The Telegraph and Turnout: Evidence From Sweden

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What is the telegraph?

The idea that telegraphy $\rightarrow$ turnout

But what was the telegraph and what did it need to work?

It needed Telegraph Stations

The way things were

- Telegraphy → turnout
- The way things were
  - Crude transportation
  - Lack of communication with other communities
  - Lack of national a debates

Ideas and Evidence

Electric telegraphy brought news from the capital to local communities

It brought commerce and exchange of ideas

It facilitated transmission of public information

It facilitated interpersonal communication

We estimate the relationship between telegraph and turnout using Two Ways Fixed Effects

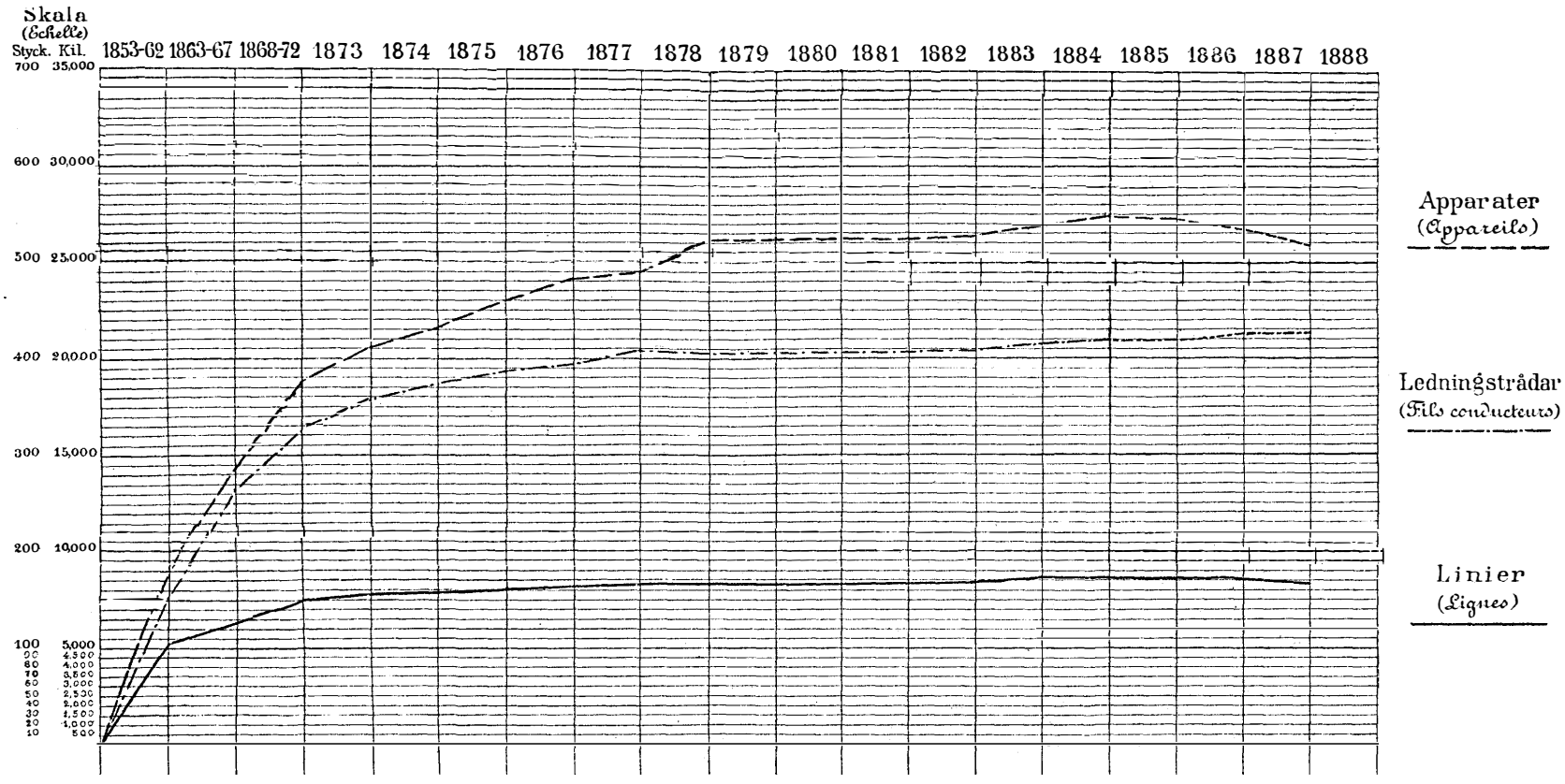
Unlike Wang (2019), we study elite electorate and expect a direct effect

