

MÉTODOS QUANTITATIVOS

Olá!

Felipe

Dr. Finanças - EAESP - FGV

Me. Estatística - UFSCar

Me. Eng Prod. - USP São Carlos

Adm - USP Ribeirão Preto



Trainee - 2006



McKinsey Fellow
Analyst - 2008



Consultor - 2011



Consultor - 2015



**BNP PARIBAS
CARDIF**

Gerente de Big Data e
Monitoramento de Riscos
- 2016 (2018)

Sua vez!

Nome

Área de Interesse

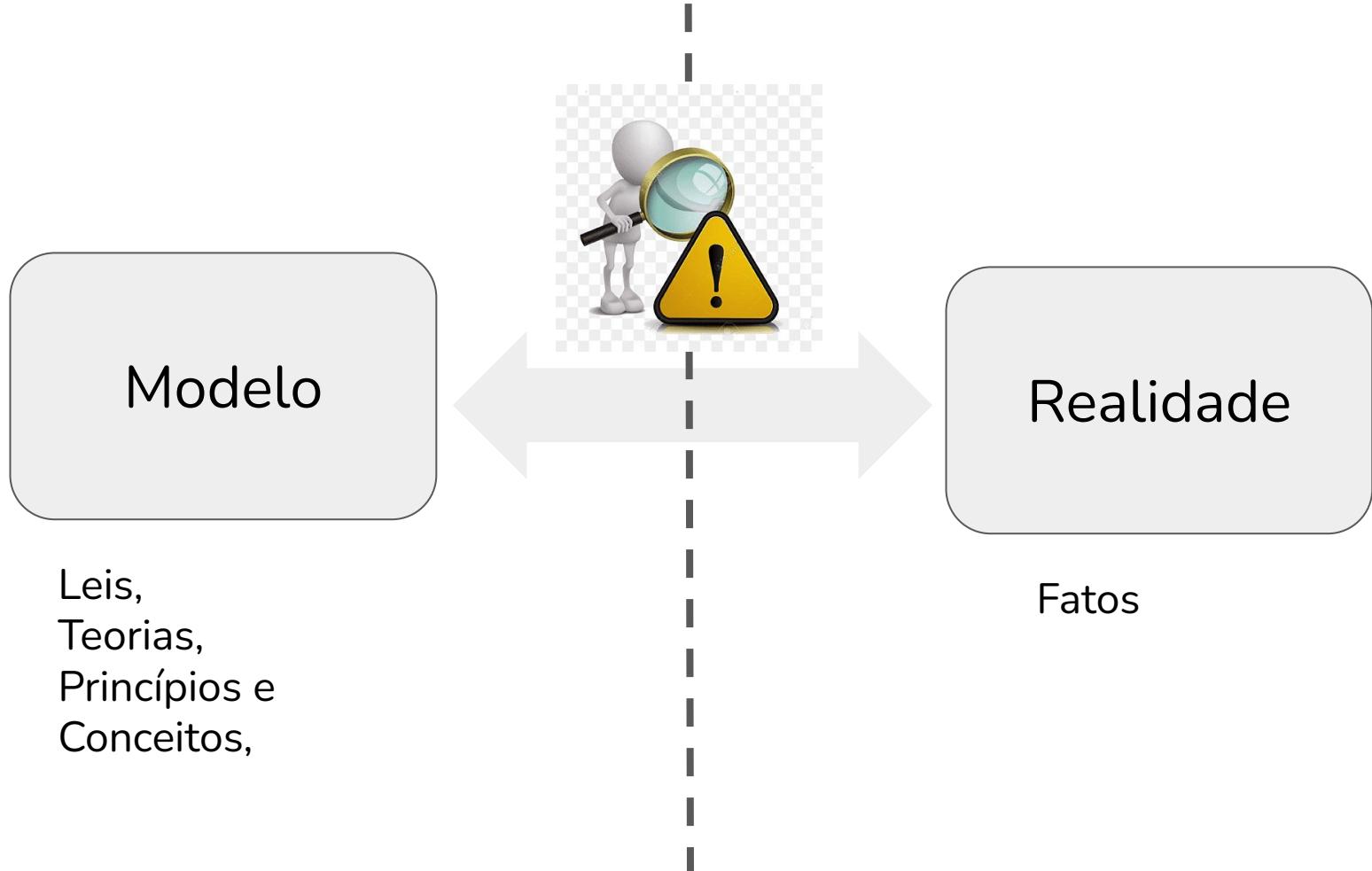
Tema de pesquisa

	Conteúdo	"Tema"
1	Introdução, Métodos Quantitativos, Causalidade	Estatística Básica (Dados Experimentais)
2	Análise Exploratória: Média, Mediana, Moda, Variância, Desvio Padrão, Outliers, Covariância, Correlação	
3	Distribuições de Probabilidade (Discretas, Contínuas)	
4	Amostragem, Intervalo de Confiança e Inferência	
5	Testes de Hipóteses	
6	Regressão Linear	
	Avaliação 1 (assíncrono)	
7	Pareamento	Dados não Experimentais
8	Variável Instrumental	
9	Regressão Discontínua	
10	Diferenças em Diferenças	
11	Controle Sintético	
12	Avaliação dos resultados (ATE, ITT,etc)	
	Avaliação 2 (assíncrono)	
	Trabalho	

CAUSALIDADE EM CIÊNCIAS SOCIAIS

Felipe Tumenas Marques
tumenas@ufba.br







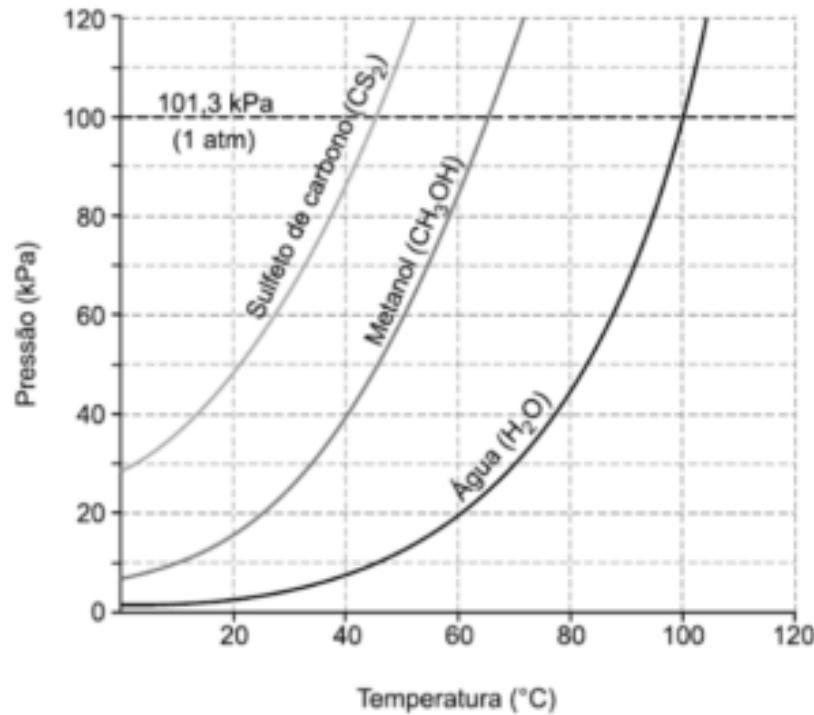
Água ferve a 100°C

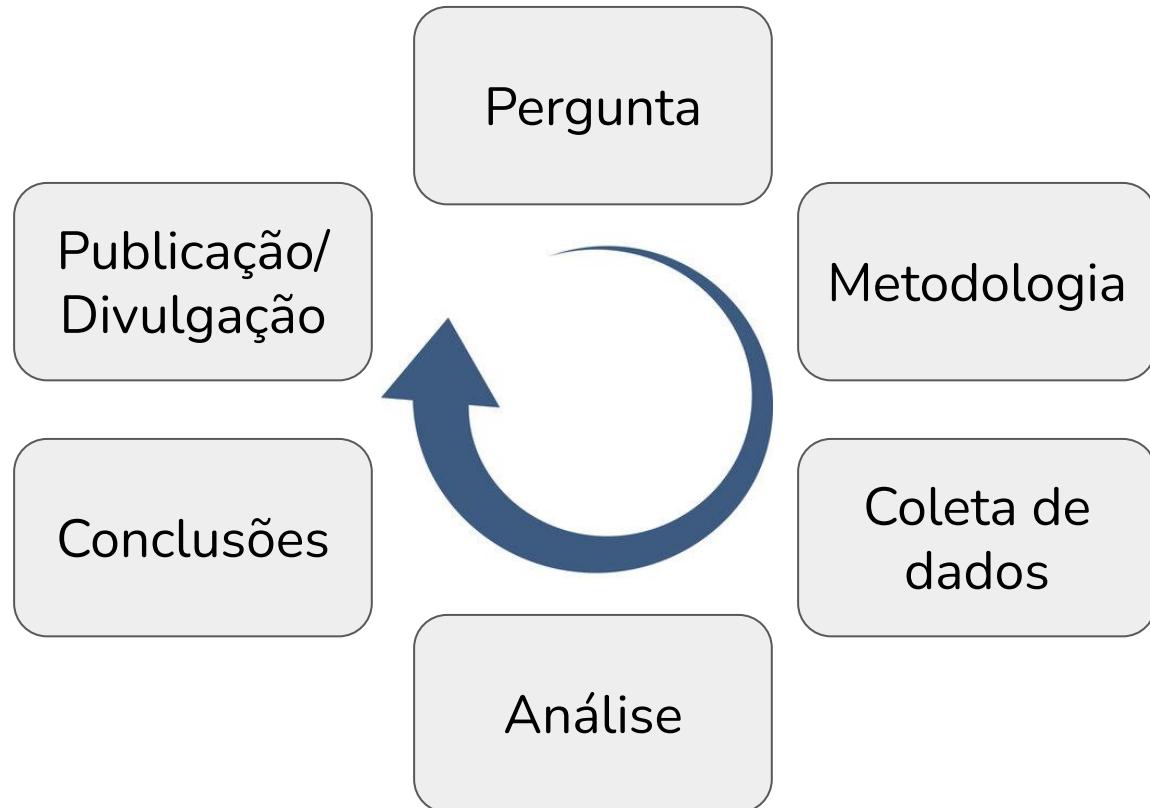


Água ferve a 100°C
ao nível do mar



Água **pura** ferve a 100°
C
ao nível do mar





TIPOS DE PESQUISA EMPÍRICA

Qual o perfil dos estudantes da UFBA que são fãs da Taylor Swift?



