

# Penalties as quality incentives in Swedish bus contracts

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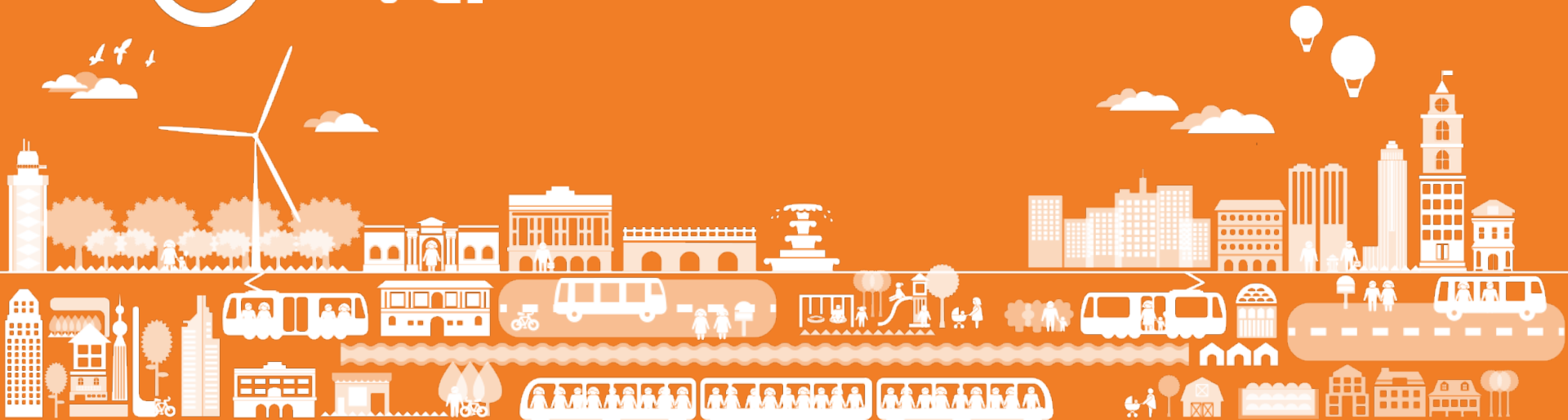
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# Background

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- Improved customer satisfaction goal for many Swedish PTAs.
- Penalties and bonuses has been used for delays and cancelled departures in bus contracts for a long time in Sweden
- ...even so delay incentives are only used in a small share of all bus contracts (7 percent).
- In two of the largest public transport authorities such incentives are considered as necessary.

# Purpose

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This project studies delays and cancelled departures in bus contracts in Skåne and Stockholm regions.

In four themes:

- the **design** of penalties and the expected outcomes from using them,
- how outcomes are **monitored** during contract duration,
- to what extent penalties are actually **charged**, and
- what the **outcome** in terms of the number or rate of deviations has been..

# Hypotheses

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- A narrated or documented experience of penalty design would be found.
- Charging of penalties would be found to be incomplete
- Penalty payments would be small compared to total contract payments

# Method

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- Interviews with employees at regional public transport authorities about monitoring generally and individual contracts.
- About 10 employees at various levels of organization were interviewed
- Analysis of data collected from both publications of aggregate accounts and from individual contracts. Often from contract monitoring documents.

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# Observations

# Design

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Penalty design 1: A fixed amount per deviation.

Penalty design 2: Penalty and bonus are paid if the aggregate of deviations fall below or exceed a certain predetermined target levels.

# Internal analysis

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Few or no indications in interviews with employees of:

- documented deliberations on the design of penalties
- narrated or documented assessments of expected effects from designs.
- internal analyses of outcomes

On the other hand

- a conviction that penalties are needed. Designs where penalties can increase more than proportionately if deviations increase.



# Monitoring

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## ***Common procedures in Skåne and Stockholm***

- Monitoring of outcomes based on data from each departure.
- Outcomes aggregated monthly as a base for deductions in invoices.
- Few examples do not allow for generalization of assessment.

