increase efficiency and competitiveness. In the Netherlands profitable and unprofitable tracks, requiring subsidies, were distinguished. The unprofitable tracks have been contracted out as a concession, whereas the profitable tracks remain in the hands of national railway company NS. Responsibility for contracting out the railway concessions has been decentralised to the provinces in which the specific tracks are located. The provinces use public tendering to offer the concession, following other modes of public transport they are already in charge of. Efficiency should improve because of this introduction of competition and the ability of regional authorities to make more informative decisions. A case study of the Noordelijke Nevenlijnen confirms these arguments; less subsidies are required while qualitative elements have improved. This leads to a positive answer to the problem statement: railway regionalisation has been an improvement.

1. Introduction

1.1 Background

After many years of centralised government control over rail transport, a reverse trend has come up in many European countries. It is a trend that shows responsibility for local rail transport being transferred from national to regional authorities. This process is known as regionalisation and will be the subject of this paper. However, the concept being straightforward, regionalisation did not just come about.

As part of broader reconsideration of the activities of government since the 1980´s, the European Economic Community (EEC) and national governments started to take a different look on the position of the national railways. It was decided that competition should be introduced and the ownership structure of the rail transport system should be changed. Increased transparency and similar standards would allow the railway market to transform from a national market into an integrated competitive European market, with greater efficiency.

The new ideas on ownership structure were expressed in EEC directive 91/440,which was issued in 1991. The directive states that the management of railway operation and infrastructure and the management of transportation services should be separated. Railway undertakings should be outside state influence and operate under the same standards as commercial undertakings. The management of infrastructure should be a separate entity from the transport undertaking and should charge a non-discriminatory fee to any user of the infrastructure.

In accordance with the directive, many changes took place in the European railway market in the following years. National railway companies were split up in infrastructure and exploitation companies, sometimes remaining a subsidiary of the old national company (e.g. DB Netze in Germany) or to become a separate government body (e.g. Prorail in the

Netherlands). In the UK, the national railways got privatised entirely, although the infrastructure was brought back under government control in later years. The freight sector was completely opened up to new competitors, this has resulted in many new entrants to the market and the rise of companies working on a European scale, instead of a national scale. The passenger sector has changed in a different way. Each country has taken its own approach with introducing competition on the tracks, with some having a number of operators, like Germany, whereas others have only one, such as Belgium.

In the Netherlands several competitors have also entered the rail transport business. This happened when in 1994, after the implementation of directive 91/440, a subsequent report by McKinsey and the Nationale Spoorwegen (NS) showed that there were tracks that could be operated profitably and some that could not be. Being a commercial undertaking now, NS was less willing to service these lines. This led the government to divide the railway market into two parts. Primary railways serving the national market, which can roughly be referred to as intercity railways, have been distinguished from secondary railways which only serve a regional market. The primary railways were given to the (former) national railway company through a long-term contract, mainly because they are the only party capable to immediately provide services on a large scale and because they are still owned by the Dutch government. The regional tracks have been dealt with in a different way. Because these are generally unprofitable for the railway companies, their subsistence depends on government subsidies. To guarantee servicing on the track, a contract is tendered for a given period. Initially the concession was given out by central transport authorities but recently this responsibility has been handed over to regional government bodies. Through public tendering they can select the best offer from any private party willing to carry out the service. The budget for operating the tracks has been channelled to local authorities as well. This implies that passenger railways operate on a basis of competition for the track through a concession system as opposed to on-track competition in the freight business.

The take-over of responsibility from national government by local government is referred to as regionalisation. Regionalisation has recently been completed for designated railways, but so far not all tracks have been subjected to public tendering. Next to this, some authorities intend to expand the railway system in their region and an eventual regionalisation of the railway infrastructure is also considered. This makes it a topic we will take note of again in future.

1.2 Problem statement

Although regionalisation has progressed far and will be continued, the effects of these regionalisation processes are not as easy to spot and a statement on these events is therefore hard to give. It is important to know what regionalisation does in order to support this process or not. This leads to the following question:

Has railway regionalisation in the Netherlands been an improvement?

1.3 Method

In order to generate an answer to the problem statement one needs to know how regionalisation of a railway comes about. Therefore legislation and policy of the European Union will be discussed, together with the economic motivation on which it is based. This will be followed by the situation in the Netherlands, which has its own approach and motivation. Then, the implementation in the Netherlands will be compared to that of some other countries to find out how rigorously EU policy has been followed. In conclusion, the lessons from policy and literature will be drawn together.

To see whether policy works out as intended in reality, I will look at railways in the Netherlands that have been transferred. A small case study will be conducted on the system of tracks called the ´Noordelijke Nevenlijnen´, located in the provinces of Groningen and Friesland. First I will motivate the choice for these particular tracks. Then, the process with which regionalisation has taken place will be described and attention will be paid to the motivation behind these moves. The new situation will be compared with the one before regionalisation to see what has changed. All in all, these aspects should give an indication of the effects of regionalisation in practice.

The final conclusion will draw the results from literature and the case study together. This should provide all the relevant information and effects needed to answer the research question.

1.4 List of Chapters

The next chapter, the second, will discuss how the process of regionalisation takes place and what changes actually occur. In the third chapter the focus will be on the Netherlands, more specifically on the case study, to see how the literature reflects in reality. This will lead to the conclusion, which is going to be chapter four.