TIPOS DE PESQUISA EMPÍRICA

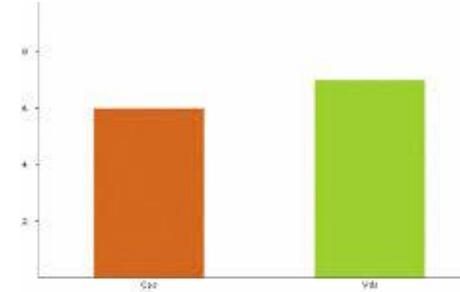
Qual o perfil dos estudantes da UFBA que são fãs da Taylor Swift?

Idade, Sexo, Renda, Curso,



TIPOS DE PESQUISA EMPÍRICA

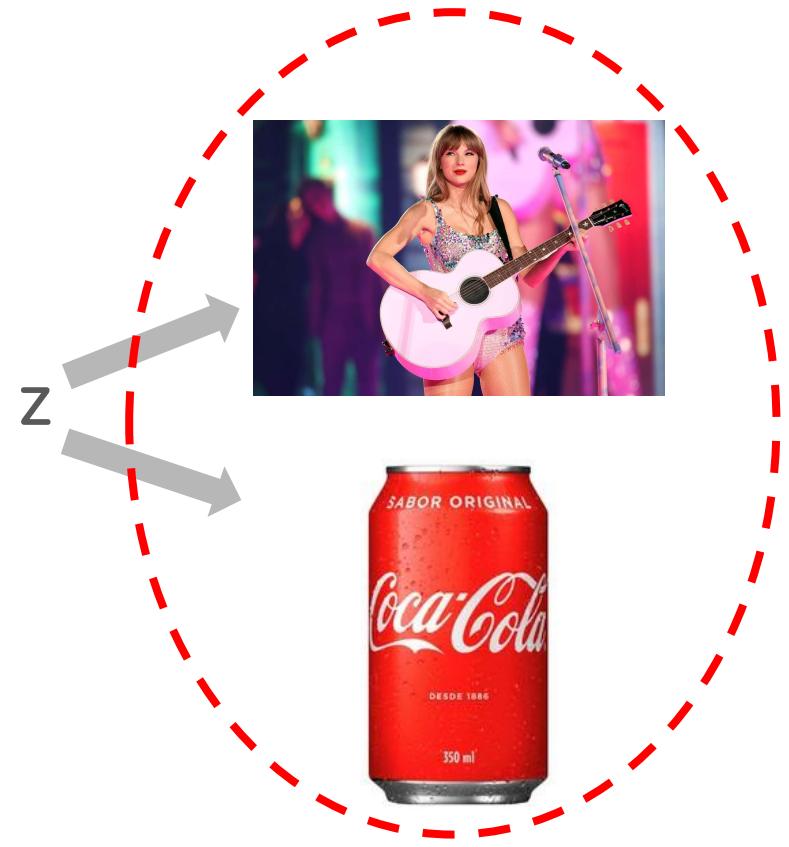
Os estudantes da UFBA que são fãs da Taylor Swift consomem mais Coca-cola?



TIPOS DE PESQUISA EMPÍRICA

Os estudantes da UFBA que são fãs da Taylor Swift consomem mais Coca-cola?

Existe associação?



TIPOS DE PESQUISA EMPÍRICA

Os estudantes da UFBA que tiveram aula de música na infância tendem a ser fãs da Taylor Swift?



TIPOS DE PESQUISA EMPÍRICA

Os estudantes da UFBA que tiveram aula de música na infância tendem a ser fãs da Taylor Swift?

Causalidade



TIPOS DE PESQUISA EMPÍRICA

Caracterização

Relação

- Descritiva

- Associação
- Causalidade

TIPOS DE AMOSTRAS

Obs.

“Estudo de caso”

TIPOS DE AMOSTRAS

t1

1

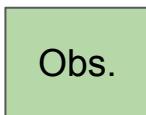


2



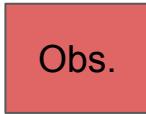
“Cross Section”

3

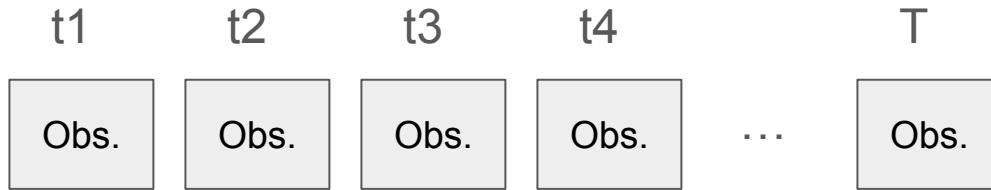


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n



TIPOS DE AMOSTRAS

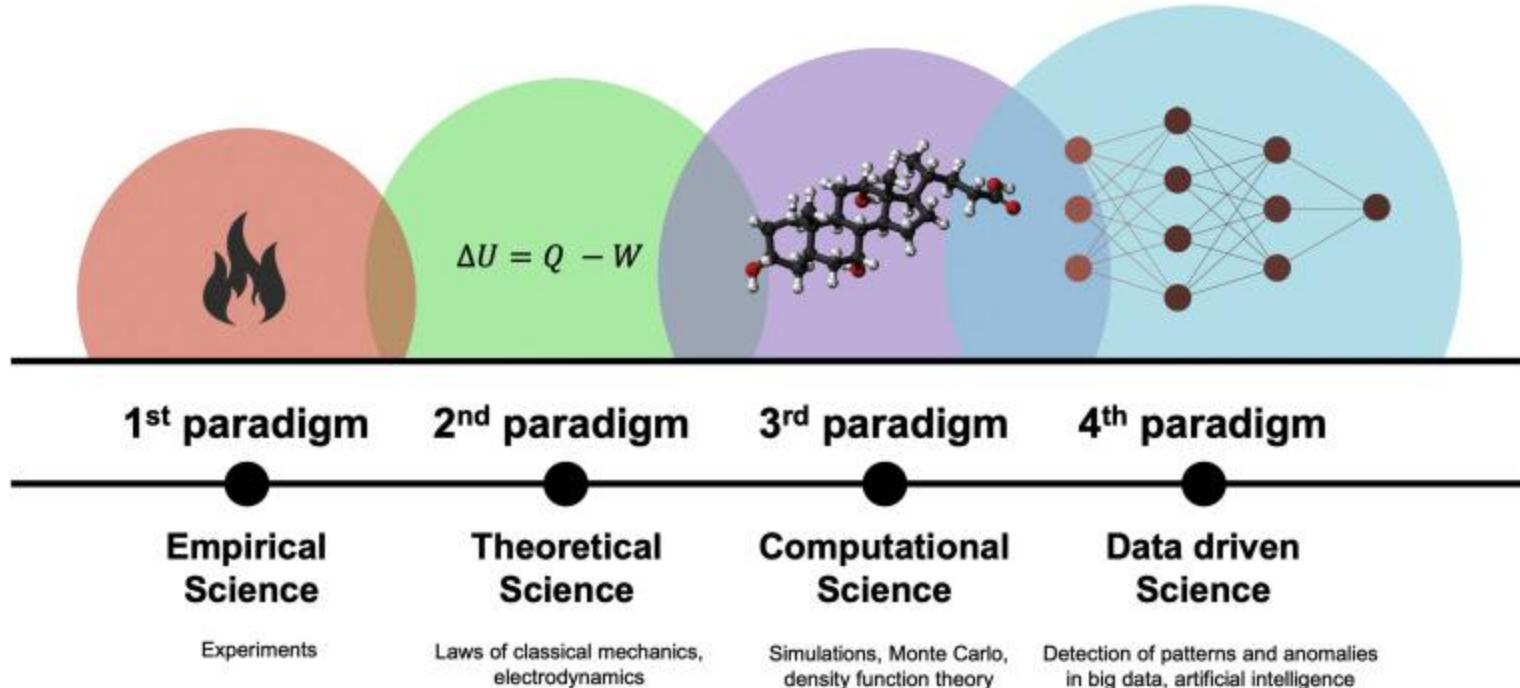


“Séries Temporais”

TIPOS DE AMOSTRAS

	t1	t2	t3	t4		T
1	Obs.	Obs.	Obs.	Obs.	...	Obs.
2	Obs.	Obs.	Obs.	Obs.	...	Obs.
3	Obs.	Obs.	Obs.	Obs.	...	Obs.
...
n	Obs.	Obs.	Obs.	Obs.	...	Obs.