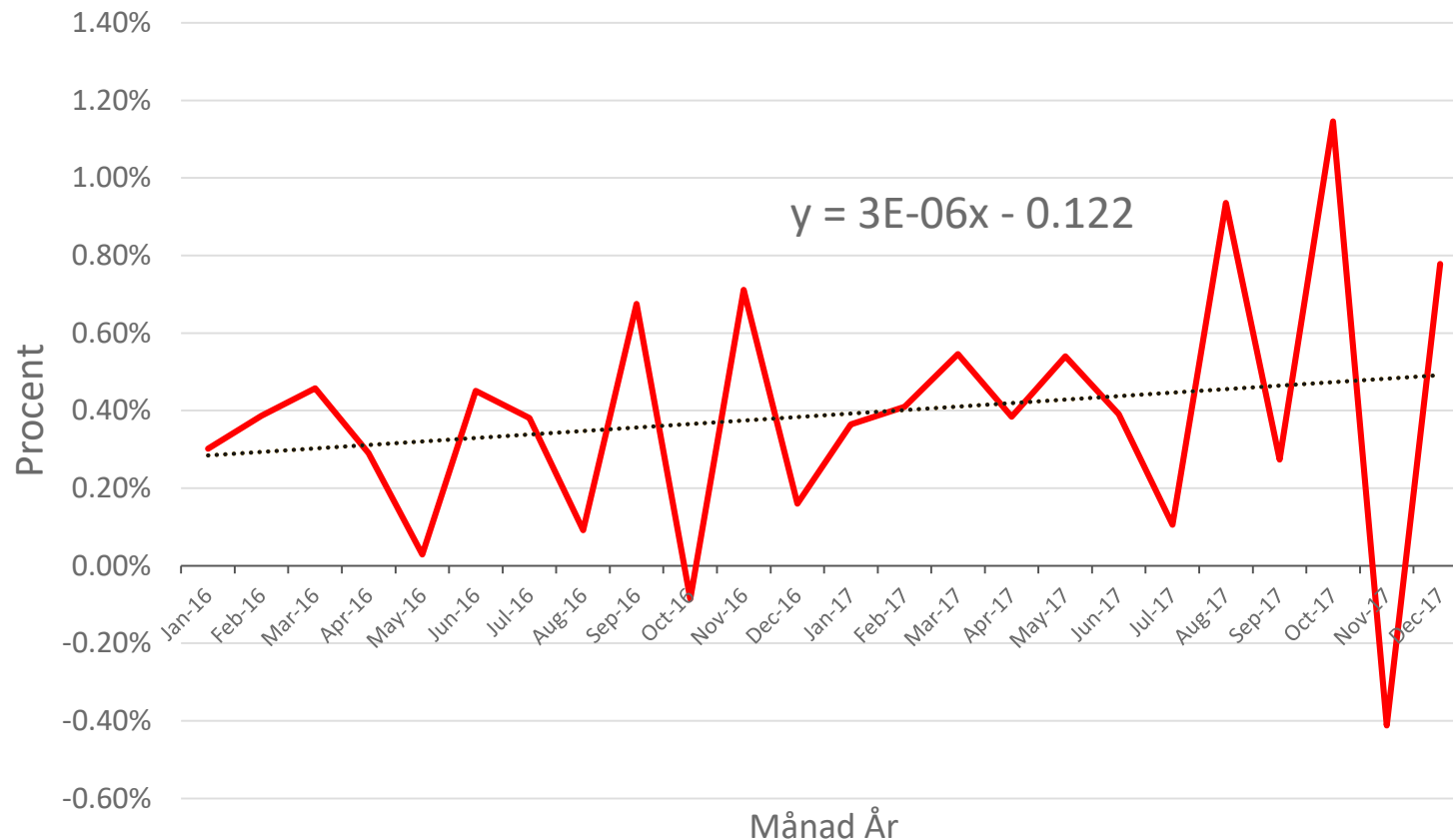
# Charging

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## ***Observations common to both Stockholm och Skåne***