2. The process of regionalisation

Regionalisation is a process that requires specific regulation and policies and is based upon an economic rationale. It is a twofold change, instituted by the European Union and then given a specific interpretation by the Dutch government, so that they will be discussed separately. The involved regulation and policy will be laid out, followed by the economic motivation for it. After the European Union and the Netherlands have been described, comparison with other European countries will take place. This is to see whether regulation has been implemented similarly or not and why this may be different. Finally, a brief conclusion will give an indication towards the answer of the research question.

2.1 European Union

Regulation and Policy

The EU-directive 91/440 only came into existence after much negotiation. In 1989 the European Commission had already come up with a policy document advocating a radical change of Europe's railway sector to address the issues it was facing. The biggest of these was the fact that almost all national operators were vertically integrated and received subsidies to achieve social obligations. This allowed for cross-subsidizing between different company divisions and caused inefficient operations. Proposed was the separation of operational and infrastructural divisions and fair accessibility of infrastructure to other operators. On the same time operations had to be conducted on a contractual basis, creating a more transparent relationship between government and railway undertaking. Eventually directive 91/440 was a more limited version of this but it still required the separation of infrastructure and operational divisions albeit only in the form of accounts as long as charges between division were transparent. Next to this, when the directive was to come into effect in 1993, management of railway undertakings should be independent of the state, implying separate budgets and accounts and an independent legal status. The undertaking should be run on a commercial basis, execute their own business plan and relationships between government and undertaking should be on a contractual basis. On the matter of access to infrastructure by foreign undertakings there was some liberalization but this was still limited to international combined freight services. With directives 95/18 and 95/19 a more unbiased system for international freight transport came into place.

Directive 91/440 turned not to be very effective at first, thus the European Commission issued the White Paper on Railways in 1996. It argues that infrastructure and transport activities should be separated into different business units, freight and international passengers services should get open access and market forces should be introduced into domestic passenger services. Based on this paper the 'First railway package' was proposed, which eventually led to a series of directives of which 2001/12 is of particular interest. It requires that separate management bodies are set up for infrastructure which operate independently from the railway undertakings. Access to provide freight services was extended to all routes by 2008. The other directives 2001/13 -2001/16 lay down further rules for granting access and charging principles, giving a more uniform standard across the EU that makes no distinction between railway undertakings. The Second railway package of 2004 and resulting directives and regulations increasing harmonization and creating a fully accessible national and international rail freight market. The Third railway package, in 2007, continues the approach of harmonization and opens up the international rail passenger market. This leaves the national rail passenger market as the only regulated market which national governments can give shape. Some have decided to follow up the reforms with regionalization whereas others simply contract out the entire market to the national railways, but this is at the discretion of each country although general EU directives on this matter have to be followed.

Economic Motivation

The aforementioned policies and legislation have been based on a certain economic motivation. The attempt of the general railway reforms has mostly been to improve transparency, whereas regionalisation has largely focussed on a greater efficiency and quality of regional transport. Since the latter is the subject of this paper relevant literature on this will be reviewed.

Transparency was lacking in most railway companies. This stemmed from the fact that they were vertically integrated, state owned and largely relied on government subsidies for funding their operations. Money received for infrastructure could be used for covering losses on servicing tracks and accounts could be constructed in ways that maximized the amount of subsidies received. This lead to railways being a large burden to European governments. Unlimited government support is no longer possible after the introduction of directive 91/400, as cross-subsidies are no longer warranted and the relationship between government and railway undertaking has become contractual.

Next to increasing transparency, the goal of the railway reforms has been to introduce competition to the transport services sector while keeping infrastructure as a monopoly. This is because of the differing natures of the two. Although rail infrastructure is a private good, as it is excludable and rivalrous, it tends to become a (natural) monopoly due to the large economies of scale. Constructing railroads require hefty investments which can only be recovered over many years, this makes it unlikely that competing tracks will be built for the same destinations. The associated externalities, such as crossing through the landscape or noise pollution, are of such a scale that heavy government involvement is often considered necessary. Combined with the European Union’s requirement to have fair access to railroads makes a good case for state ownership of infrastructure. On the other hand, rail transport services face different factors. Without the burden of large sunk costs from infrastructure it becomes a lot easier to set up services, thus lowering the barrier of entry. With fair access to the infrastructure competition in the market should increase and hence increase efficiency.

This is the situation that has now arisen in freight transport and international passenger transport.

The same approach might be applied to domestic passenger transport, however in view of consumer interest this is not what has been chosen. On-track competition for domestic consumers should lower prices for consumers and increase the service level but will also lead to closure of unprofitable lines. Travelling could become more chaotic as planning a suitable timetable and allocating slots is more difficult with multiple firms. Moreover, a firm can manage to obtain a monopoly on a certain track which can lead to abuse of power. This makes competition for track-access more attractive from a social point of view. With track-access railway undertakings compete to gain a concession, which is the exclusive right to operate on a certain track for a given number of years.

The concession system involves public tendering. In the countries where this method is applied it usually involves a combination of auctioning and a 'beauty contest' as the winner is chosen on both financial and qualitative aspects (Alexandersson and Hultén, 2006). This may lead to the winner being the best option for the public interest but there is also a degree of subjectivity involved, making the choice less transparent. Contenders place their bid according to estimated costs and benefits. However, their actual bid may be different from this in order to strategic reasons, such as a higher market share or greater profits. Despite these possible pitfalls, the belief is that competition among private parties will drive them to offer attractive bids, which in turn require them to increase operational efficiency.