Understanding Political participation

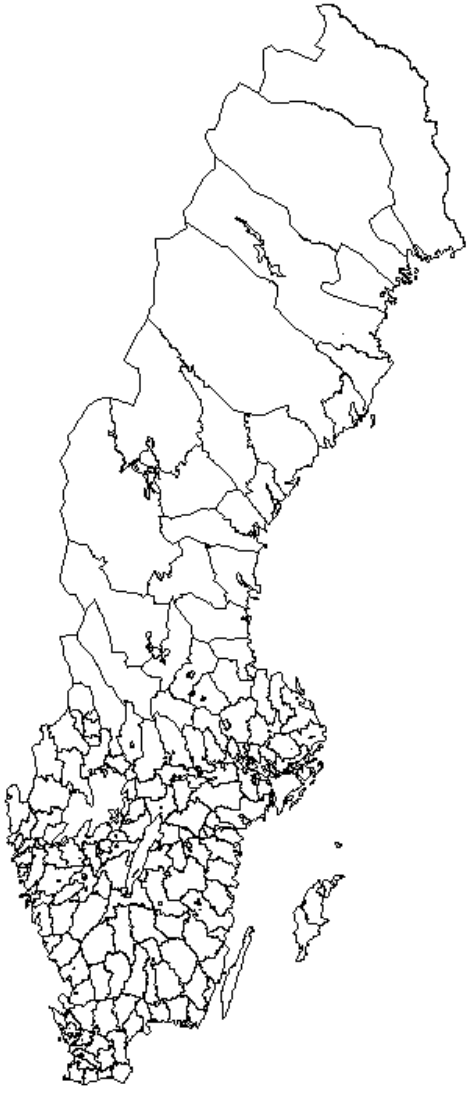
- Resources matter (the more the better) - Brady, Verba, Schlozman (1995)
- Institutions (compulsory voting, electoral system)
- How important elections are
- There is less evidence of how improved telecommunications increase participation

GRAFISK FRAMSTÄLLNING ÖFVER TELEGRAFVERKET

(Tableau graphique des télégraphes d'Etat)



Swedish Elections in the 1870s (Outcome)



175 electoral districts

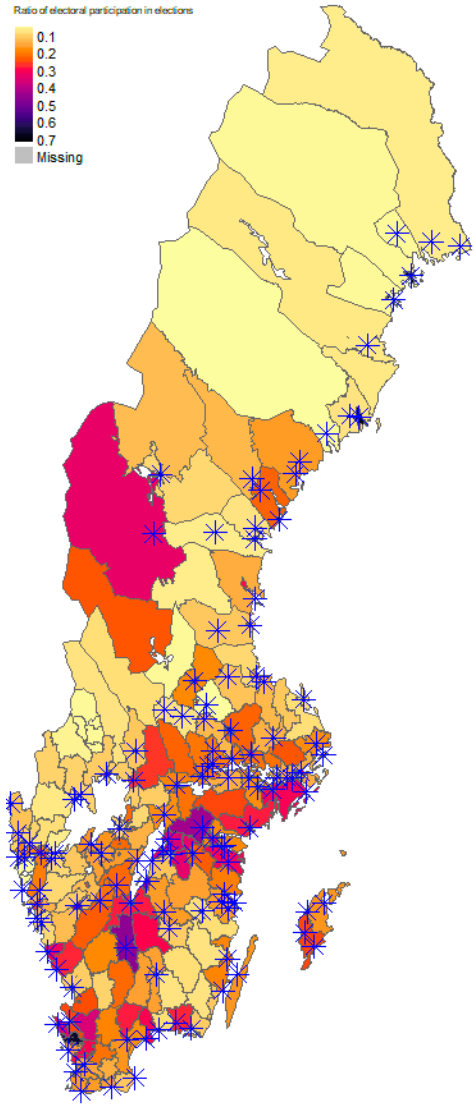
Elections in 1872, 1875 and 1878

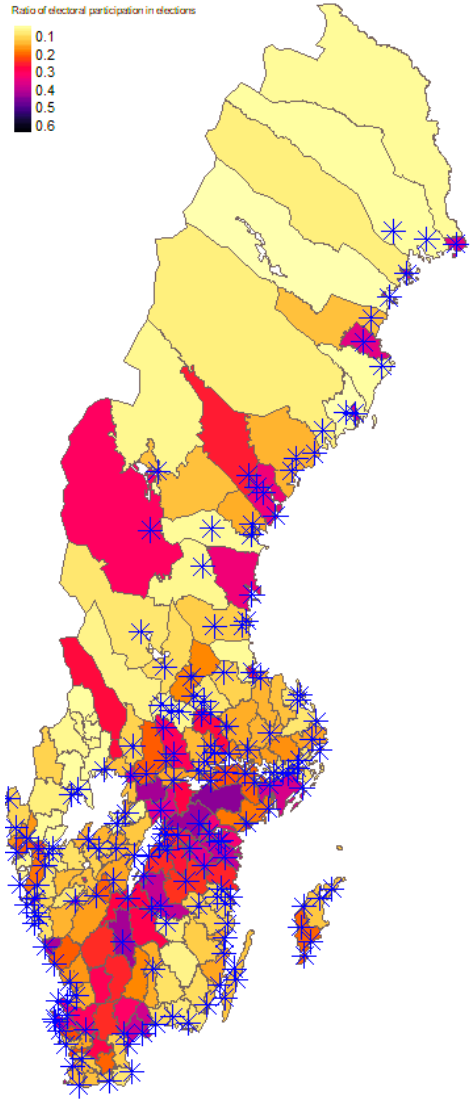
20 percent of men could vote

Indirect and direct elections

Participation went from 3% to 72% depending on the district

Telegraph Stations and Participation in 1872 and 1878





Explanatory variable

Our variable is encoded as follows.