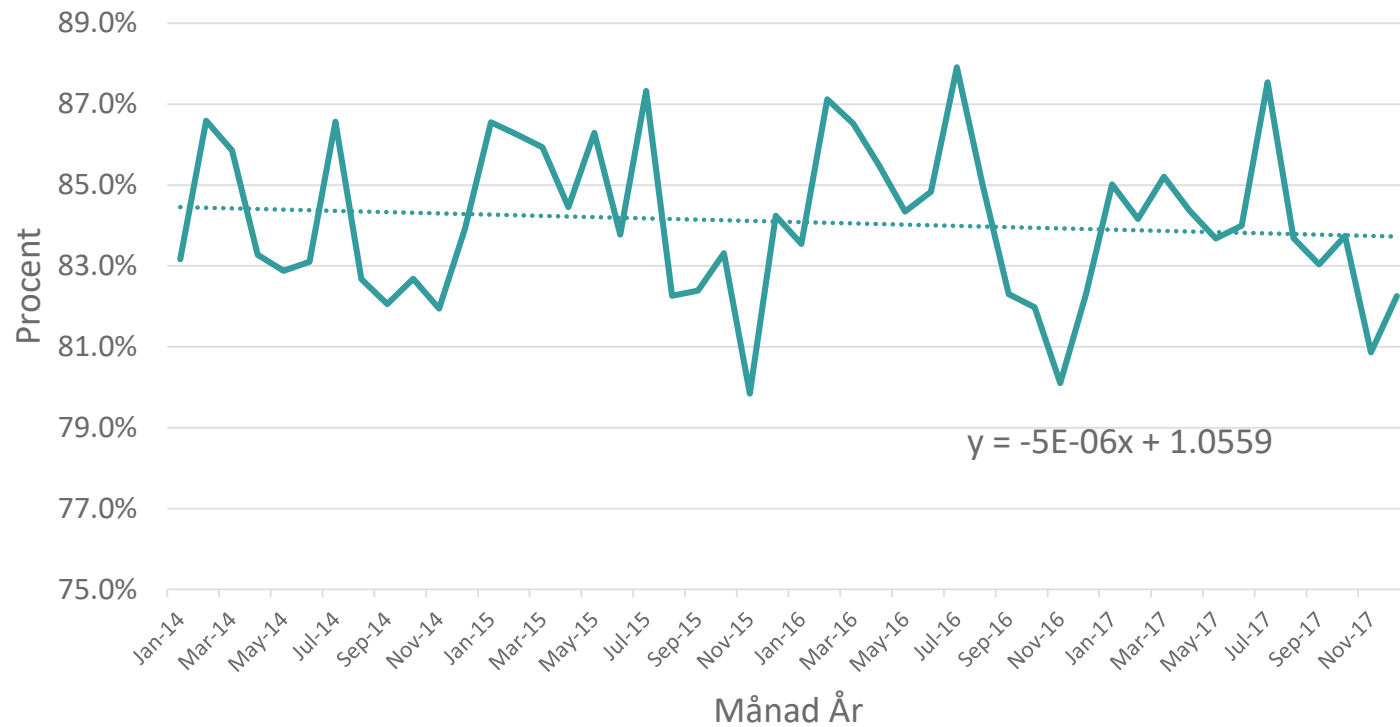
- Employees state that charging has become stricter over time. Little evidence supports these statements.
- No data with detailed records of charging.
- Difficult to associate aggregates of penalty and bonus payments to log of individual types of penalties.
- Variations in design of penalties over time and contracts a barrier to comparison.