With respect to regionalisation, authority can be transferred to lower level government when (Albers and Del Mistro, 2000):

- An urban area is large enough to have the critical mass to also manage a rail enterprise
- There exist clusters of urban areas in the province within which commuting occurs and which over time will probably find the need to form closer associations within each cluster to ensure improved public transport services

- Where there is not a single major centre in a generally rural province

Considering the government level that is tendering the regional concessions it seems that these requirements are generally fulfilled and therefore decisions of this kind are taken by the appropriate authority.

2.2 The Netherlands

Regulation and Policy

The execution of directive 91/440 and changes to the ownership structure made in later years were, amongst others, consolidated in the Spoorwegwet (Railway Act) of 2005. The situation of the Dutch railway market is now as follows. Infrastructure and services have become separate organisations with different responsibilities, mostly based on it being a public or commercial good. Those that serve a public end are wholly owned by government and the commercial enterprises have either a public or private undertaking. Schematically, it can be presented like this:

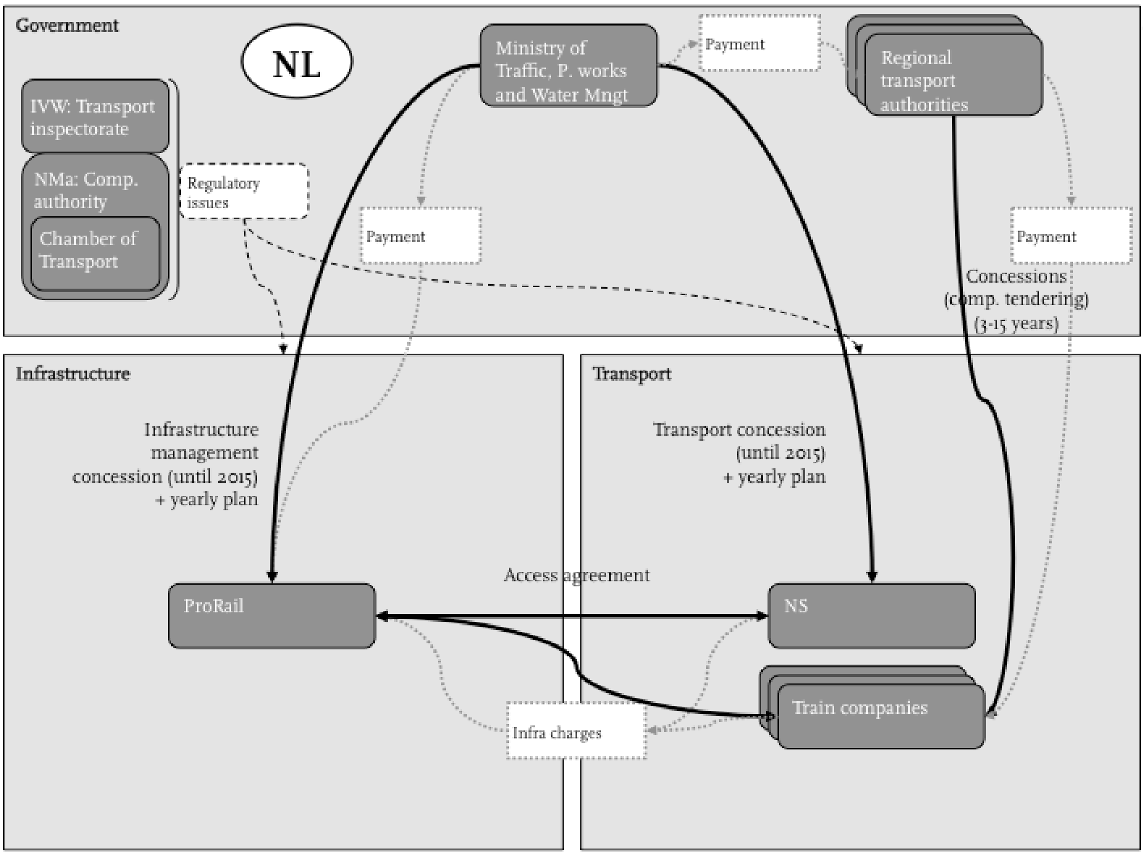

Figure 1: Current institutional configuration (Van de Velde and Röntgen, 2009)

Freight transport and dedicated passenger transport (for example holiday charters) are not restricted and services can be set up by any company which satisfies the conditions for access. Transport undertakings providing public passenger transport can only start business if they have a concession for a certain track. A further division can be made of the concession system; as mentioned in the introduction, the Dutch railway system has been divided into the main tracks, called the Hoofdrailnet, and the decentralised and contract sector tracks. The Hoofdrailnet consists of all the tracks considered profitable in the 1995 McKinsey/NS research, with some changes made later on. The other tracks are considered unprofitable and are being operated on a contract. After the split of the network, railway company NS operated the Hoofdrailnet on a yearly contract. In 2005 the Hoofdrailnet was given as a concession to NS by the Ministry of Traffic until 2015[1]. After this period a new concession is supposed to be tendered publicly. The concession states that the price for this

[1] Verkeersconcessie voor het Hoofdrailnet, Ministerie van Verkeer en Waterstaat: http://www.verkeerenwaterstaat.nl/kennisplein/uploaded/MIN/2006-04/329875/Vervoerconcessie_voor_het_hoofdrailnet.pdf

period is 0 euro's with NS operating on its own account. There are however demands regarding the quality of servicing.

