

Temporal analysis of fare evasion in Transantiago: Socio-political view

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Introduction

Motivation and necessity

► Problem:

Operational costs needs to be covered by fare revenue and Government subsidy.

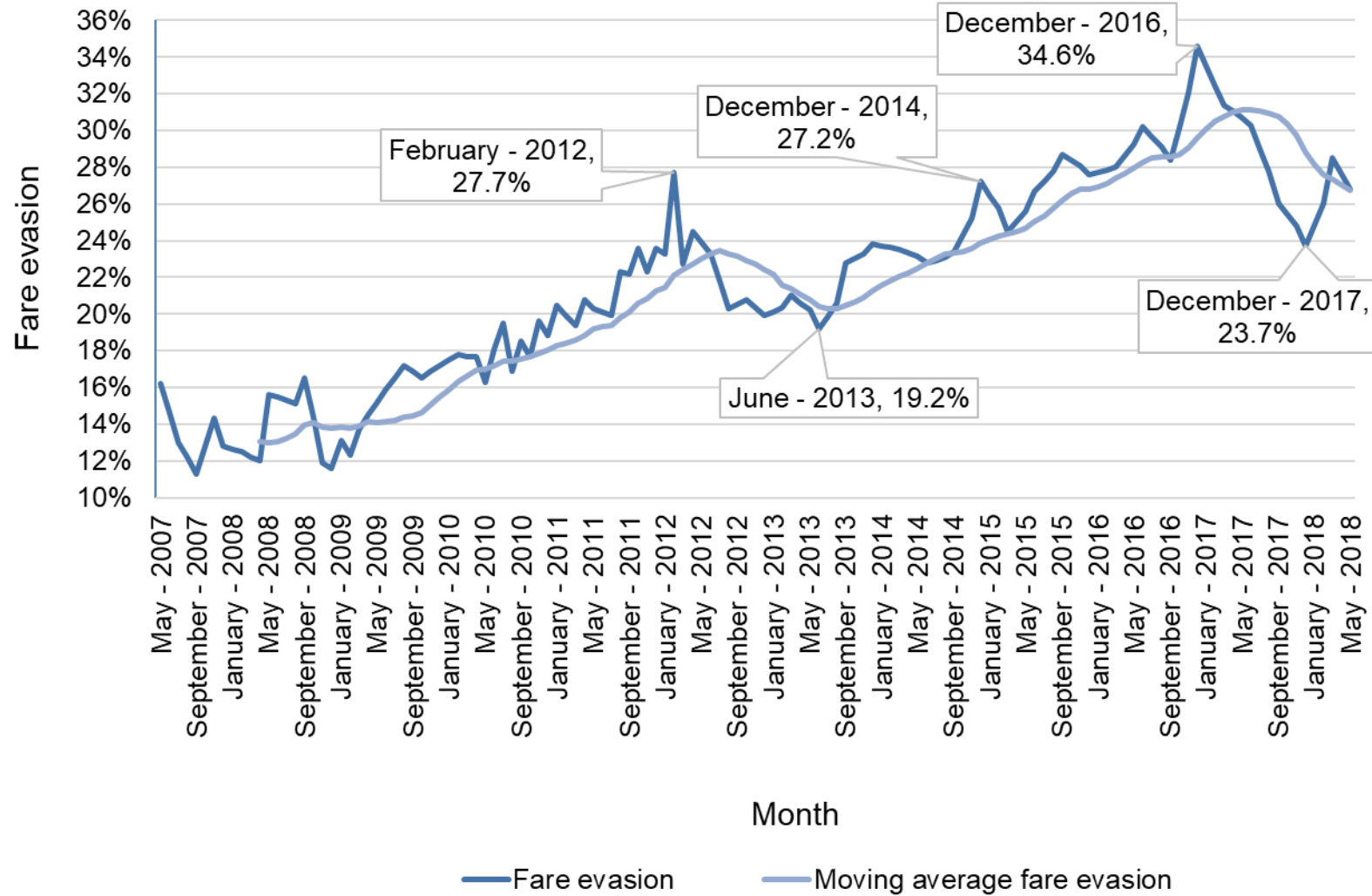
Fare evasion puts excessive pressure on the systems' **financial sustainability**.