“Dados em Painel”,
“Dados longitudinais”,
“Coorte”





The
**FOURTH
PARADIGM**

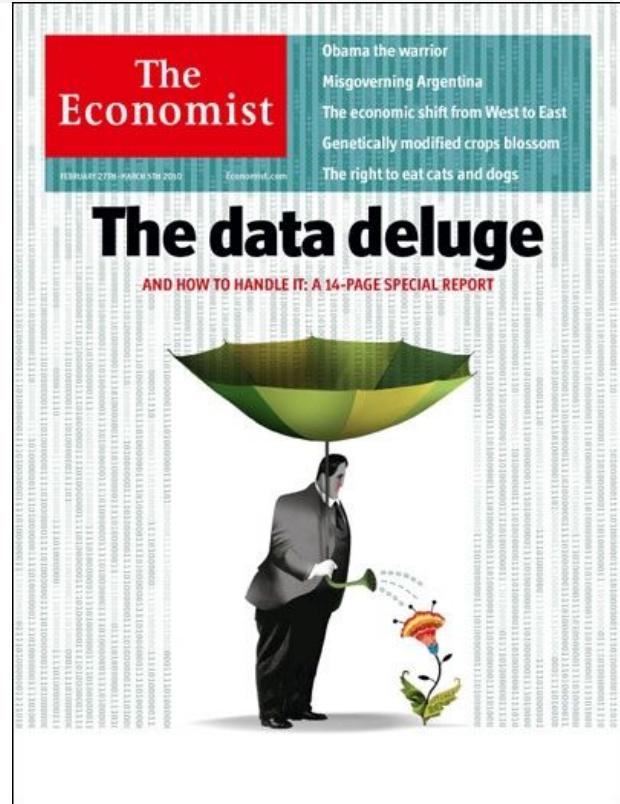
DATA-INTENSIVE SCIENTIFIC DISCOVERY

EDITED BY TONY HEI, STEPHAN TAPENSY, AND KRISTIN TOLLE

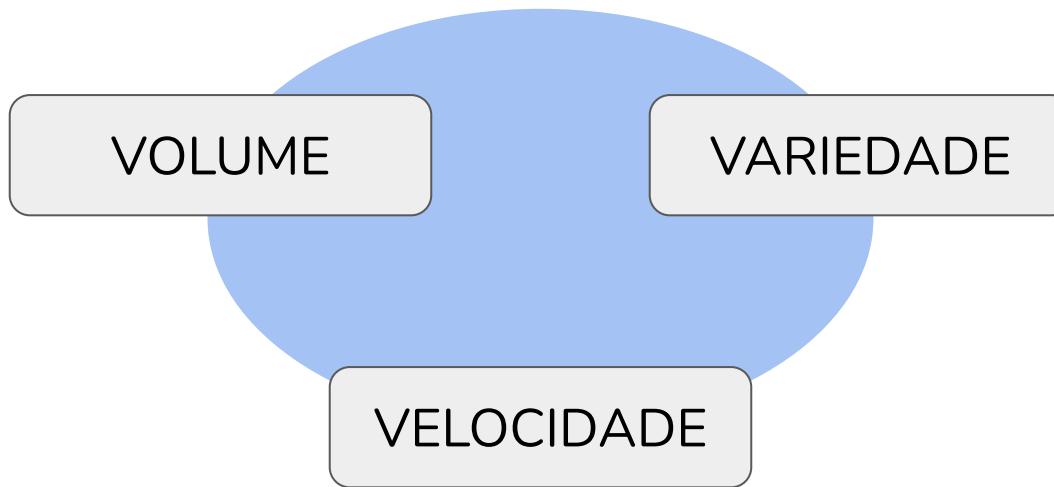
BIG DATA

“The term “*big data*” refers to data that is so large, fast or complex that it's difficult or impossible to process using traditional methods” SAS

https://www.sas.com/pt_br/insights/big-data/what-is-big-data.html



3Vs



V's



CHANGEMAKER

Os 10 Vs do big data

O termo big data começou a aparecer com moderação no início dos anos 90, e sua prevalência e importância aumentaram exponencialmente com o passar dos últimos anos

4 min de leitura

Ouça

Home > Infra > Big Data

Big Data: os cinco Vs que todo mundo deveria saber

Por Redação

© shutterstock

Em um mundo cada vez mais conectado, o Big Data é um dos temas mais relevantes do mercado de TI. Para te ajudar a entender melhor sobre este assunto, o LinkedIn fez uma lista que ensina exatamente o que é essa tecnologia.

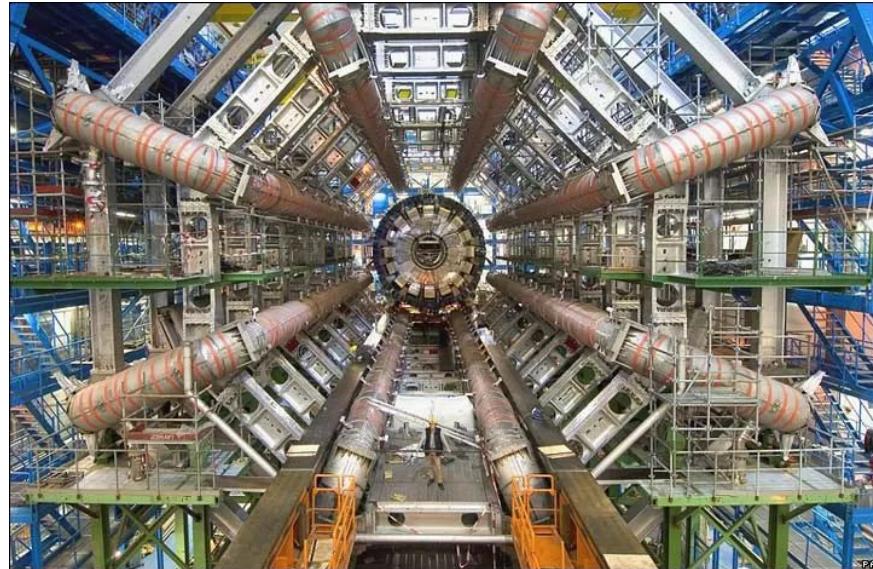
1. Volume

Big Data é uma grande quantidade de dados gerada a cada segundo. Pense em todos os e-mails, mensagens de Twitter, fotos e vídeos que circulam na rede a cada instante. Não são terabytes e sim zetabytes e brontobytes. Só no Facebook são 10 bilhões de mensagens, 4,5 bilhões de curtidas e 350 milhões de fotos compartilhadas todos os dias. A tecnologia do Big Data serve exatamente para lidar com esse volume de dados,

CERN (LHC)

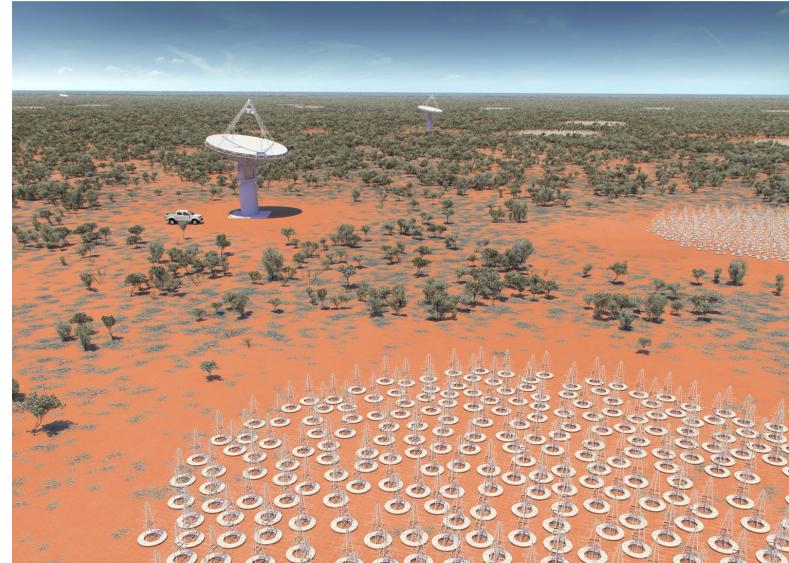
“The raw data per event is around one million bytes (1 MB), produced at a rate of about 600 million events per second.”

$600.000.000 \times 1\text{MB} \sim \text{6 PB/s}$



SKA - (AUSTRÁLIA e ÁFRICA DO SUL)

“The SKA-Low array will generate 5 zettabytes of data every year—an unimaginable volume when considering global Internet traffic only passed 1 zettabyte for the first time in 2016. “



<https://spie.org/news/photonics-focus/mayjun-2020/square-kilometer-array-big-data?SSO=1>

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Smithsonian
MAGAZINE

SMARTNEWS HISTORY SCIENCE INGENUITY ARTS & CULTURE TRAVEL AT THE SMITHSONIAN PHOTOS VIDEOS

AGE OF HUMANS FUTURE OF SPACE EXPLORATION HUMAN BEHAVIOR MIND & BODY OUR PLANET SPACE WILDLIFE NEWSLETTER EARTH

ADVERTISING

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Red Stag
PHOTO

MOST PO

1. Study
Bridge

“Earlier this year, astronomers stumbled upon a fascinating finding: Thousands of black holes likely exist near the center of our galaxy.

The X-ray images that enabled this discovery weren’t from some state-of-the-art new telescope. Nor were they even recently taken—**some of the data was collected nearly 20 years ago.**”

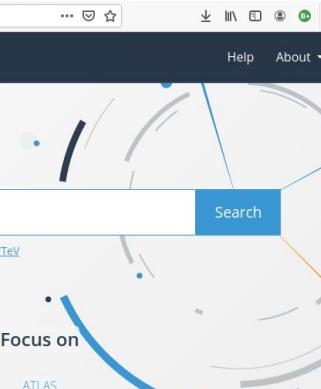
Big Data is Transforming How Astronomers Make Discoveries

The next game-changer is likely lurking in the data we already have—but it will take scientists years to uncover it



<https://www.smithsonianmag.com/science-nature/next-big-discovery-astronomy-scientists-probably-found-it-years-ago-they-dont-know-it-yet-180969073/>

Explore more than **two petabytes**
of open data from particle physics!



Start typing...

search examples: [collision datasets](#), [keywords:education](#), [energy:7TeV](#)

Explore

[datasets](#)
[software](#)
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Focus on

[ATLAS](#)
[ALICE](#)
[CMS](#)
[LHCb](#)
[OPERA](#)[Data Science](#)

Registry of Open Data on AWS



About

This registry exists to help people discover and share datasets that are available via AWS resources. Learn more about sharing data on AWS.