# Share of total payments in Skåne constituted by penalty and bonus payments for all operators

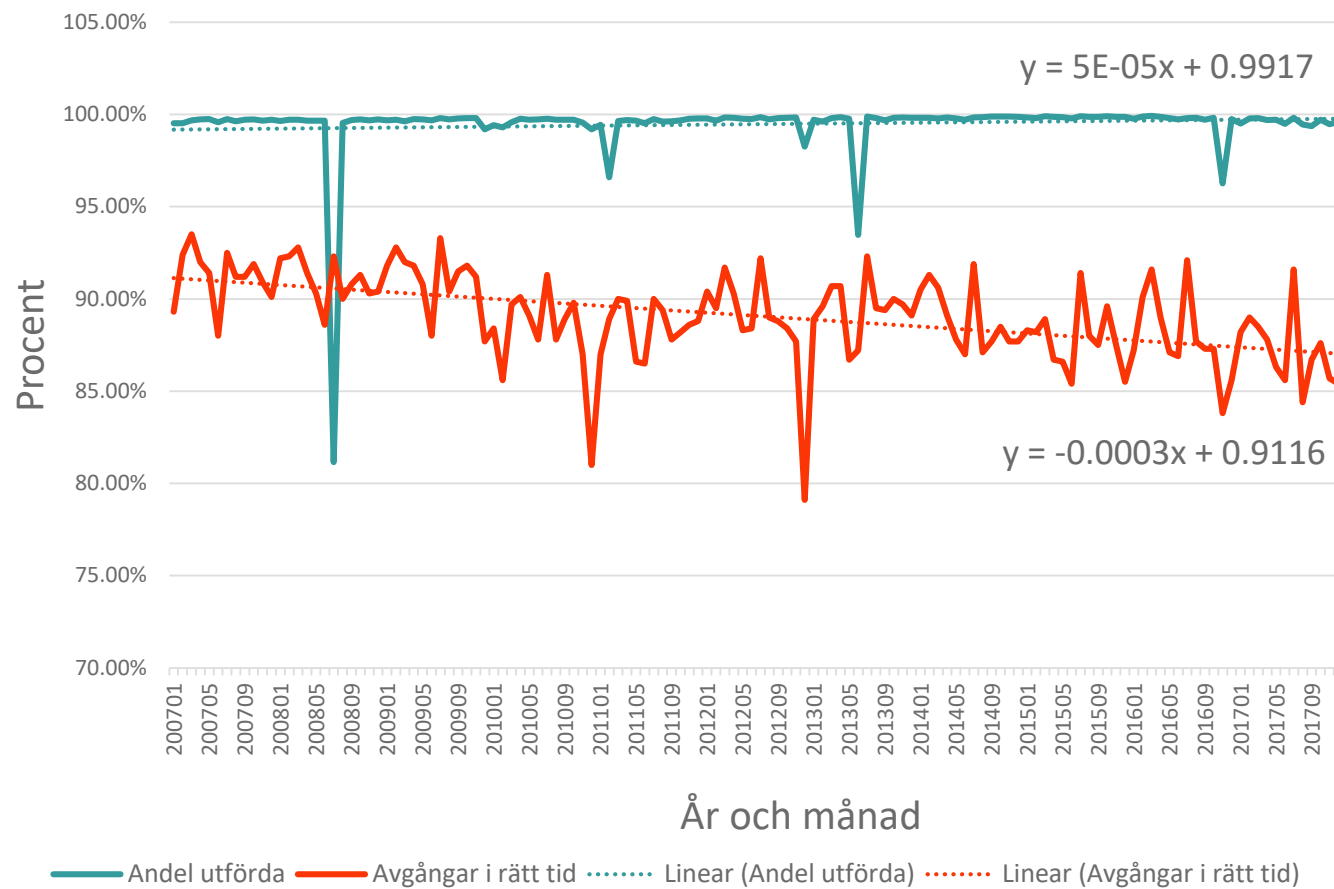


# Outcomes

**The ratio of punctual departures in Skåne bus transport from 2014 to 2017**



# Delivered departures and punctual departures in bus transport in Stockholm regions



# Customer satisfaction

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- Positive and statistically significant trends for regional buses in Skåne and all buses in Stockholm.
- Rubensson och Börjesson (2018) indicate that improvements in punctuality and delivered departures correlated to increased customer satisfaction.