► Average level **6 to 7 times higher than international average:**

Fare evasion for Transantiago (Santiago) second semester 2018 25.5% .

(Source: Guarda et al., 2016)

Fare evasion May 2007 - May 2018



Introduction

Main objective

- **Include social, political and cultural components** in order to broaden current research lines, which mainly focus on technical and operational components.
- Identify how these components **affect fare evasion** levels and **users disposition to fare evade**.
- Propose **new strategies** of interventions.

Variables analysed

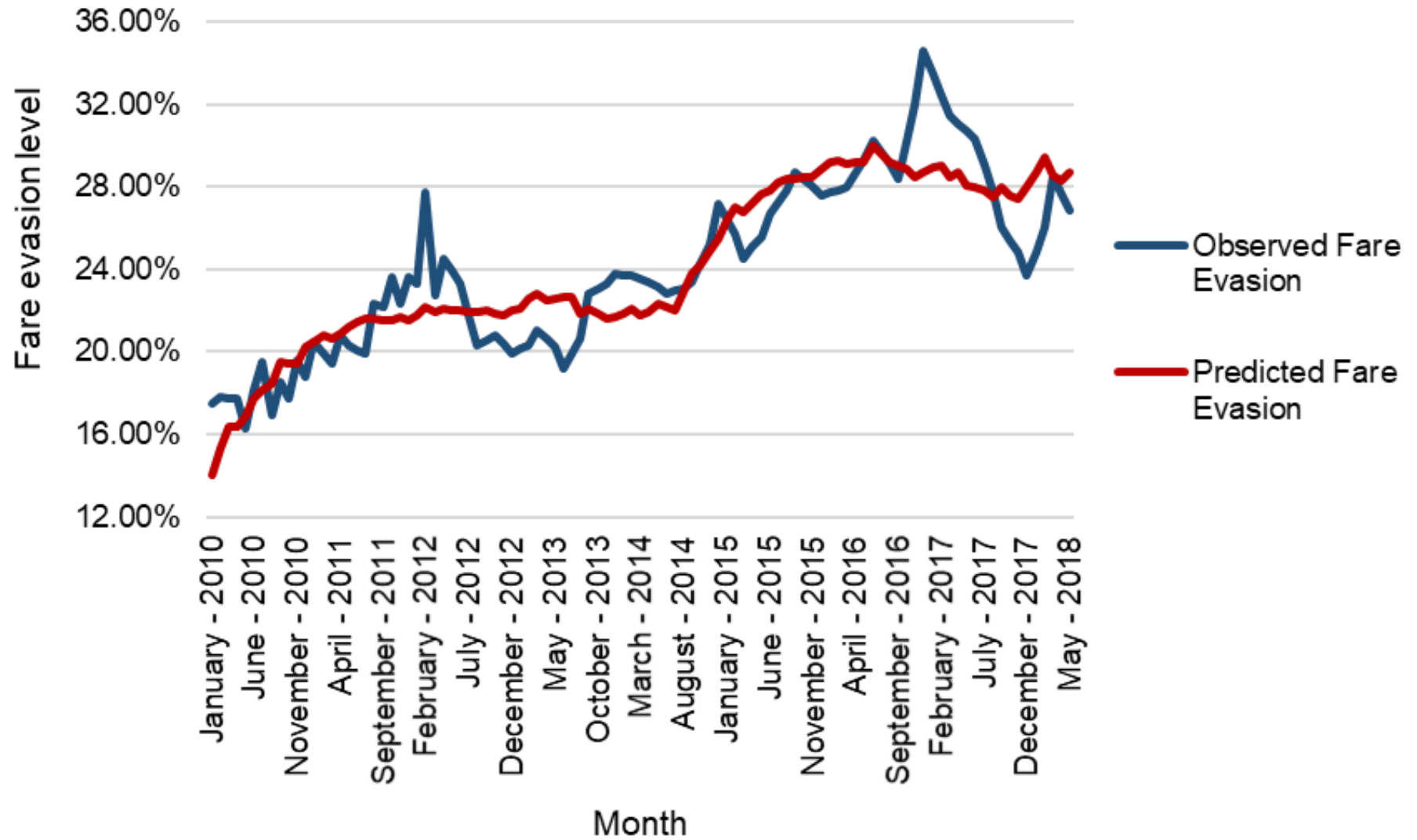
- **Transport system variables (5)** : bus fare, ticket inspection, quality measures (ICF and ICR), number of paid zones.
- **Macroeconomic variables (2)** : unemployment and informal employment.
- **Socio-political variables (4)** : Transantiago approval, Government approval, mention of scandals in the press and general Trust/ Confidence experimented at social level.