See all usage examples for datasets listed in this registry.

See datasets from Facebook Data for Good, NASA Space Act Agreement, NIH STRIDES, NOAA Big Data Program, Space Telescope Science Institute, and [Amazon Sustainability Data Initiative](#).

Search datasets (currently 205 matching datasets)

Add to this registry

If you want to add a dataset or example of how to use a dataset to this registry, please follow the instructions on the [Registry of Open Data on AWS GitHub repository](#).

Unless specifically stated in the applicable dataset documentation, datasets available through the Registry of Open Data on AWS are not provided and maintained by AWS. Datasets are provided and maintained by a variety of third parties under a variety of licenses. Please check dataset licenses and related documentation to determine if a dataset may be used for your application.

The Cancer Genome Atlas

[Cancer](#) [genomic](#) [life sciences](#) [STRIDES](#) [whole genome sequencing](#)

The Cancer Genome Atlas (TCGA), a collaboration between the National Cancer Institute (NCI) and National Human Genome Research Institute (NHGRI), aims to generate comprehensive, multi-dimensional maps of the key genomic changes in major types and subtypes of cancer. TCGA has analyzed matched tumor and normal tissues from 11,000 patients, allowing for the comprehensive characterization of 33 cancer types and subtypes, including 10 rare cancers. The dataset contains open Clinical Supplement, Biospecimen Supplement, RNA-Seq Gene Expression Quantification, miRNA-Seq Isoform Expression Quantification...

[Details →](#)

Usage examples

- [Broad Institute FireCloud by The Broad Institute of MIT & Harvard](#)
- [An Integrated TCGA Pan-Cancer Clinical Data Resource to Drive High-Quality Survival Outcome Analytics by Jianfang Liu, Tara Lichtenberg, et al.](#)
- [The Immune Landscape of Cancer by Vésteinn Thorsson, David L. Gibbs, et al.](#)
- [The chromatin accessibility landscape of primary human cancers by M. Ryan Corces, Jeffrey M. Granja, et al.](#)
- [Molecular Characterization and Clinical Relevance of Metabolic Expression Subtypes in Human Cancers by Xinlin Peng, Zhongyuan Chen, et al.](#)

[See 29 usage examples →](#)

Therapeutically Applicable Research to Generate

SATÉLITES

https://www.geospatialworld.net/news/hedge-funds-use-satellite-imagery-to-predict-revenues

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Home > News > Business > Hedge funds use satellite imagery to predict revenues

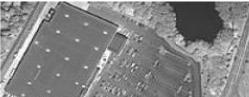
NEWS BUSINESS GENERAL

Hedge funds use satellite imagery to predict revenues

By Geospatial World - 09/17/2013 < 1 Minute Read

Share f t p in

US: Analysts at hedge funds are using analysis of satellite imagery to learn more about business and predict revenues. They are including their findings in the quarterly and annual reports also.



Recently, UBS Investment Research issued its earnings preview for Wal-Mart's second quarter, which publicly revealed that UBS used satellite imagery to gather data about the parking lots at Wal-

Upcoming Webinar:

Geospatial Knowledge Infrastructure Summit: Mapping our way to 4IR

Date: 24 - 25 February, 2021
Time: 7:00 - 11:00 (EST)

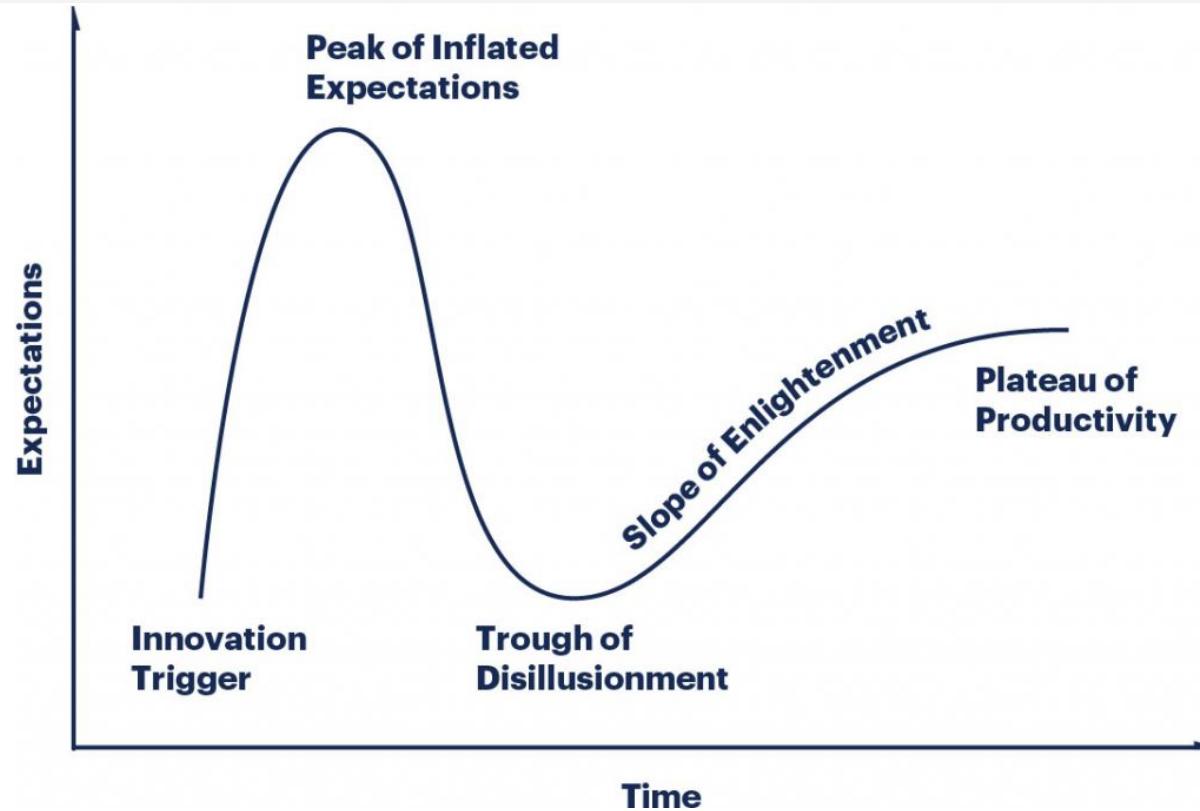
GW WEEKLY
Your Weekly Go-to Guide for Everything Geospatial

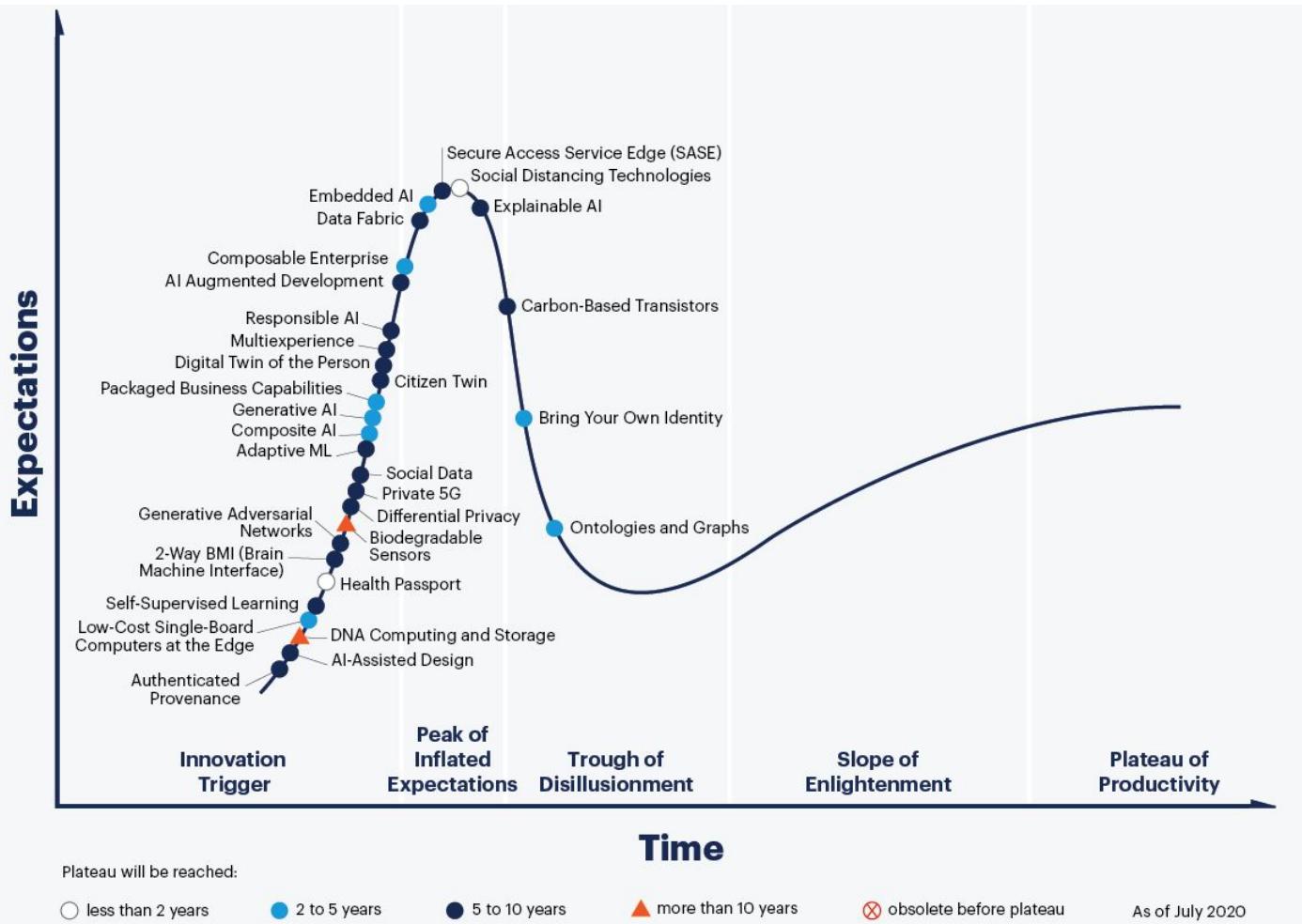
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HYPE CYCLE (GARTNER)