- First measure: distance of each municipality from the nearest telegraph station (Using GIS)
- Second measure: interaction between distance to nearest telegraph station and population at the municipal level
- We then aggregate both measures at the electoral district level.
- We use the log of both measures to obtain a better distribution of our variable.

Equation

We estimate

$$y_{i,t} = \alpha + \beta_1 D_{i,t} + \beta_2 \mathbf{X}_{i,t} + u_i + \lambda_t + \varepsilon_{i,t},$$

$$y_{i,t} = \alpha + \beta_1 \tau D * P_{i,t} + \beta_2 \mathbf{X}_{i,t} + u_i + \lambda_t + \varepsilon_{i,t},$$

where
i denotes electoral districts (1, 2, ..., 175),
t denotes elections (1872, 1875, 1878),
$y_{i,t}$ is logged turnout,
$D_{i,t}$ Is the distance to nearest Telegraph Station
$D * P_{i,t}$ is Distance to the telegraph * Pop, aggr. at District
$\mathbf{X}_{i,t}$ are time-varying controls,
u_i are district fixed effects, and
λ_t are election fixed effects.

Table

	Dependent variable:					
	Log Percentage of participation					
	(1)	(2)	(3)	(4)	(5)	(6)
Distance to the telegraph in Km	-0.01^{**}	-0.01^{**}	-0.01^{**}			
	(0.003)	(0.003)	(0.003)			
Log Distance to the telegraph				-0.13^{*}	-0.12^{*}	-0.13^{*}
				(0.07)	(0.07)	(0.07)
Elegible Voters	-0.0004^{***}	-0.0002^{***}	-0.0002	-0.0004^{***}	-0.0002^{**}	-0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Log Population		0.54^{***}	0.54^{***}		0.55^{***}	0.54^{***}
		(0.09)	(0.09)		(0.09)	(0.09)
Direct vs Indirect elections			-0.33			-0.38
			(0.30)			(0.30)
Constant	3.79^{***}	3.14^{***}	6.40^{**}	4.86^{***}	4.17^{***}	8.12^{**}
	(0.20)	(0.21)	(3.03)	(0.73)	(0.70)	(3.21)
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	522	522	522	522	522	522
Adjusted R^2	0.79	0.81	0.81	0.79	0.81	0.81
Residual Std. Error	0.30 (df = 343)	0.29 (df = 342)	0.29 (df = 341)	0.30 (df = 343)	0.29 (df = 342)	0.29 (df = 341)
Note:						*p<0.1; **p<0.05; ***p<0.01

Table

	Dependent variable:					
	Log Percentage of participation					
	(1)	(2)	(3)	(4)	(5)	(6)
Distance to tel * Municipal Pop	-0.00^{**}	-0.00^{*}	-0.00^{*}			
	(0.00)	(0.00)	(0.00)			
Log teleg.Distance * pop				-0.11	-0.09	-0.10
				(0.07)	(0.07)	(0.07)
Elegible Voters	-0.0004^{***}	-0.0002^{**}	-0.0001	-0.0003^{***}	-0.0002^{**}	-0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Log Population		0.54^{***}	0.54^{***}		0.54^{***}	0.54^{***}
		(0.09)	(0.09)		(0.09)	(0.09)
Direct vs Indirect elections			-0.28			-0.36
			(0.30)			(0.30)
Constant	3.72^{***}	3.08^{***}	5.92^{*}	5.43^{***}	4.55^{***}	8.30^{**}
	(0.19)	(0.21)	(3.04)	(1.17)	(1.12)	(3.36)
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	522	522	522	522	522	522
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Residual Std. Error	0.30 (df = 343)	0.29 (df = 342)	0.29 (df = 341)	0.30 (df = 343)	0.29 (df = 342)	0.29 (df = 341)

Note: *p<0.1; **p<0.05; ***p<0.01

So What

It seems that telegraph connection is associated with more turnout

Although different contexts, could work to hypothesize about current technological change consolidation of democracy, in contexts of state building

Question for the audience (I)

There are two ways of computing our explanatory variable:

1. Look at the distance of each municipality towards the telegraph over time, and aggregate into electoral districts
2. Compute buffers from each telegraph station at 30 kilometers, and count the population of people living within those buffers

Question for the audience (II)

Another question is how to deal with the problem that we don't have electoral data at the municipal level, but at the district level, and we lose quite a lot of efficiency but this aggregation

- Would it be possible to impute district-level data at the municipal level? What would be the consequences? Econometrically, would it make sense?