

# VU Research Portal

## The Impact of Public Transport Reform: an Assessment of Deregulation Policies

Mouwen, A.M.T.

2016

### **document version**

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

### **citation for published version (APA)**

Mouwen, A. M. T. (2016). *The Impact of Public Transport Reform: an Assessment of Deregulation Policies*. [PhD-Thesis - Research and graduation internal, Vrije Universiteit Amsterdam]. Vrije Universiteit.

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

### **E-mail address:**

[vuresearchportal.ub@vu.nl](mailto:vuresearchportal.ub@vu.nl)

# CONTENTS

<b>1</b>	<b>Introduction</b>	<b>13</b>
1.1	Research questions	14
1.2	Outline	15
<b>2</b>	<b>Regulation in the public transport industry</b>	<b>19</b>
2.1	Costs and production characteristics	20
2.1.1	Fluctuations in demand for PT	20
2.1.2	Network conditions	20
2.1.3	Fixed input production technology	21
2.1.4	Subsidies	21
2.1.5	Optimization strategies	22
2.2	Market structure and potential deregulation effects	22
2.3	Arguments for regulation	23
2.3.1	Economic arguments for regulation	24
2.3.2	Political arguments for regulation	25
2.3.3	Social arguments for regulation	25
2.4	Competitive tendering: the best of both worlds?	26
2.5	Transaction costs	27
2.5.1	Award mechanism, contract, and type of transaction cost	27
2.5.2	Difficulties with competitive tendered awards according to TCE theory	28
2.5.3	Contracts and planning function control	30
2.6	Conclusion	32
<b>3</b>	<b>Main trends in demand, supply, finance and markets in the Netherlands</b>	<b>35</b>
3.1	Competitive tendering in the Netherlands	36
3.2	Trends in demand, supply, finance and governance	37
3.2.1	Modal share	37
3.2.2	BTM performance	38
3.2.3	Market situation	41
3.2.4	Public governance	43
3.3	Transaction costs and procurement problems	43
3.3.1	Introduction	43
3.3.2	The level of transaction costs for the period 2001–2015: a rough estimate	44
3.3.3	Other potential problems associated with CT	47
3.4	Conclusion	48

<b>4</b>	<b>Drivers of Customer Satisfaction with Public Transport Services</b>	<b>51</b>
4.1	Introduction	52
4.2	Conceptual model and hypotheses	53
4.2.1	Consumer setting: expectations, perceptions and behaviour	54
4.2.2	Transaction-Specific Satisfaction and Overall Satisfaction	55
4.2.3	Customer characteristics: need for segmentation	56
4.2.4	Summary of relevant literature	57
4.3	Model estimation	59
4.3.1	Service attributes and customer characteristics	59
4.3.2	Interaction between composition of satisfaction and characteristics of customers	60
4.3.3	Interaction between level of satisfaction and characteristics of customers	61
4.4	Dataset and empirical results	62
4.4.1	Context	62
4.4.2	Dataset	62
4.4.3	Descriptive statistics	62
4.4.4	Results: standard estimates, hypotheses and interaction effects	63
4.5	Conclusion and recommendations	72
4.5.1	Conclusion	72
4.5.2	Policy recommendations	73
4.5.3	Discussion and recommendations for further research	74
<b>5</b>	<b>Does competitive tendering improve customer satisfaction?</b>	<b>87</b>
5.1	Introduction	88
5.2	Literature on service quality and customer satisfaction	89
5.2.1	Defining service quality	89
5.2.2	Dimensions of service quality	90
5.2.3	Measuring service quality and satisfaction with public transport	91
5.3	Regulatory reform in the Netherlands	92
5.4	Data considerations.	94
5.5	Research method	95
5.6	Tendering and total trip satisfaction	96
5.7	Tendering and satisfaction with service attributes	98
5.7.1	Service attributes	99
5.7.2	Weights of the attributes	99
5.7.3	Tendering and satisfaction with weighted service attributes	102

5.8	In depth analysis of tendering benefits	107
5.8.1	New vehicles	107
5.8.2	New operator and experience with tendering	109
5.8.3	Supply-oriented steering	111
5.9	Conclusion	112
<b>6</b>	<b>The effect of contract renewal and competitive tendering on public transport costs, subsidies and ridership.</b>	<b>191</b>
6.1	Introduction	120
6.2	Literature review on regulative change and efficiency in PT	121
6.3	Estimation methodology	124
6.4	Operational costs, subsidy and passenger kilometres model	125
6.5	Context and data	126
6.5.1	Institutional context	126
6.5.2	Data collection and definitions	127
6.5.3	Descriptives	127
6.6	Results	129
6.6.1	Operational costs, subsidies, contract renewal, and tendering	129
6.6.2	Passenger kilometres, contract renewal, and tendering	133
6.6.3	Size of concession areas	134
6.7	Conclusion and policy implications	136
<b>7</b>	<b>Conclusion</b>	<b>141</b>
7.1	Summary	142
7.2	Conclusions	148
7.2.1	Conclusions on the research questions	148
7.2.2	Policy conclusions	149
7.3	Recommendations	150
7.3.1	Policy recommendations	150
7.3.2	Recommendations for further research	151
	<b>References</b>	<b>155</b>
	<b>Samenvatting (Summary in Dutch)</b>	<b>165</b>