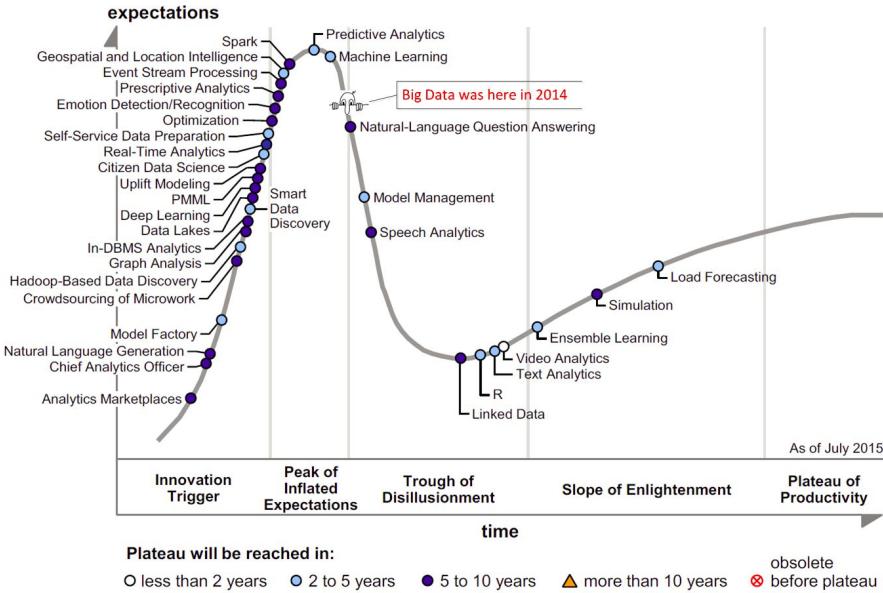
Big Data Falls Off the Hype Cycle

<https://www.datasciencecentral.com/profiles/blogs/big-data-falls-off-the-hype-cycle>

Why Gartner Dropped Big Data Off the Hype Curve

<https://www.datanami.com/2015/08/26/why-gartner-dropped-big-data-off-the-hype-curve/>

Figure 1. Hype Cycle for Advanced Analytics and Data Science, 2015



Source: Gartner (July 2015)

WATSON (DEEP BLUE)



WATSON (DEEP BLUE)



The screenshot shows the IBM Watson Health Oncology homepage. At the top, there's a navigation bar with the IBM logo, a Marketplace button, a search bar, and user icons. Below the header, the page title is "Watson for Oncology". A main heading "Watson for Oncology" is followed by a subtext: "Passe menos tempo procurando na literatura e no prontuário médico eletrônico e mais tempo tratando dos pacientes. Watson fornece aos médicos opções de tratamento baseadas em evidências e no treinamento dos médicos especialistas do Memorial Sloan Kettering (MSK)." Below this, there are two buttons: "Veja como funciona (05:07)" and "Obtenha os fatos (US)". To the right of the text, there's a photograph of a male doctor in a white coat and stethoscope, sitting at a desk and looking at a laptop screen. The background of the main content area is dark green.

Ajude a identificar opções de tratamento baseadas em evidência e centradas no paciente

A quantidade de pesquisas e dados disponíveis para ajudar na informação dos tratamentos contra o câncer está crescendo exponencialmente. No entanto, o tempo que as equipes de assistência possuem para consumir estas informações—buscando insights específicos para as necessidades de cada paciente para potencialmente melhorar os resultados do tratamento—é mais limitado do que

Watson for Oncology ajuda médicos a identificar rapidamente informações importantes no registro médico de um paciente, buscar artigos relevantes e explorar opções de tratamento para reduzir a variação indesejada de assistência e devolver tempo aos seus pacientes.

Vamos conversar

https://www.youtube.com/watch?v=HkEOJnn_zlg

GIZMODO
BRASIL

ESPECIAIS GALERIAS REVIEWS

INTELLIGÊNCIA ARTIFICIAL

IBM Watson teria recomendado tratamentos contra câncer “inseguros e incorretos”

Por: Jennings Brown
25 de julho de 2018 às 18:36



Documentos corporativos internos da IBM mostram que especialistas médicos trabalhando com o supercomputador Watson, da empresa, encontraram “vários exemplos de recomendações de tratamento inseguras e incorretas” ao usarem o software, segundo uma reportagem do *Stat*.

O site revisou documentos que foram incluídos em duas apresentações feitas em junho e julho de

<https://gizmodo.uol.com.br/ibm-watson-saude-recomendacao-tratamentos-cancer-inseguros-incorretos/>

<https://www.technologyreview.com/s/607965/a-reality-check-for-ibms-ai-ambitions/>

<https://gizmodo.com/why-everyone-is-hating-on-watson-including-the-people-w-1797510888>

GADGETS

Why Everyone Is Hating on IBM Watson —Including the People Who Helped Make It

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Review

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Business Impact

A Reality Check for IBM's AI Ambitions



IBM, number 39 on our list of the 50 Smartest Companies, overhyped its Watson machine-learning

GOOGLE FLU (2013)



google.org Flu Trends

[Google.org home](#)

[Dengue Trends](#)

Flu Trends

[Home](#)

[Select country/region](#)

[How does this work?](#)

[FAQ](#)

Flu activity

Intense

High

Moderate

Low

Minimal

Explore flu trends around the world

We've found that certain search terms are good indicators of flu activity. Google Flu Trends uses aggregated Google search data to estimate flu activity. [Learn more](#)



GOOGLE FLU

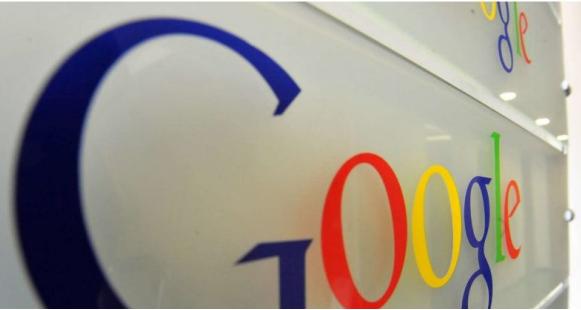
≡ TIME

U.S. POLITICS WORLD TECH TIME HEALTH ENTERTAINMENT SUBSCRIBE  

SCIENCE + BIG DATA

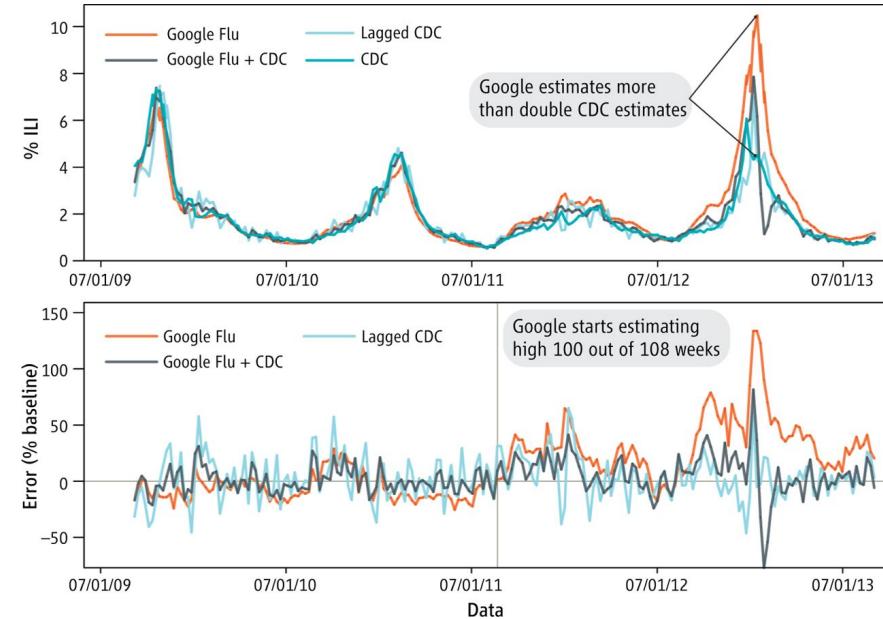
Google's Flu Project Shows the Failings of Big Data



Stories From  Ideal Media

<http://science.sciencemag.org/content/343/6176/1203>



GOOGLE FLU

DAVID LAZER AND RYAN KENNEDY OPINION 10.01.15 07:00 AM

WHAT WE CAN LEARN FROM THE EPIC FAILURE OF GOOGLE FLU TRENDS



RAFE SWAN/GETTY IMAGES

EVERY DAY, MILLIONS of people use Google to dig up information that drives their daily lives, from how long their commute will be to how to treat their child's illness. This search data reveals a lot about the searchers: their wants,

<https://www.wired.com/2015/10/can-learn-epic-failure-google-flu-trends/>

A screenshot of the Science magazine website. At the top, there is a banner for a Sony MA900 Multi-Application Cell Sorter. Below the banner, the word "Science" is prominently displayed, followed by links to Home, News, Journals, Topics, and Careers. The main article title is "The Parable of Google Flu: Traps in Big Data Analysis". The authors listed are David Lazer^{1,2*}, Ryan Kennedy^{1,3,4}, Gary King³, Alessandro Vespignani^{5,6,3}. The article was published on 14 Mar 2014, Vol. 343, Issue 6176, pp. 1203-1205, DOI: 10.1126/science.1248506. There are also links for Article, Figures & Data, Info & Metrics, eLetters, and PDF.