# Discussion

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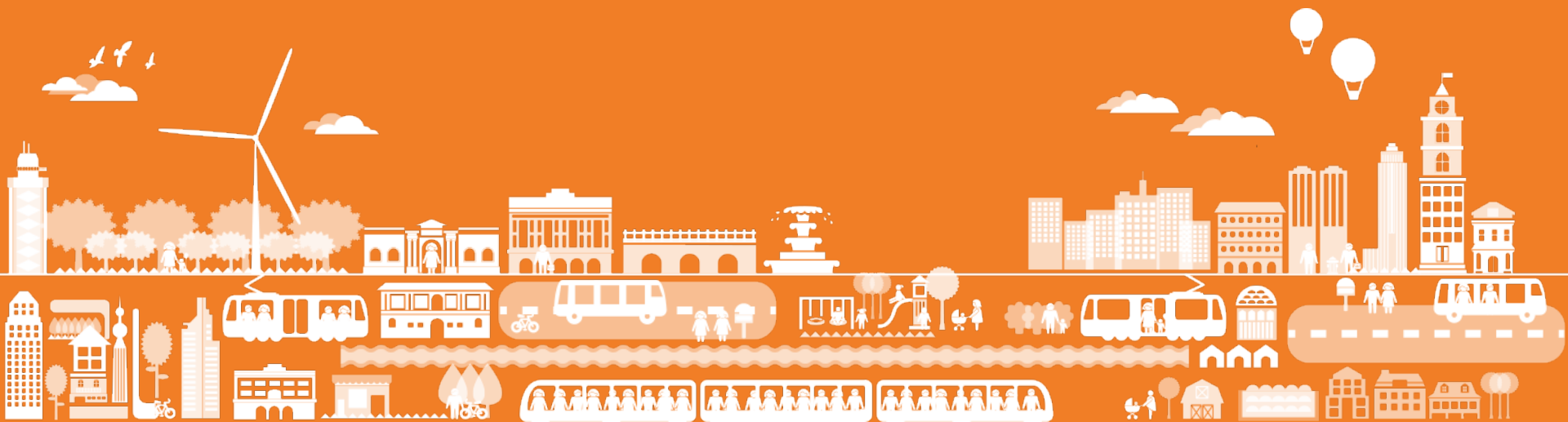
- Unchanged delivered departures and slowly deteriorating punctuality does not lend support to the notion that the last decade of contract adjustments have led to improved quality outcomes.
- According to one operator road works have increased fastly in recent years.
- Possible that penalties have effect but counteracted by other factors.
- Better data are needed

# Conclusions

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- Penalties payable per deviation or for divergence of average from target level.
- Not found narrated or documented experience of penalty design. Employees convinced of necessity.
- Employees claim that the charging has been intensified over time.
- Not possible from current documentations to determine if this is true.
- No improvement in studied dimensions, but improved satisfaction!





# Tidigare studier

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Bussupphandling påbörjades i slutet av 1980-talet i Sverige. Produktionsavtal tidigt den mest frekventa avtalsformen.

- Inte funnit första kvalitetsincitamentet i Sverige.
- Hensher och Wallis (2005) nämner att Köpenhamn och Helsingfors tidigt tillämpade kvalitetsincitament.
- Jansson och Pyddoke (2010) studerade kvalitetsincitament i Stockholm första halvan av 00-talet. Fann ingen tidigare empirisk litteratur om effekter av kvalitetsincitament. Stort antal olika kvalitetsmått och viten vid SL. Små utbetalade vitesbelopp.

# Background

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- Improved customer satisfaction is a goal for many Swedish regional public transport authorities (RPTAs)
- Improved quality is expected to increase customer satisfaction.
- Tendered contracts sometimes include penalties intended to stimulate better quality.
- Examples **delays, cancelled departures**, failure to log in from bus computers or failure to collect ticket revenue. There are also penalties directly aimed at loss in customer satisfaction.
- Single quality failures are termed deviations in the sequel.

# Design

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Penalty design 1: A fixed amount per deviation.

Exeptions for instances when the cause could not be influenced by the operator.

Penalty design 2: Penalty and bonus are paid if the aggregate of deviations fall below or exceed a certain predeterminde target level.

Example på Penalty design 2:

- 200 000 SEK if the share of punctual departures fall below the target level with 2 procentage units. Thereafter 200 000 SEK for each furhter percentage unit.

# Monitoring contd.

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## ***Specific procedures in Skåne***

- Causes for deviations compiled by operators as base for exemptions.
- Increasing degree of automation over time.