The tracks which are not part of the Hoofdrailnet are operated on a contract for either the Ministry of Traffic or local authorities. This is because these tracks are considered to be unprofitable to operate, government intervention is thus necessary if railway services are desired. The tracks that operated in name of the Ministry of Transport are called contract sector tracks. Originally, the 19 tracks distinguished as unprofitable were supposed to be a local responsibility by the end of 2003. Because regionalisation had not been finished within the initial time frame, the new contract for the Hoofdrailnet of 2005 required the Ministry to contract railway undertakings to operate the tracks. This was only temporal, eventually they would be transferred to local authorities. Some, e.g. the Hofpleinlijn, were designated to become a light-rail system, implying they have become a 'lokaalspoorweg' for which different regulation applies. By 2010 the decentralisation and subsequent tendering in the case of ending contracts has been finished, therefore national government no longer a role as contractor in regional rail transport.

Railways that primarily have a regional function and are seen as unprofitable to operate are becoming the responsibility of regional authorities, as was just mentioned. These are the so-called OV-authorities (public transport authorities), provinces or regions which are in charge of giving out the concession for operating public transport in that specific region. The authorities operate in accordance with Wet Personenvervoer 2000 (Passenger Transport Act 2000, Wp2000), which regulates the concessions of various types of passenger transport such as, for example, bus transport. The act states that the concessions have to be publicly tendered, with the contestants indicating the required amount of subsidies. The OV-authorities in turn receive money from the Ministry of Traffic, based largely upon a revenue multiplier. With the responsibility for certain railway tracks being transferred to OV-authorities, the regionalisation, they are now subject to Wp2000 regulation and can be seen as part of regional transport.

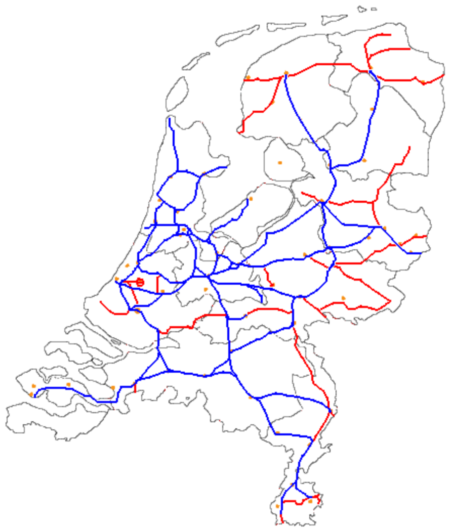

Figure 2, Hoofdrailnet (blue) and decentralised railways (red)

This new integrated status of regional railway transport is according to the intentions of the ´Nota Derde Eeuw Spoor´, a 1999 policy document stating the vision on the future of the Dutch railways. Decentralisation of regional railway transport and increased competition are seen as a means to improve the quality and modal share of rail transport. Regional government would slowly start to play a bigger role, with at first tracks on the end of the railway system without any other use than regional transport being decentralised and based on experience more important tracks could follow. As these tracks become part of regional transport they will also be subject to competition as introduced for other modes of transport. This means they will be tendered as a concession and this is what has become the process in later years.

In the 2004 ´Nota Mobiliteit´ this idea of decentralisation or regionalisation has been worked out further, based on new insights and experience. Combined tendering of public transport in a region should lead to greater efficiency as intermodal competition can be deleted, the different modes can be aligned better and it is possible to opt for the transport system most suited to the actual needs. The Ministry of Transport will then base the money regional authorities receive on the cost-effectiveness and quality of the option chosen. All in all, the effectiveness of public transport should improve because of these measures. The approach of gradual introduction of competitive tendering has resulted into a universal obligation to apply this type of tendering by 2007.

The regionalisation that had taken place over the years was, among others, evaluated by the ministry of Transport in the 2009 report 'Spoor in beweging'. In general both the authorities and transport companies are satisfied with the changes that have taken place. One of the main remaining issues is the lack of cooperation by NS regarding regional stations, which are still its property. Regional authorities have also stated that they would like NS to interact more constructively. Similar issues have been encountered with regard to Prorail, cooperativeness and the provision of information could be improved. All in all, the problems seem to be minor and related to adapting to the new circumstances.

Economic motivation

Regionalisation in the Netherlands seems to have largely been led by a principle of profitability. Operation on unprofitable tracks will not occur unless the railway undertaking receives government subsidies. Therefore this principle seems to be a legitimate reason, especially in light of the greater railway reforms which focussed on increasing efficiency and transparency. Regional railways have a different function than national railways; they are largely used for travelling to school or work or function as a feeder line to the national system, these different needs may be better identified by local government. As other types of public transport are also tendered by local government, offering a coherent system including rail might reduce competition between modes and allow for timetables that match, thereby reducing waiting time. Competitive tendering of transport concessions will introduce competition to a thus far monopolistic market, this should drive down cost and improve efficiency and innovativeness.

Before passenger railway transport was regionalised and competitive tendering introduced, similar policy had already been applied to the other forms of public transport, most notably bus transport. This process has been reviewed by several authors and in general positive results have been found. An early review by Hermans and Stoelinga (2003) showed that efficiency had improved but no growth in ridership could be observed. KpVV (2008) takes another look at the decentralisation of public transport and finds mixed results for supply. Three factors have been taken into account, kilometres of regular servicing, number of stops and number of regular services, and have been measured at various points from 2000 until 2007. The total kilometres have increased while the number of stops and the number of regular services have decreased. Differences can be noted between regions, with some being more successful at tendering than others.

