When Science Strikes Back

Tables and Figures

Gabriel Caser dos Passos and Nelson Ricardo Laverde Cubillos

Table of contents

Summary of Data Sources

Table 1: Summary of Data Sources

Data Source	Description
Base dos Dados (Dahis et al., 2022) and Tribunal Superior Eleitoral (TSE)	Information on mayors and elections.
RAIS (Brazilian Ministry of Labor database)	Occupation data.
SIVEPGripe	Epidemiological outcomes data (hospitalizations, deaths).
2010 Brazilian National Census	Demographic data.
IEPS Data Index	Public health data.
Power and Rodrigues-Silveira (2019)	Ideological measures.
De Souza Santos et al. (2021) and National Confederation of Municipalities (CNI)	Data on Non-Pharmaceutical Interventions (NPIs) between May and July 2020.

Main Variables in the Study

Table 2: Main Variables in the Study

Variable	Description
Cases per 100k inhabitants	Number of COVID-19 cases per 100,000 inhabitants, based on municipal data.
Hospitalizations per 100k inhabitants	Number of hospitalizations due to COVID-19 per 100,000 inhabitants.
Deaths per 100k inhabitants	Number of deaths from COVID-19 per 100,000 inhabitants.
STEM candidate	Indicator for whether a candidate has worked in STEM for at least 6 months or holds a STEM degree.
STEM occupation	Defined as per CBO classification list by Machado et al. (2021).
STEM education	Based on data from Escavador, social media, and machine learning classification.
STEM winning margin	Vote margin between the first and second most-voted candidates, positive if a STEM candidate won.
Cohort	List of candidates registered in the 2016 local executive elections.
Tenure	Employment time in a STEM occupation, calculated using RAIS data.

Summary Statistics

Table 3: Summary Statistics

	N	Min	Mean	Max	SD
Tenure.in.STEM.job	465	0.00	19.44	168.10	38.80
Female	465	0.00	0.09	1.00	0.29
Age	465	26.00	49.82	86.00	11.37
Education	465	2.00	6.90	7.00	0.49
Incumbent.when.elected	465	0.00	0.23	1.00	0.42
Party.ideology	465	-0.69	0.29	0.76	0.37
Deaths.per.100k.inhabitants	465	0.00	129.99	681.88	89.01
Hospitalizations.per.100k.inhabitants	465	13.48	421.09	1582.03	295.86
Cordon.sanitaire	138	0.00	0.48	1.00	0.50
Face.covering.required	135	0.00	0.95	1.00	0.22
Closure.of.non.essential.activities	136	0.00	0.76	1.00	0.43

	N	Min	Mean	Max	SD
Gathering.prohibition	136	0.00	0.99	1.00	0.12
Public.transport.restriction	134	0.00	0.51	1.00	0.50
Number.of.Non.Pharma..Interventions	133	1.00	3.69	5.00	0.90
Log.of.population.in.2010	465	7.28	9.98	14.49	1.22
Human.Development.Index	465	0.47	0.68	0.84	0.07
Per.capita.income	465	5.23	24.58	203.12	20.31
Population.density	465	0.68	139.99	6182.96	492.14
Urban.population.rate	465	-80.55	-27.09	1.00	20.53
Men.population.rate	465	46.37	50.00	61.78	1.58
Physicians.per.1k.inhabitants	465	0.00	0.92	6.18	0.76
Health.municipal.spending.rate	465	7.92	22.83	37.08	5.06
Community.health.agency.coverage.rate	465	0.00	84.94	100.00	22.74
Hospital.beds.per.100k.population	465	0.00	143.12	816.50	131.26

Notes: This table aggregates the summary statistics of all the observations used in the study (465). Municipalities chosen were those that held ordinary elections in selected years (2016, 2020) whose mayor was elected in the first round and among the top two most voted was a STEM candidate and a Non-STEM one with college degree. NPI data has null values since not all the mayors responded to the survey.