## ***Specific observations on Stockholm***

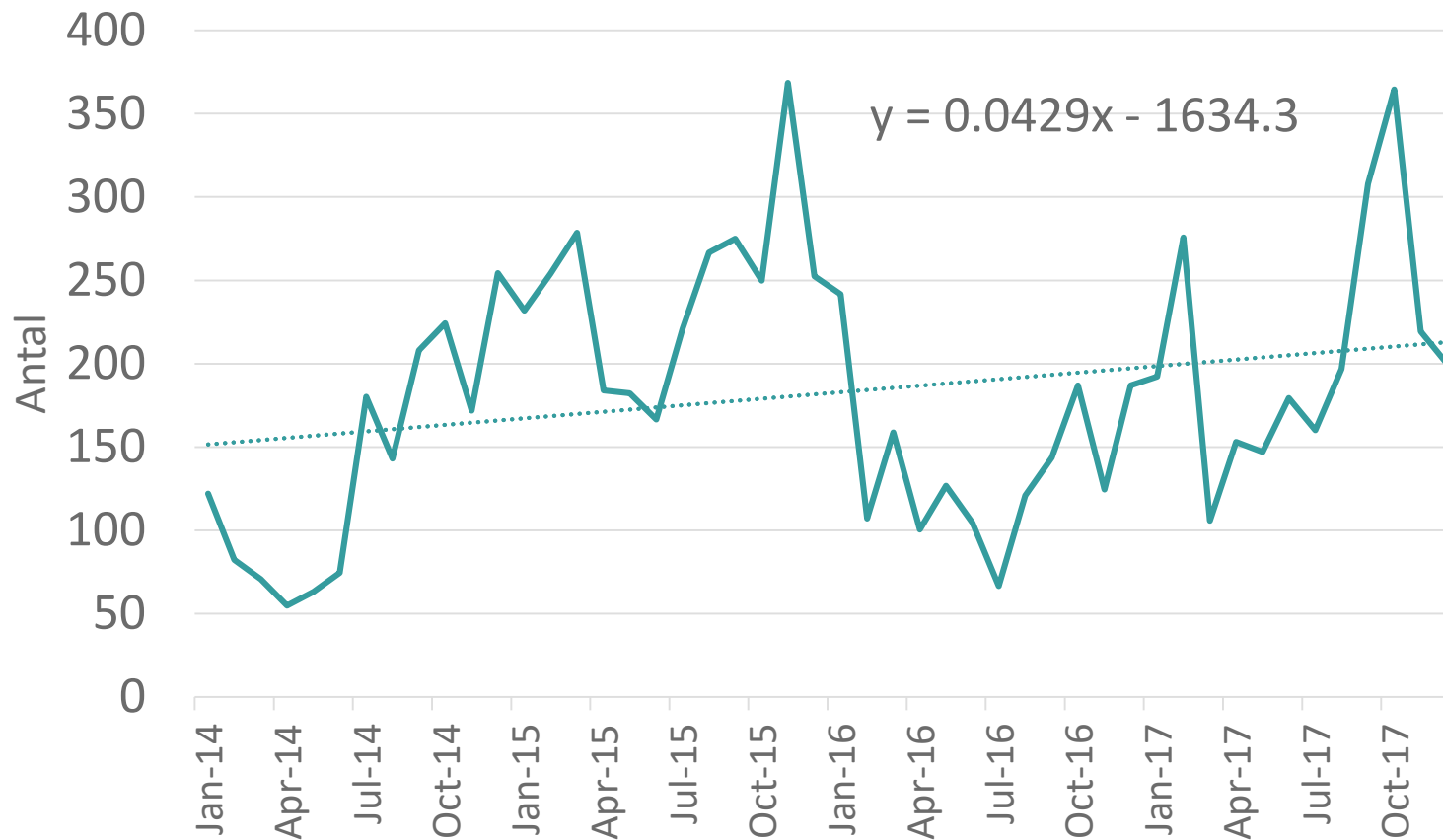
- Not clear what the original documents are that form the base for outcome accounts and invoicing.