Veeneman et al. (2007) also examines the introduction of public tendering of bus transport. As motivation for introducing the system a number of things were recognized. The main goal of the reforms was to improve efficiency and increase quality. Breaking the monopoly by introducing competition for the concessions of the at that time state owned public transport companies was the main instrument to achieve this. This would lead to more productive interaction between regional authorities and transport undertakings. In reality the newly created environment proved to be either very productive or not at all. The various externalities public transport is associated with complicate decision making, taking it beyond monetary terms. The study finds that efficiency has improved, most notably in terms of lower subsidies, the price for the passenger has not become lower. Quality seems to be better as customers satisfaction has increased for tendered concessions and the share in the modal split has developed more positively as compared to non-tendered concessions.

Looking at the changes that have taken place in rail transport, Van de Velde et al. (2009) have found that it has gained a more promising outlook, but difficulties remain. The initial uncertainty brought about by the reforms discouraged investments into rolling stock, longer-term policy adopted later on allowed for a stable enough environment to increase investment and improve performance. Railway companies have two conflicting goals; on the one hand they have to increase public satisfaction but on the other hand efficiency has to be improved and costs cut. This can lead to acts that benefit one goal but not the other, such as not servicing stations with few travellers. These issues might not only apply to national rail transport but also to regional; though it is likely that this depends on the freedom provided by the contract for operators to design their service.

2.3 Comparing implementation

The railway reforms and regionalisation were instigated by directives of the European Union, thus there should be legislatory and practical changes in other member states. However, there is a lot of room for interpretation which can lead to large differences between countries. Different political and social incentives have also been reason for a unique approach by each state, giving differing results. Taking a look at some of them should give an idea.

In Sweden, railway reforms have taken place in the 1990s with steps somewhat similar to the Netherlands. Unprofitable railways have been competitively tendered on a case by case basis, whilst leaving the profitable tracks for national railway SJ. Since SJ does not have to publish which lines are unprofitable, deciding which tracks have to be tendered are under its discretion. However, almost all tracks are now subject to competitive tendering. Alexandersson and Hultén (2000) investigate the effects this has given in terms of increased competition, cost reductions and others. They find that tracks tendered by local transport authorities attract 2 – 4 bidders in general and a varying number up to 6 contestant for the state. Tracks that are tendered by local transport authorities have little freedom in design as opposed to greater room for choice from the state, however the latter comes with increased financial risk. In this manner, local authorities have achieved a reduction in cost ranging from 18 to 25% in most cases and a 21% drop for the state, mostly realized during the first years of tendering. Apart from this, the new entrants have also stimulated innovation in the sector by introducing new model standards and work routines, bringing about a more efficient operation.

Decentralisation of local railways had also been pursued in Germany before it was introduced in the Netherlands. Regional railways are tendered by the Bundesländer or lower authorities but a majority of these are won by DB Regio, part of Deutsche Bahn which still operated 96% of all German tracks in 2000[2]. There are various papers on the effects of competitive tendering in German passenger transport. Schnell (2001) reviews the changes

[2] `Regionalisation pays off´, International Railway Journal, 2000, *E-library at IB Times:* http://elibrary.ibtimes.com/article-1G1-61201296/regionalisation-pays-off-brief.html

that have taken place since the introduction of regionalisation in 1996. Competitive tendering has not been a very popular tool during the first 5 years, the length of tracks subjected yearly got even smaller, it is however expected to increase with a second wave of regionalisation. The process has taken place largely on a trial-and-error basis, giving rise to a wide variety of contracts, with lengths varying from 3 – 15 years, and a total of 107 individual concession holders. There is little clarity about the costs involved but they are said to have decreased with about 15%, effects easier to observe are an increase in service hours or frequency and new rolling stock. Passenger demand has increased as a result of these improvements.

Albers and Del Mistro (2000) identify more effects of regionalisation in Germany. As the same authority tenders all of public transport rail and road are combined more effectively with one supporting the other, creating a system more in line with the community's needs. Supply of all of public transport has increased by 10% and the image has improved. Complaints were also found, mainly regarding the quality and cost of infrastructure and co-operation with the involved supplier,in most cases DB Netze. Room for improvement remains.

Sweden and Germany, together with the United Kingdom and the Netherlands, are amongst the countries that have most liberalised the railway sector (IBM and Humboldt University of Berlin, 2007). This implies that they have made the greatest progress with separating infrastructure and servicing, track access and power of regulatory authorities, amongst others. Despite their progress each of the countries have taken different approaches and therefore have different scores on these aspects. Liberalisation is less advanced in the other European countries, with most, such as Austria, Denmark and the Czech Republic, considered to be on schedule and some, like Luxembourg and France, lagging behind. Regarding the balance between government and railway companies Nanninga, et al. (2009) compared a number of countries and came to conclude that the Dutch government already has a fair amount of market control mechanisms in place. Given the nature of the industry it is best for these balances not to be changed or if so only gradually, since insecurity will discourage long-term investments.

2.4 Conclusion

The European Union started up the regionalisation process with directive 91/440. The most significant aspect of this directive was the separation of infrastructure and transport divisions of formerly vertically integrated state railways. Together with later directives, it also focussed on harmonization and increasing access, resulting in open entry for the freight and international passenger markets. The goal of these reforms was to create greater transparency and competition. Greater transparency should lower the burden railways pose on the government budget, as a result of a more formal relationship and an end to cross-subsidizing between different divisions of the railway companies. Operating efficiency will have to be improved when competition through tendering allows the authorities to select the most favoured bid, in terms of subsidies required and service quality provided.