In February 2013, Google Flu Trends (GFT) made headlines but not for a reason that Google executives or the creators of the flu tracking system would have hoped. *Nature* reported that GFT was predicting more than double the proportion of doctor visits for influenza-like illness (ILI) than the Centers for Disease Control and Prevention (CDC), which bases its estimates on surveillance reports from laboratories across the United States (1, 2). This happened despite the fact that GFT was built to predict CDC reports. Given that GFT is often held up as an exemplary use of big data (3, 4), what lessons can we draw from this error?



CREDIT: ADAPTED FROM AXEL KOPES/DESIGN & ART
DIRECTION: ISTOCKPHOTO.COM

<http://science.sciencemag.org/content/343/6176/1203.full>



A má interpretação da posse de bola e os enganos trazidos pelos números frios no Brasil

mais de 3 anos

Variação de sistema, mais jogo curto e presença ofensiva: como funciona o "novo" Atlético de Diego Simeone?

1 mês

Por que o gol da vitória do São Paulo sobre o Flamengo vai muito além do erro de Hugo Souza?

2 meses

Sai Coupet, entra Abel: quais as consequências de tais mudanças no Internacional?

3 meses

A má interpretação da posse de bola e os enganos trazidos pelos números frios no Brasil



Renato Rodrigues

19 Sep, 2017



Mourinho e Guardiola sempre travaram grandes duelos de times com e sem bola Getty Images

O Campeonato Brasileiro de 2017 tem levantado um grande debate sobre a posse de

C ⌂ ⌂ https://www.digitalnewsasia.com/insights/why-85-big-data-projects-fail



Digital Economy
powered by 'MDEC' Insights 'Software Testing is'
Business Personal Tech Nat
Infra

DNA
DIGITAL NEWS ASIA
Your Eye on the Tech Ecosystem

Why 85% of Big Data projects fail

By Sharala Axyrd April 16, 2019

- People from the top must define clear problem statements
- Deciding to become data driven can be a long, difficult process



<https://www.digitalnewsasia.com/insights/why-85-big-data-projects-fail>

https://www.datanami.com/2020/10/01/most-data-science-projects-fail-but-yours-doesnt-have-to/



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October 1, 2020

Most Data Science Projects Fail, But Yours Doesn't Have To

Ryohei Fujimaki



In an effort to remain competitive in today's increasingly challenging economic times, companies are moving forward with digital transformations — powered by data science and machine learning — at an unprecedented rate. According to PwC's global study, AI will provide up to 26% boost in GDP for local economies by 2030. Yet, for many companies, implementing data science into various aspects of their businesses can prove difficult if not daunting.

According to Gartner analyst Nick Heudecker, over 85% of data science projects fail. A report from Dimensional Research indicated that only 4% of companies have succeeded in deploying ML models to production environment.

<https://www.datanami.com/2020/10/01/most-data-science-projects-fail-but-yours-doesnt-have-to/>

Oct 20, 2020, 01:14pm EDT | 7,786 views

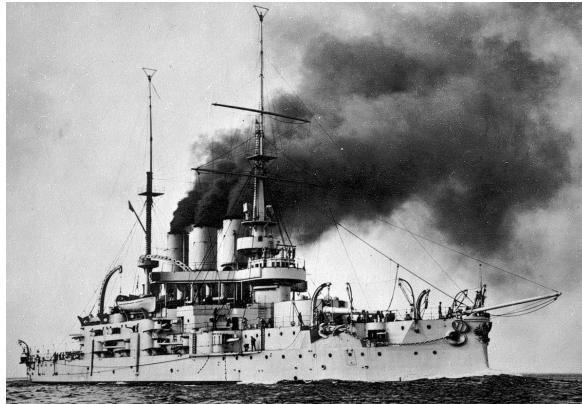
The ‘Failure’ Of Big Data

**Randy Bean** Contributor

CIO Network

“Yet, the connection of data investments to business insights and successful business outcomes remains an elusive ambition for most.”











Estatística

Matemática formal

Relações entre as variáveis

Insights

Machine Learning

Algoritmos

Black box

Foco nos resultados

“There are two cultures in the use of statistical modeling to reach conclusions from data. One assumes that the data are generated by a given stochastic data model. The other uses algorithmic models and treats the data mechanism as unknown. The statistical community has been committed to the almost exclusive use of data models. This commitment has led to irrelevant theory, questionable conclusions, and has kept statisticians from working on a large range of interesting current problems.”

Statistical Science
2001, Vol. 16, No. 3, 199–231

Statistical Modeling: The Two Cultures

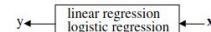
Leo Breiman

Abstract. There are two cultures in the use of statistical modeling to reach conclusions from data. One assumes that the data are generated by a given stochastic data model. The other uses algorithmic models and treats the data mechanism as unknown. The statistical community has been committed to the almost exclusive use of data models. This commitment has led to irrelevant theory, questionable conclusions, and has kept statisticians from working on a large range of interesting current problems. Algorithmic modeling, both in theory and practice, has developed rapidly in fields outside statistics. It can be used both on large complex data sets and as a more accurate and informative alternative to data modeling on smaller data sets. If our goal as a field is to use data to solve problems, then we need to move away from exclusive dependence on data models and adopt a more diverse set of tools.

1. INTRODUCTION

Statistics starts with data. Think of the data as being generated by a black box in which a vector of input variables \mathbf{x} (independent variables) go in one side, and on the other side the response variables \mathbf{y} come out. Inside the black box, nature functions to

The values of the parameters are estimated from the data and the model then used for information and/or prediction. Thus the black box is filled in like this:



SMALL DATA

BIG
DATA
tells us
what's
happening.



small data tells us
why it's
happening.
A close-up photograph of a single green leaf, symbolizing small data.

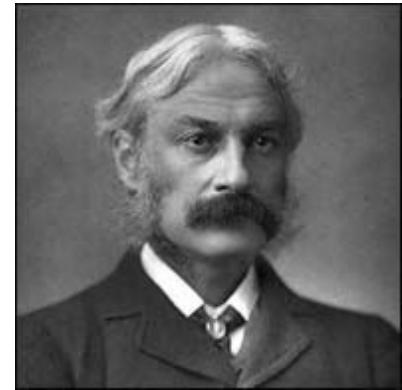
THICK DATA

TO FORM A COMPLETE PICTURE, BOTH BIG AND THICK DATA ARE CRITICAL BECAUSE THEY PRODUCE DIFFERENT TYPES OF INSIGHTS AT VARYING SCALES AND DEPTHS



“Alguns usam a estatística como os bêbados usam postes: mais para apoio do que para iluminação.”

Andrew Lang



GENCHI GENBUTSU – GEMBA

Criado na década de 80 por Masaaki Imai, Genchi Genbutsu significa “vá e veja por você mesmo”. Princípio que estabelece a primazia do conhecimento tácito e pessoal, e que o primeiro passo para a solução de qualquer problema está em ir onde ele ocorre.



O local onde as coisas ocorrem, ou o “chão de fábrica”, é chamado de Gemba.

A técnica que os gestores sempre vão onde as coisas ocorrem é chamada Gemba Walk e é utilizada para observar e compreender como o trabalho é feito.



STELLA CUNLIFFE – GUINNESS

“Como parte do processo de controle de qualidade, os estatísticos acompanhavam as medidas da capacidade dos barris e quais eram descartados. Ao examinar o gráfico de medidas de capacidade, Stella Cunliffe se deu conta de que havia um número incomumente alto de barris que passavam no teste por muito pouco, e um número incomumente baixo de barris que eram rejeitados por muito pouco. Examinaram as condições de trabalho da mulher que media os barris. Ela devia jogar um barril descartado no alto de uma pilha e colocar um barril aprovado em uma esteira transportadora. Por sugestão de Stella Cunliffe, a posição da balança foi deslocada para acima do depósito de barris descartados. Então, tudo que ela tinha de fazer era chutar o barril rejeitado para o depósito. O excesso de barris que eram aprovados por pouco desapareceu. “