Model Obtained

Variable	Estimated	Pr(> z)	Statistical significance
Fare evasion t-1	0.7414	< 2.2 E-16	***
Fare evasion t-12	-0.3173	0.0035	**
Intercept	0.4782	1.57 E-10	***
Ticket inspection	-0.0058	0.0194	*
Bus fare	0.8225	0.7417	
Government approval	-0.1181	0.0049	**
Institutional and elite trust/ confidence	-0.0080	2.72 E-13	***

Statistical significance: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

► Predictive error: 3.57%



Socio-political variables

Government approval

Inclusion hypothesis:

Discontent with political and social measures of the Government may be expressed in **acts of protest such as fare evasion.**

Socio-political variables

Confidence/ trust in political, public, private institutions and Elite

Inclusion hypothesis:

- 1) Low confidence leads to **lack of civility/ public spirit**.
- 2) Relationship between institutional trust and **acts of protest** such as fare evasion.
- 3) Confidence is an indirect way of measuring **social Anomie**.

Greater distrust could imply a rise in fare evasion.

Socio-political variables

Confidence/ trust and Anomie

► ¿ What is **Anomie** ?

Social state where an individual does not identify with social norms and does not feel represented by society => **society loses ability to regulate an individuals behaviour.**

(Source: León Porath, 2018)

► Relationship with **criminology and crimes**

Existence of **expectations and social promises, but only with some accepted means to achieve it** => when an individual does not have access to these means they resort to crime to achieve this success promised by society.

(Source: Carvacho, 2018)

Socio-political variables

Psychological and sociological context: individual influence

- Existence of a **social contagion effect** when exposed to the unethical behaviour of other people.

(Source: Gino et al., 2009)

- Powered by the existence of **anonymity** that leads to deindividualization.

(Source: Guarda, 2015)

- Conception of what is considered a **crime is a social construction**, determined by social context.

(Source: Carvacho, 2018)

Conclusions and Proposals

- Confirms existents of **autocorrelation** with past periods: suggesting a **contagious effect** in users' behaviour consistent with previous studies.
- **Greater levels of fare payment inspection:** reduces fare evasion.
- **Higher bus fare:** increases fare evasion.
- Introduction of **Government Approval** and **Confidence/ Trust** towards political and economic institutions and the ruling class: a **decrease of these variables increases fare evasion.**

Conclusions and Proposals

- Higher level of fare payment inspection: reduces fare evasion
- Main proposal:
Increase control rates closer to 5% in order to reduce general feeling of impunity.

(Source: Tirachini & Quiroz, 2016)

Extension of fines applied to **punishments that involve time and social exposure** of the individual in order to make consequences of fare evasion socially visible.

Conclusions and Proposals

- **Higher bus fare:** increases fare evasion
- **Main proposal:**
Decrease social discontent by socializing and informing factors affecting bus fare increase and how bus fare income is being used.
Subsidies and special bus rates directed to those groups that do not pay their ticket due to lack of resources.

Conclusions and Proposals

- **Government approval and Confidence/ trust :**

Both variables can be considered a **reflection of social dissatisfaction** regarding policies and behaviours of public and private institutions.

- **Main proposals:**

Greater control, regulation and transparency of public and private institutions.

Income and penalties received by Transantiago's operators needs to be socialized in order to reduce feelings of vulnerability and abuse of the users.

Conclusions and Proposals

- As societies go through their **economic and social development, Anomie and individualization increases** => it is expected that criminal acts such as fare evasion increase also.
- **Social processes are not comparable between Anglo-Saxon societies and Catholic societies** => anti-evasion interventions from other countries can be used as a guide, but they must consider the unique context of Chilean society.
- **Fare evasion must be studied in depth considering political and sociological factors, since current and past measures have not achieved the desired effect.**

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