The Netherlands has acted in line with EU policy and split its national railway company NS into an infrastructure and transport undertaking. Unprofitable tracks have been regionalised and are now publicly tendered as a concession by regional authorities. These are already responsible for the other modes of public transport and can thus tender a coherent public transport system. This should bring greater efficiency as duplicate services are deleted and modes can be selected based on which is most efficient.

In comparison with other EU member states, the Dutch government has pursued a more radical reform strategy. This might be because of relatively strong believe in liberalisation among Dutch politicians, as many other business sectors have also been liberalised further than their European counterparts. Experience from other modes of public transport might have been reason to delegate responsibility for tracks operating on subsidies to regional authorities. For bus transport the experience seems to be positive, although the improvement has only come over time. The new relationship between government and railways takes time to crystallise, but eventually efficiency should get better as has been observed in other countries that have pursued a strategy of liberalisation and regionalisation.

3. *Case study: Regionalisation of the Noordelijke Nevenlijnen*

We have now seen that regionalisation can theoretically be an improvement to the performance of the railways. To see what the effects are in reality there will be a small case study of the Noordelijke Nevenlijnen. First the choice for this specific case will be explained, then the process by which regionalisation has taken place. This will be followed by the economic motivation behind this and ultimately the results of the regionalisation will be presented. A summary will give an overview of the case and conclude if regionalisation has been beneficial or not.

3.1 The case

The case study will focus on a system of tracks called the Noordelijke Nevenlijnen. These are located in the provinces of Groningen and Friesland and were among the first that started a process of regionalisation from 1999 onwards. This makes it an attractive case to use as verification of the results found in chapter 2. Most other Dutch regional railways only begun to be decentralised from 2005 onwards, the Noordelijke Nevenlijnen can therefore provide more information, also in the longer run. Furthermore, the tracks are a typical showcase of what can be considered a regional railway, thus being an ideal candidate for regionalisation.

3.2 The process

The Noordelijke Nevenlijnen have been constructed by the Dutch state and railway entrepreneurs and were taken into use between 1863 and 1893. Succes was never as great as anticipated; already in the 1930´s service frequency was lowered and stations were closed down. From railways regarded as being of national importance their function had soon become regional, taking people from their homes to work or school. Because of this lesser role it was never considered worthwhile to electrify the tracks, requiring the use of trains with diesel engines.

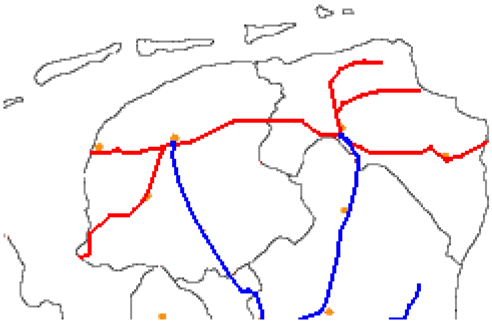

Figure 3: Location of the Noordelijke Nevenlijnen within the North of the Netherlands (red).

In 1999 a (partial) privatisation took place when the exploitation rights to the tracks in Friesland were transferred to a new undertaking, Noordned. This was a joint company by Arriva (50%), NS (49.9%) and ABN Amro (0.1%) which also operated busses in the same province. A year later, the railway tracks in Groningen followed after a public tender in which Noordned was the only contestant. Eventually, all of Noordned's shares were bought by Arriva in the end of 2003, making it a fully private company. The tracks had been decentralised to the provinces of Friesland and Groningen, they were thus responsible for contracting out the service. Regionalisation had been completed in this sense; public tendering had not taken place yet.

Tendering followed in 2005, when the Noordelijke Nevenlijnen were offered as one concession. This now included the track Leeuwarden-Groningen which had so far been part of the NS network and Groningen-Leer of which the German part used to be operated by Deutsche Bahn, requiring a change of trains at Bad Nieuweschans. Two parties had submitted a bid on the tender, the incumbent Arriva and CGEA (now Veolia). Arriva won the tender and will be servicing the track until 2020 when the concession will be tendered again. The concession is operated on infrastructure owned and maintained by Prorail, except for the German section which is owned by DB Netze. Interesting is that Arriva itself was taken over by Deutsche Bahn in April 2010, showing that the distinction between bus and railway companies is becoming smaller.

3.3 Economic motivation

The Noordelijke Nevenlijnen were part of the tracks that NS had identified as being unprofitable. This was reason for them to become part of the contract sector, the railways that were contracted out and would be regionalized. For the provinces, having control over the concession was a way to make sure that the tracks would remain in use and at a service level that is acceptable to them. Because the provinces operate at a lower level than national government there is a different perception of adequate servicing and the value attached to having railway services is higher. This can be because of matters like prestige, a region's attractiveness or its citizen's preferences. There is therefore greater willingness to invest into the railway system and the ability to set their own requirements during the tender.

3.4 Results

To find out what the effect of regionalisation on the Noordelijke Nevenlijnen has been the development of certain indicators needs to be found. The following indicators will be used: tendering price, servicing frequency, passenger kilometres, punctuality and customer satisfaction. This is because the bidding price and quality are the main criteria used for selecting the most favourable bid and passenger kilometre and customer satisfaction give a clear view of the passenger's appreciation.