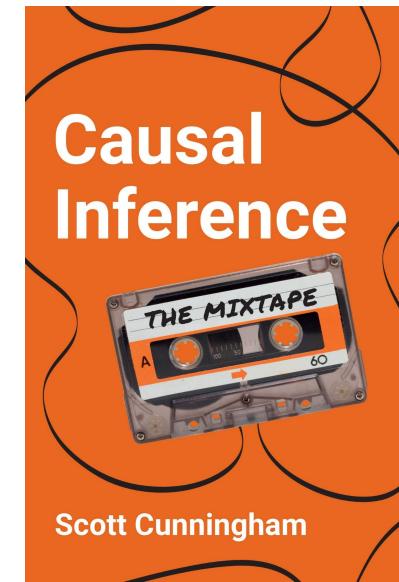
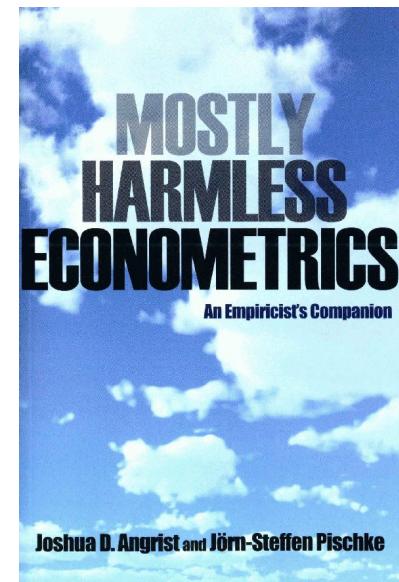
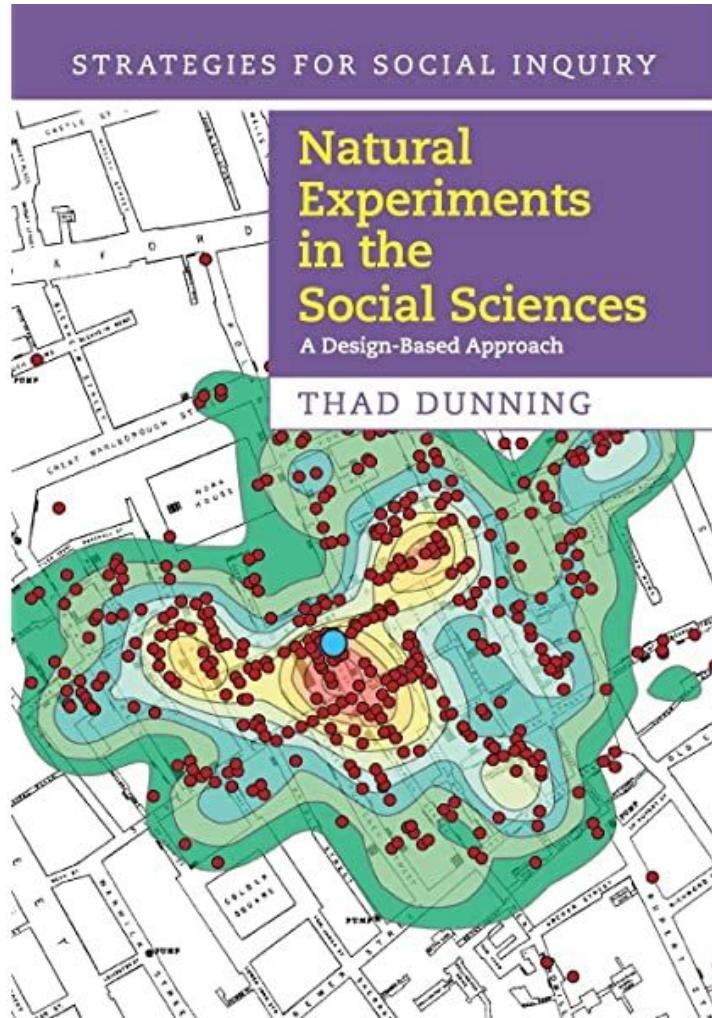


(Uma senhora toma chá... Como a estatística revolucionou a ciência no século XX. Capítulo 25)

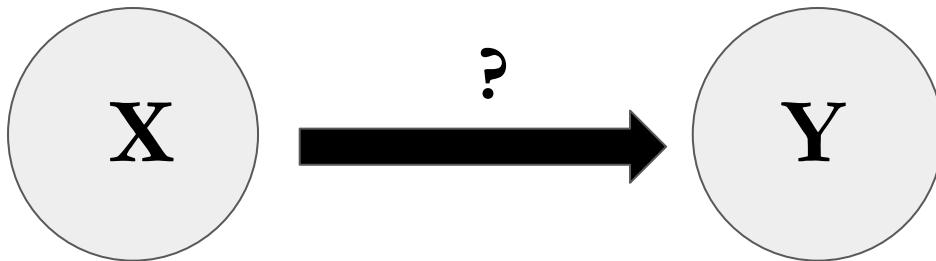
CAUSALIDADE EM CIÊNCIAS SOCIAIS

TEMAS

- Causalidade, Correlação e Variáveis Ocultas
- Ranking de Evidências
- Estratégias para Causalidade
 - RCT
 - Experimentos Naturais/ Quase-Experimentos
 - Variáveis Instrumentais
 - Ajustes para Estudos Observacionais (DiD e PSM)

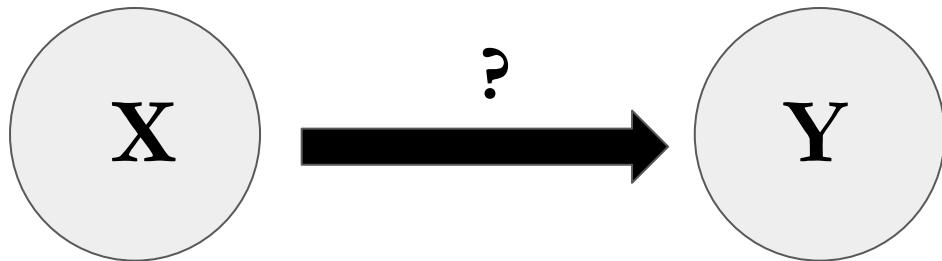


PROBLEMA DA CAUSALIDADE



- Remédio X na doença Y
- Anos X de estudo na renda Y
- Política X no bem estar Y
- ...

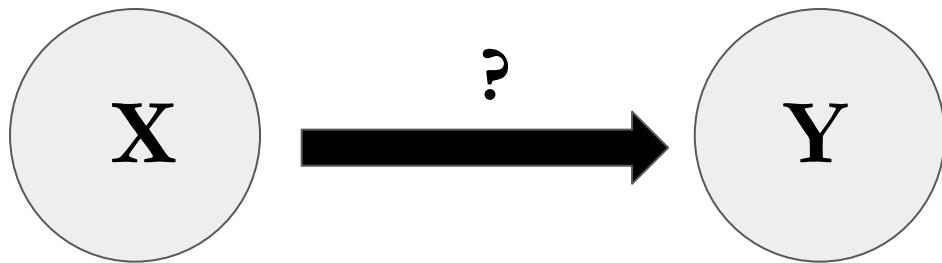
PROBLEMA DA CAUSALIDADE



$$Y = \alpha + \beta * X$$

$\beta \neq 0?$

PROBLEMA DA CAUSALIDADE

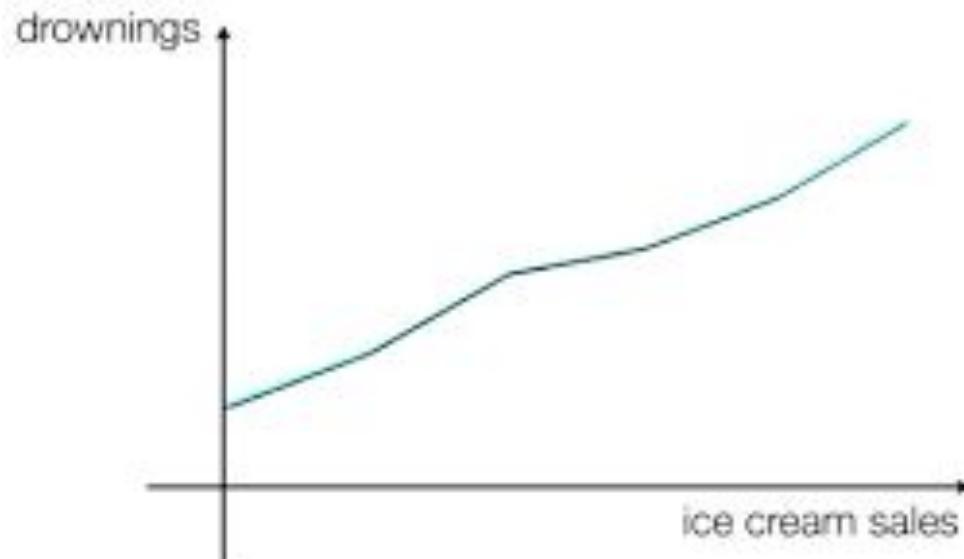


$$Y = \alpha + \beta * X$$

$$\beta = \frac{Cov(X, Y)}{Var(X)}$$

$$\rho(X, Y) = \frac{Cov(X, Y)}{\sigma(X) * \sigma(Y)}$$

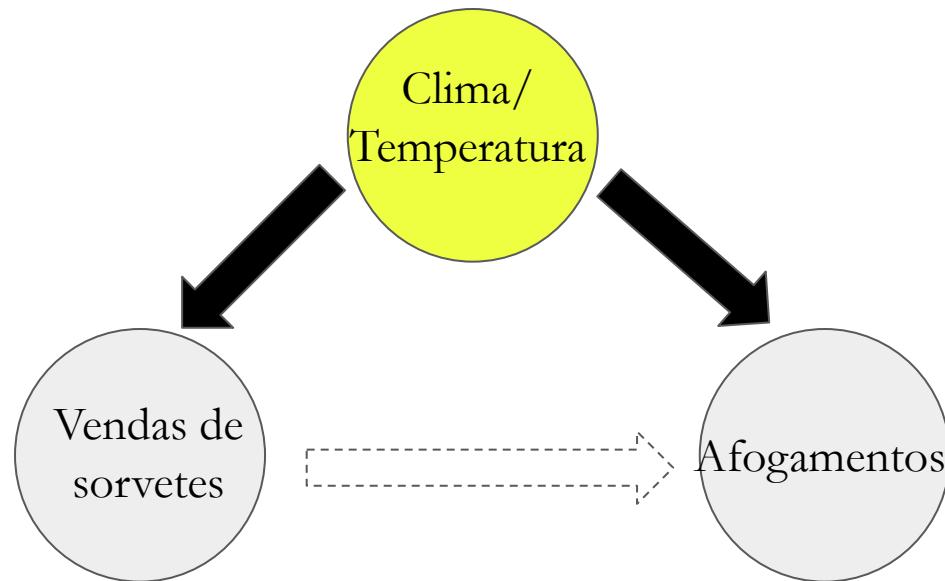
AFOGAMENTOS x VENDAS DE SORVETES



AFOGAMENTOS x VENDAS DE SORVETES



AFOGAMENTOS x VENDAS DE SORVETES





OBJECTIVE ANALYSIS.
EFFECTIVE SOLUTIONS.