# Charging contd.

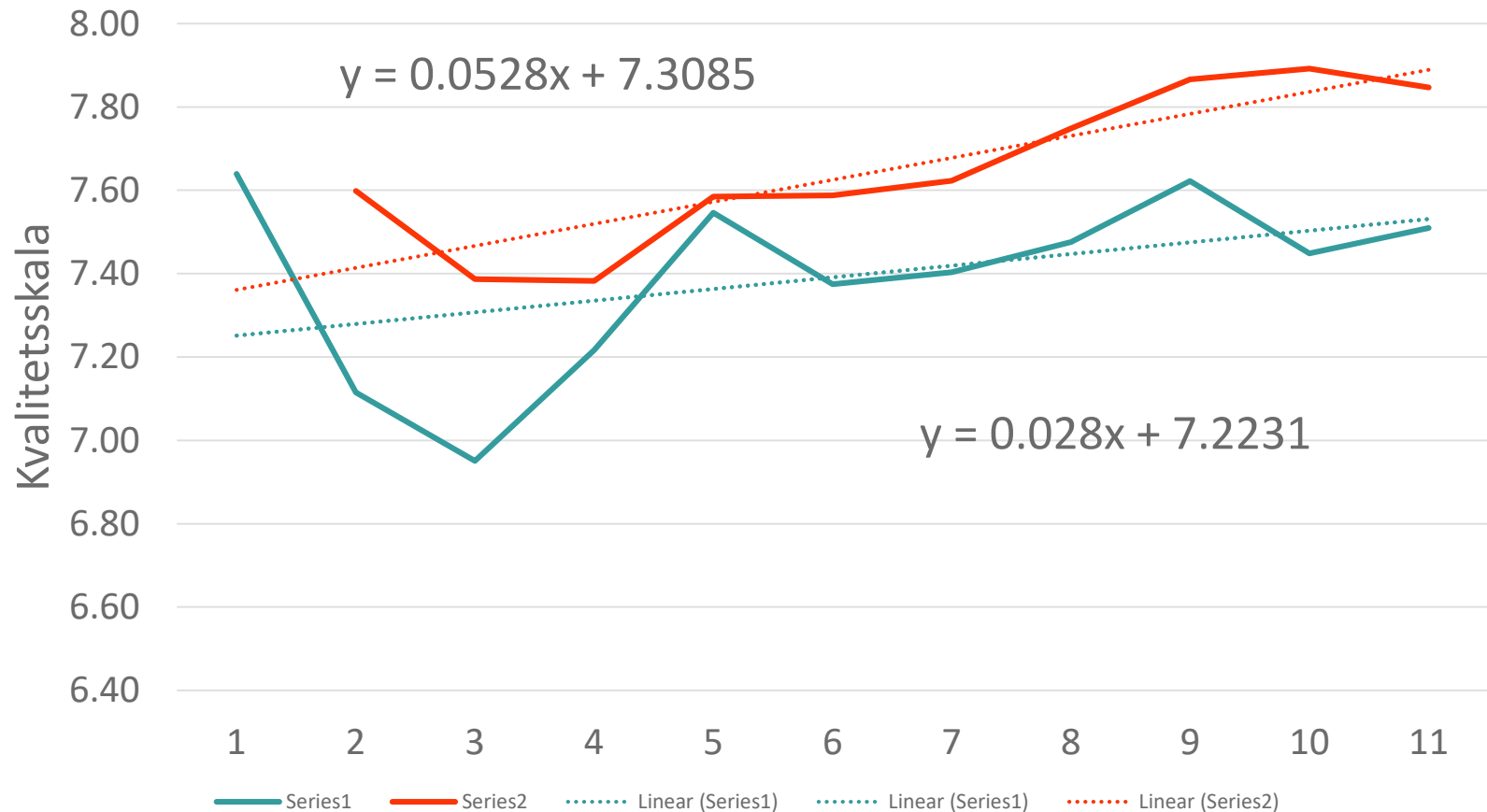
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- Penalty payments a small share of total contract payments.
- Mean value in Skåne is 0,4 percent.
- A few observations of penalty payments of total contract payments in Stockholm between 1 and 1,5 percent.
- An operator points out that calculated as a share of profit margin this can be a large share!