Summary Statistics per Group
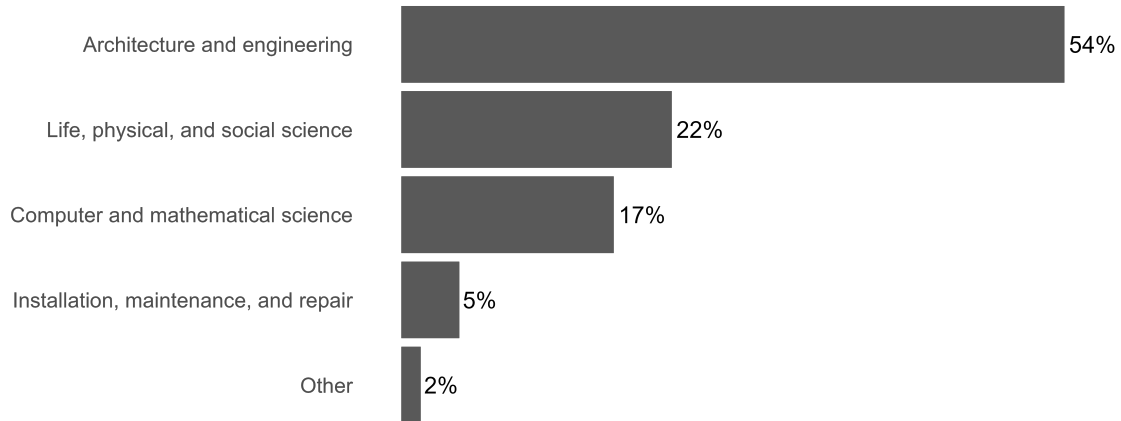
Table 4: Summary Statistics by Group

	STEM (N=190)		Non-STEM (N=275)		Diff. in	
	Mean	Std. Dev.	Mean	Std. Dev.	Means	p
Tenure in STEM job	47.59	48.48	0.00	0.00	-47.59	<0.01
Female	0.06	0.23	0.12	0.32	0.06	0.02
Age	50.37	10.65	49.44	11.85	-0.93	0.38
Education	6.76	0.75	7.00	0.00	0.24	<0.01
Incumbent when elected	0.22	0.41	0.24	0.43	0.02	0.54
Party ideology	0.29	0.40	0.28	0.36	-0.01	0.74
Deaths per 100k inhabitants	133.23	95.19	127.76	84.59	-5.48	0.52
Hospitalizations per 100k inhabitants	428.36	324.28	416.06	275.02	-12.30	0.67
Cordon sanitaire	0.46	0.50	0.49	0.50	0.04	0.67

	STEM (N=190)		Non-STEM (N=275)		Diff. in	
	Mean	Std. Dev.	Mean	Std. Dev.	Means	p
Face covering required	0.98	0.13	0.92	0.27	-0.06	0.09
Closure of non-essential activities	0.77	0.42	0.76	0.43	-0.01	0.87
Gathering prohibition	0.98	0.13	0.99	0.11	0.00	0.82
Public transport restriction	0.45	0.50	0.56	0.50	0.10	0.25
Number of Non-Pharma. Interventions	3.64	0.97	3.73	0.85	0.09	0.56
Log of population in 2010	9.86	1.20	10.06	1.24	0.20	0.08
Human Development Index	0.67	0.07	0.68	0.07	0.00	0.50
Per capita income	23.40	15.80	25.40	22.91	2.00	0.27
Population density	123.10	479.71	151.66	501.08	28.56	0.54
Urban population rate	-28.73	21.05	-25.96	20.13	2.77	0.16
Men population rate	50.14	1.28	49.90	1.75	-0.25	0.08
Physicians per 1k inhabitants	0.93	0.81	0.90	0.72	-0.03	0.67
Health municipal spending rate	23.10	4.85	22.65	5.20	-0.45	0.34
Community health agency coverage rate	85.26	23.32	84.72	22.38	-0.54	0.80
Hospital beds per 100k population	139.69	122.56	145.48	137.13	5.79	0.63

Notes: This table aggregates the summary statistics per group of all the observations used in the study (465). Municipalities chosen were those that held ordinary elections in selected years (2016, 2020) whose mayor was elected in the first round and among the top two most voted was a STEM candidate and a Non-STEM one with college degree. NPI data has null values since not all the mayors responded to the survey.