Arriva was awarded the contract by the provinces of Groningen and Friesland and the public transport authority of Niedersachsen for 15 years starting from 11 December 2005[3]. The total value of the contract is € 750 million, of the annual subsidies Arriva receives the province of Groningen contributes € 3.7 million and the province of Friesland € 3.4 million. Next to this, Groningen also invests another € 1.3 million per year into improving the railways. As the provinces receive a higher amount from the state this implies the tender has

[3] Press release province of Groningen 29 March 2005, press release Arriva 30 March 2005 and Leeuwarder Courant, 29 March 2005 'Treinreiziger in Noorden verwend'

been beneficial to them, with Groningen having € 2.2 million in excess and Friesland € 0.4 million. Compared to the amount previously paid to NS for operating the tracks in the north of the Netherlands, the total sum of subsidies paid has become lower. Before Noordned took over, the state paid 6 million guilders (€ 2.7 million) in subsidy to NS to operate the tracks Stavoren-Leeuwarden and Harlingen-Leeuwarden[4]. For the tracks in Groningen state support was even higher; NS received 18 million guilders (€ 8.2 million) annually to keep the trains running[5].

The frequency under the new tender was either kept the same or increased on some tracks. Frequency on Leeuwarden-Groningen will be doubled, Groningen-Nieuweschans will have trains on later times and 14 extra trains will be introduced on Leeuwarden-Sneek. With a through-train to Leer, Germany, this service will no longer require changing trains at the border. Other qualitative measures that followed from the tender are the introduction of new trains with greater comfort and accessibility, improvements to security, more 'ov-fietsen' and the introduction of a mobile station which can be used where necessary.

Based upon the 2008 Ministry of Transport report 'Quick scan naar de markt en capaciteit op de gedecentraliseerde spoorlijnen', something can be said about the effect on passenger kilometres and punctuality. Passenger kilometres have grown for all but one track in the period 2002-2006. The biggest growth has been achieved on the tracks for which servicing frequency has been increased and which had the largest number of passenger kilometres already. However, it needs to be noted that Leeuwarden-Groningen was only operated by Arriva from 2005 onwards. Nationally, regionalised railways have grown by 11.5% in the same period and the Hoofdrailnet by 5.4%.

[4] De Volkskrant, 1 October 1997 'Busbedrijf en NS willen alle openbaar vervoer in Friesland onderbrengen in nieuwe onderneming 'Als de trein verdwijnt, zal Stavoren nog sneller vergrijzen''
[5] De Volkskrant, 9 Juni 1999 'Noordnet wint strijd om Gronings spoor'

Harlingen-Leeuwarden	5.6%
Stavoren-Leeuwarden	1.3%
Leeuwarden-Groningen	21.8%
Roodeschool-Groningen	4.5%
Delfzijl-Groningen	-5.5%
Nieuweschans-Groningen	45.7%

Table 1, change in passenger kilometres 2002-2006

The prognosis for the period until 2020 is one of large growth (43%-90%) for all tracks. This is more optimistic than the prognosis for the Hoofdrailnet, which ranges from 40% to 45% over the period 2008-2010[6]. Large growth will cause capacity shortage at certain points, most of all on the tracks Nieuweschans-Groningen and Leeuwarden-Groningen and at the stations of Groningen and Leeuwarden. Investments into increasing the capacity at these points can be limited to constructing extra rails at some places and increasing the length of platforms, the shortages therefore seem to be of a kind that can be overcome.

As for punctuality, the performance of the Noordelijke Nevenlijnen in 2007 is in general not better than the norm set for the Hoofdrailnet in the same year, 87%. Only 2 of the 6 tracks perform better than this level, however the comparison is not completely fair as the Noordelijke Nevenlijnen are bound to limitations such as being single track. Comparing to other regional tracks, 12 of them score above 87% and 10 below, hinting at possible underperformance for the tracks in Groningen and Friesland.

[6] Ministerie van Verkeer en Waterstaat 2009, 'Programma hoogfrequent spoorvervoer'

Harlingen-Leeuwarden	84.4%
Stavoren-Leeuwarden	92.6%
Leeuwarden-Groningen	84.8%
Roodeschool-Groningen	81.9%
Delfzijl-Groningen	87.5%
Nieuweschans-Groningen	81.6%

Table 2, punctuality (delay <3 min.)

On the matter of customer satisfaction, over 2009 the individual tracks get the following ratings:

Harlingen-Leeuwarden	7.8
Stavoren-Leeuwarden	7.7
Leeuwarden-Groningen	7.3
Roodeschool-Groningen	7.2
Delfzijl-Groningen	7.3
Nieuweschans-Groningen	7.2

Table 3, customer satisfaction (on a 10 point scale)[7]

The scores mean that customer satisfaction was either equal or greater than the national average for regional transport, which scored 7.2 in the same report. For the same year, national railway NS received a customer satisfaction rate where 78% ranked them with 7 or higher. The Noordelijke Nevenlijnen thus seem to outperform both regional transport and NS, albeit it not with great differences.

[7] KPVV 2009, 'OV-klantenbarometer 2009'

Because of the positive experience with passenger rail transport, the province of Groningen has decided to start up the service Groningen-Veendam again. Passenger transport on this track stopped in 1953 but the rails stayed in use for freight transport. Once the track between Zuidbroek and Veendam has been revitalised servicing will begin from April 2011 onwards. This will be done by Arriva with two trains an hour, for which it receives an annual subsidy of € 4 million until 2020. The amount of subsidy received seems a little high in relationship to current payments, however this could be because of uncertainty regarding the tracks´ potential or successful contract renegotiation by Arriva.