# The number of cancelled departures in Skåne

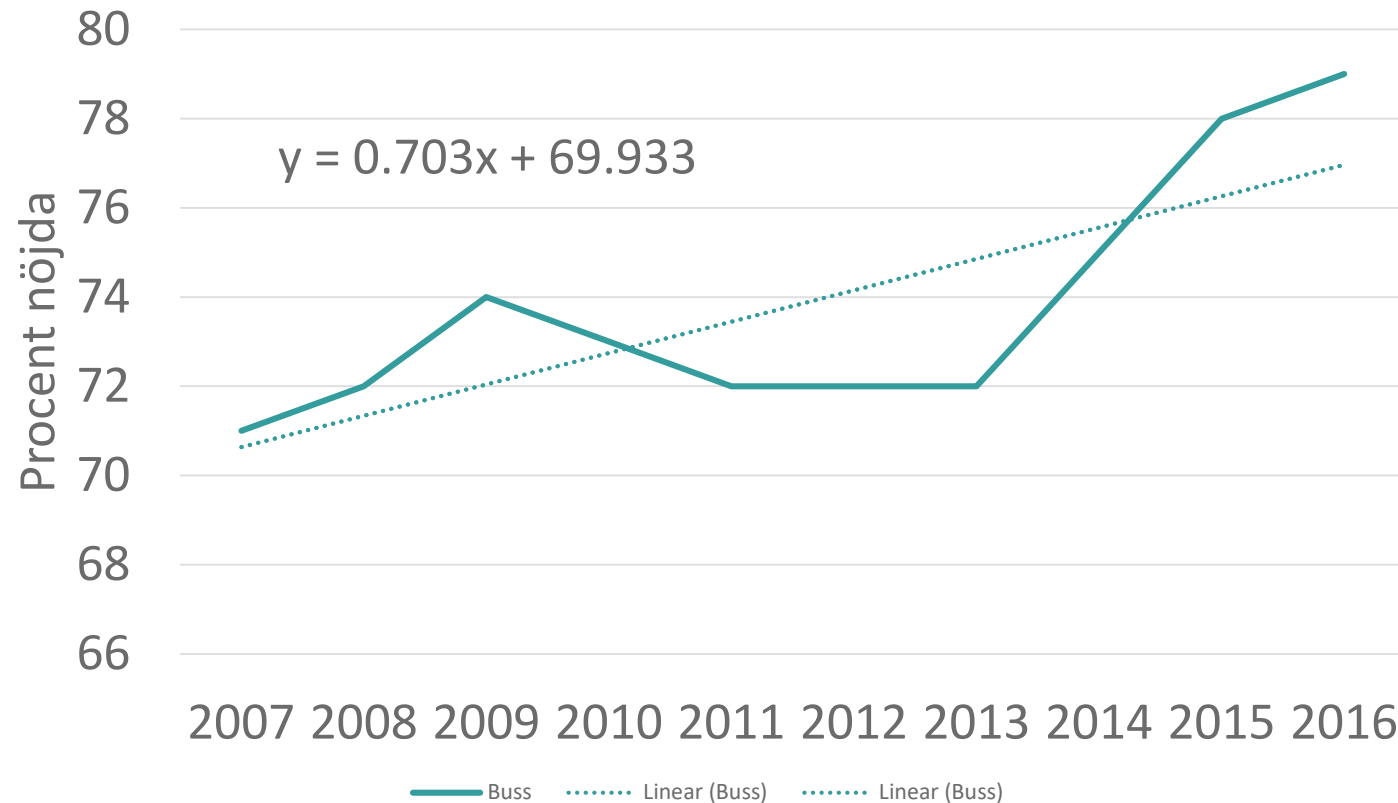


# Development of customer satisfaction in Skåne for regional och city buses 2008 to 2018





# Customer satisfaction with bus in Stockholms region 2007 till 2016



# VISA EJ Trends in quality

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- The trend för cancelled departures not statistically different from naught, i.e. no proved trend.
- The trend for punctuality significantly negative in Stockholm but not in Skåne.
- Therefore no trend towards improvement of quality.
- This is not a causal analysis of contracts and no control variables have been found for other factors that could explain the observed changes in quality.
- According an operator, the number of road work authorizations have been increasing rapidly in recent years.