STEM mayors' most common occupations

Figure 1: STEM mayors' most common occupations

Architecture and engineering	54%
Life, physical, and social science	22%
Computer and mathematical science	17%
Installation, maintenance, and repair	5%
Other	2%

Notes: This figure shows the top five occupations among the 190 STEM mayors in our sample. Municipalities chosen were those that held ordinary elections in selected years (2016, 2020) whose mayor was elected in the first round and among the top two most voted was a STEM candidate and a Non-STEM one with college degree.

**Percentage of municipalities with a STEM mayor among top 2 per state**

Figure 2: Percentage of municipalities with a STEM mayor among top 2 per state
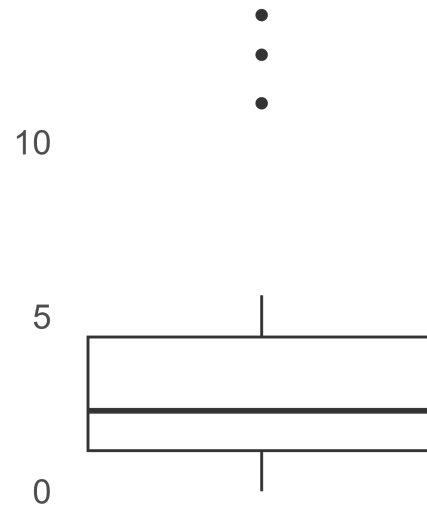
Notes: This plot shows the distribution per state of the percentage of municipalities that had a STEM mayor among top 2 voted. Municipalities chosen were those that held ordinary elections in selected years (2016, 2020) whose mayor was elected in the first round and among the top two most voted was a STEM candidate and a Non-STEM one with college degree.

Municipalities with a STEM mayor (2016)

Figure 3: Municipalities with a STEM mayor (2016)
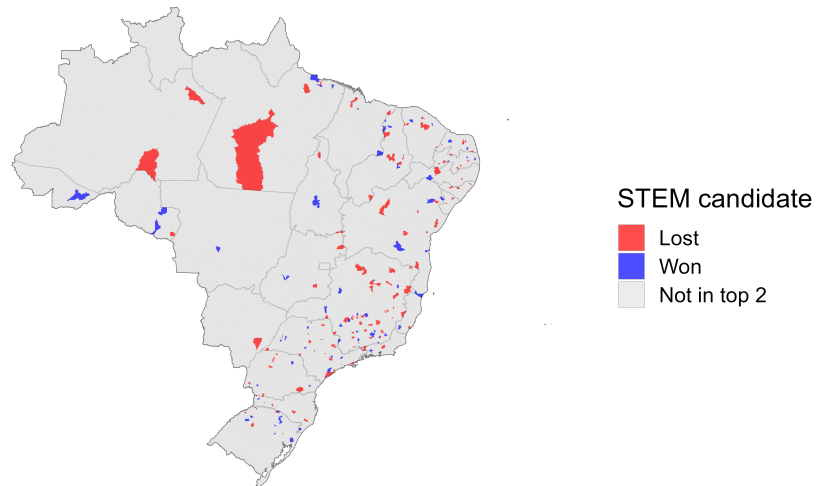
Source: Author

Notes: In this figure, we colored all municipalities in our 2016 sample, that is, where a STEM candidate was among the top two most voted. In red are the municipalities where the STEM candidate lost and in blue are the municipalities where the STEM candidate won. In gray are all the municipalities with no STEM candidate among the top two most voted.