3.5 Conclusion

The regionalization of the Noordelijke Nevenlijnen has taken place as a two-step process. The first step was the privatization of the tracks to Noordned in 1999 and 2000 without any competition, despite the Groningen part being tendered. As a second step the two separate concessions were formed into one and offered in a public tender with two contestants. This process is in line with the more experimental approach prescribed by the Ministry of Transport.

Looking at the results, the public tender seems to have been successful. Paid subsidies have become a lot lower for the Groningen part of the concession and stayed roughly the same for the Friesland part. The service that is received for this money is better than before. Frequency on the tracks with the most passengers has been increased and kept the same for others. New trains have been put into use, giving a more comfortable ride. This seems to have been appreciated by customers. Passenger kilometres have increased on all but one track, with spectacular growth on Leeuwarden-Groningen and Nieuweschans-Groningen. Customer satisfaction is also good, with all tracks receiving grades on or above the national level. Punctuality is a point that might need some improvement, but infrastructural bottlenecks do play a role here. As for the future, the outlook for the entire concession looks good, passenger growth is expected on all tracks and the addition of a new service to Veendam increases the system's potential.

The arguments for railway regionalisation seem to be verified by this case. The efficiency of the tracks has improved as government subsidies have gone down and the number of passengers has gone up. This increase in operating efficiency has not come at the price of lower quality, so it appears the tender has also worked as both an auction and a beauty contest in reality. It is clear that this improvement would not have been realised had the tracks remained in control of NS. Passenger growth is larger than for the Hoofdrailnet, although the less popular tracks are lagging behind; the prognosis is also one of larger growth. Punctuality is mostly below national standard but customer appreciation is higher, implying other qualitative improvements are appreciated. The possibility of being able to offer a coherent set of public transport services does not seem to be fully used by the provinces, as bus and train services have been tendered separately, although some duplicate lines were deleted. It remains to be asked whether any improvement could have been expected under NS at all, since the the Noordelijke Nevenlijnen were considered an unprofitable burden. Regionalisation is therefore justified as it is in the interest of the provinces to keep the train service going, contrary to what NS might decide. All in all, regionalisation of the Noordelijke Nevenlijnen seems to have been an improvement.

4. *Conclusion and recommendations*

The past chapters have dealt with the phenomenon of regionalization in the Netherlands. Through describing the reforms to the regulatory framework of the European Union and the Netherlands and the economic motivation behind them, this paper has aimed to find the effects brought about by regionalisation. We can now get to the problem statement: ‘Has railway regionalisation in the Netherlands been an improvement?’ The answer to this is yes, it has been an improvement.

Railway liberalisation was instigated to increase the industry´s efficiency through greater competition, transparency and accountability. Literature shows that a more contractual relationship between government and railway undertakings and requiring the railway undertakings to act as a commercial enterprise has improved their operating efficiency. In the Netherlands this approach has been pursued more radically relative to most of its European counterparts, but with the effect of more competitive public transport.

Regarding regionalisation, breaking the monopoly of the national railway company creates room for a more innovative and cost-effective approach to unprofitable tracks. As these tracks in general only have a regional function, decentralising to regional government gives informational advantages and better representation of interests. Since regional government has also been placed in charge of other modes of public transport, the opportunity arises to create a coherent public transport system, deleting intermodal competition. This is why the outcome of public tendering is often more positive compared to the old situation of a monopolised passenger market. The findings of the case study confirm this, showing that after regionalisation and tendering the railways have become more efficient. Costs for the government went down while servicing quality and passenger kilometres went up, while closure was previously looming for the tracks.

The positive outcome of this study indicates that railway regionalisation could be applied in other countries as well. It most attractive in those which have a passenger railway sector that is without competition but reliant on government subsidies as regionalisation and liberalisation have shown to be an improvement in such circumstances. Interesting next steps in countries which have implemented regionalisation, might be public tendering of profitable tracks and regionalising the infrastructure as well. This will bring competition to parts of the railway sector that have so far remained monopolised. However, as with regionalisation an experimental approach is probably best to find the right balance between government and railway undertakings.

A wide range of literature has been studied but it appears that fairly little attention has been paid to railway regionalisation so far. This especially seems to be so when seen in contrast with literature on the railway reforms that have taken place in the last two decades. A potential weakness in the literature could be that it is not clear whether regionalisation or the introduction of public tendering has the strongest effect on the improvement that arises. An interesting area of study in the fields of transport economics and public policy thus seems to be available, in particular when regionalisation is applied in more and more countries.

The results of the case study will not be fully representative for all regionalised tracks in the Netherlands. This is due to the fact that only one concession and public tender is involved. Specific circumstances might thus have influenced the regionalisation of the Noordelijke Nevenlijnen, using multiple cases should delete this potential bias. Also, this case study has only focused on the effects of regionalisation that appeared to be most important. There is therefore a possibility that another significant effect has been overlooked. It is for these reasons that in future research a more extensive empirical component is required, including a wider range of tracks and effects. Nevertheless, this case study should give a strong indication of the effects of regionalisation.

To sum up, this paper has shown that railway regionalisation has been a good way to follow up the railway reforms and liberalisation that were started in the 1990's and will continue to bring good returns.

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