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Health, Marriage, and Longer Life for Men

by Lee A. Lillard, Constantijn (Stan) Panis

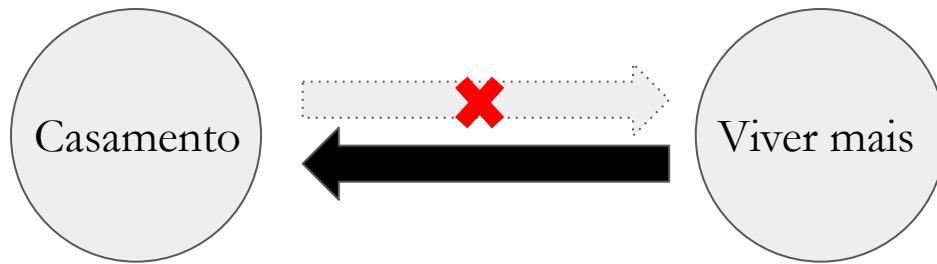
Related Topics: Demographics, Male Populations, Marriage and Divorce

Citation



Numerous studies covering 140 years have shown that married persons tend to live longer than their unmarried counterparts. Attempts to explain this advantage have typically focused on the following questions: Does marriage have a direct protective effect, reducing the risk of mortality by providing benefits such as improved health? Or does increased longevity reflect the possibility that healthy people are more likely to get married—and therefore that married people are simply healthier from the start of their married lives?

CASAMENTOS



CORRELAÇÃO x CAUSALIDADE

**The danger of mixing up causality and correlation:
Ionica Smeets at TEDxDelft**

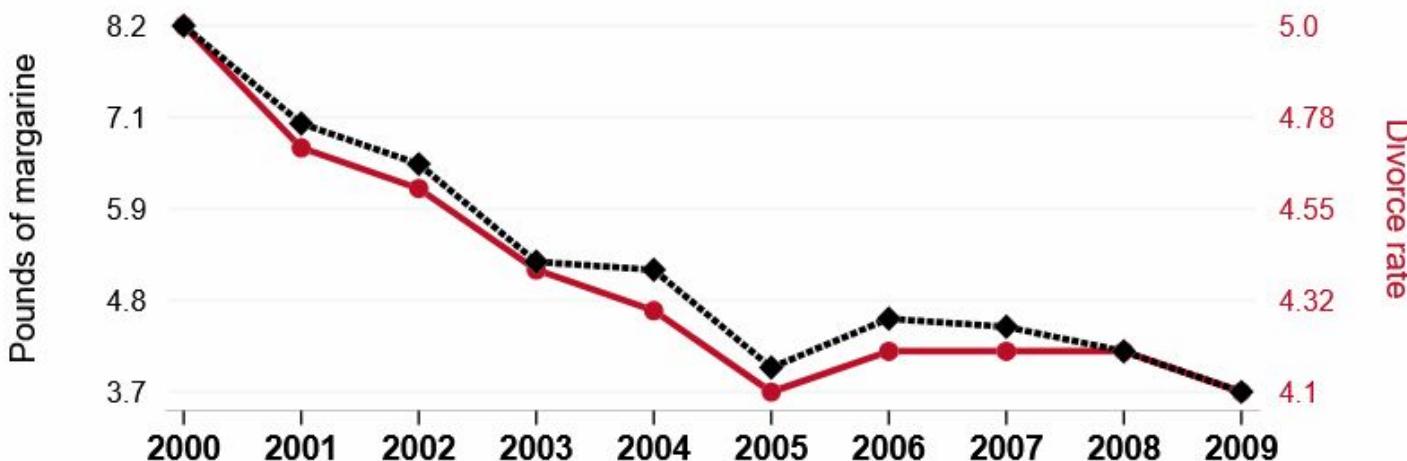
<https://www.youtube.com/watch?v=8B271L3NtAw>

CORRELAÇÃO \neq
CAUSALIDADE

Per capita consumption of margarine

correlates with

The divorce rate in Maine



◆ Per capita consumption of margarine in the United States · Source: US Department of Agriculture

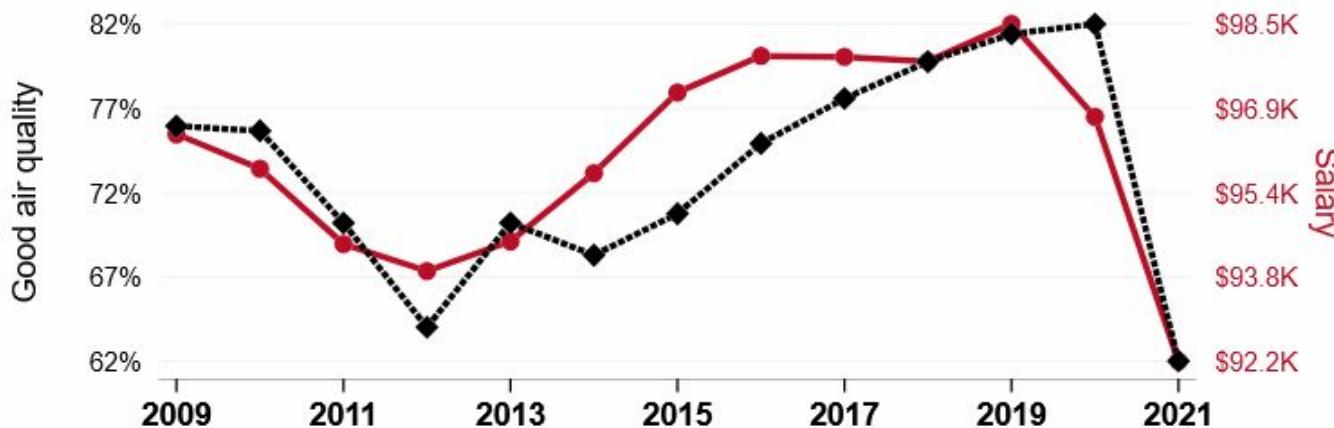
● The divorce rate in Maine · Source: CDC National Vital Statistics

2000-2009, $r=0.993$, $r^2=0.985$, $p<0.01$ · tylervigen.com/spurious/correlation/5920

Air quality in Grand Rapids, Michigan

correlates with

Associate Professor salaries in the US



◆--- Percentage of days with good air quality in Grand Rapids-Wyoming, MI ·
Source: Environmental Protection Agency

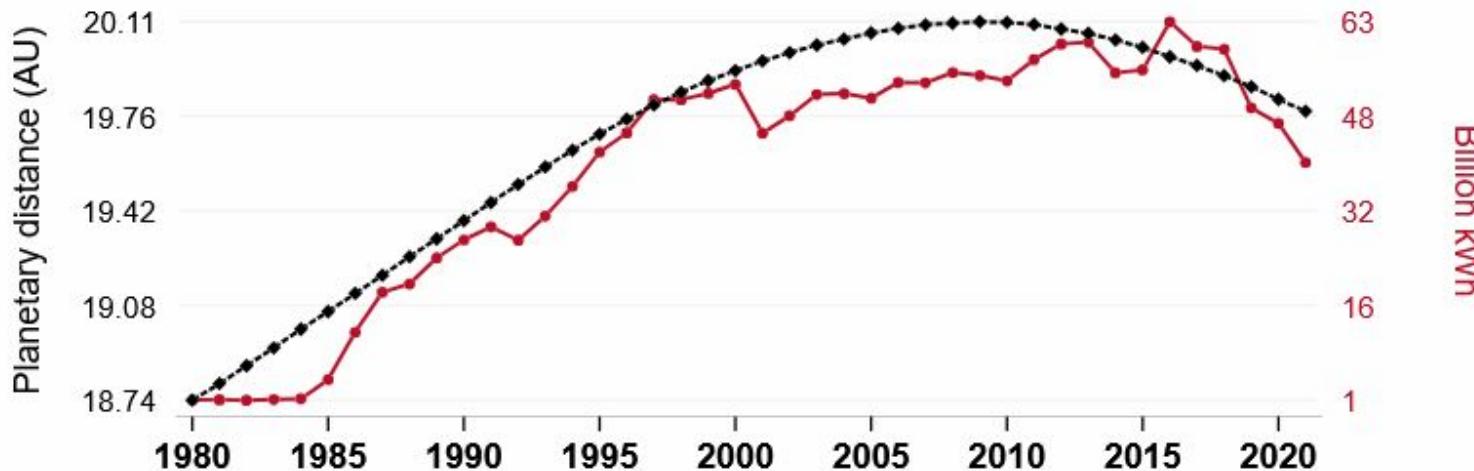
●— Average salary of full-time instructional faculty on 9-month contracts in
degree-granting postsecondary institutions, by academic rank of Associate
Professor · Source: National Center for Education Statistics

2009-2021, $r=0.843$, $r^2=0.710$, $p<0.01$ · tylervigen.com/spurious/correlation/1079

The distance between Uranus and Earth

correlates with

Electricity generation in Paraguay



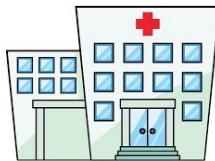
◆--- The average distance between Uranus and Earth as measured on the first day of each month · Source: Caclculated using Astropy

■— Total electricity generation in Paraguay in billion kWh · Source: Energy Information Administration

1980-2021, $r=0.976$, $r^2=0.952$, $p<0.01$ · tylervigen.com/spurious/correlation/2727

HOSPITAL

A



Pacientes

1000

B



1000

Sobreviveram

900

800

90%

80%

HOSPITAL

A



Pacientes

100

900

30

870

30%

96.67%

B



400

600

210

590

52.5%

98.33%

EXEMPLO FAMOSO



1973 - Viés de Gênero

	Applicants	Admitted
Men	8442	44%
Women	4321	35%

Department	Men		Women	
	Applicants	Admitted	Applicants	Admitted
A	825	62%	108	82%
B	560	63%	25	68%
C	325	37%	593	34%
D	417	33%	375	35%
E	191	28%	393	24%
F	373	6%	341	7%

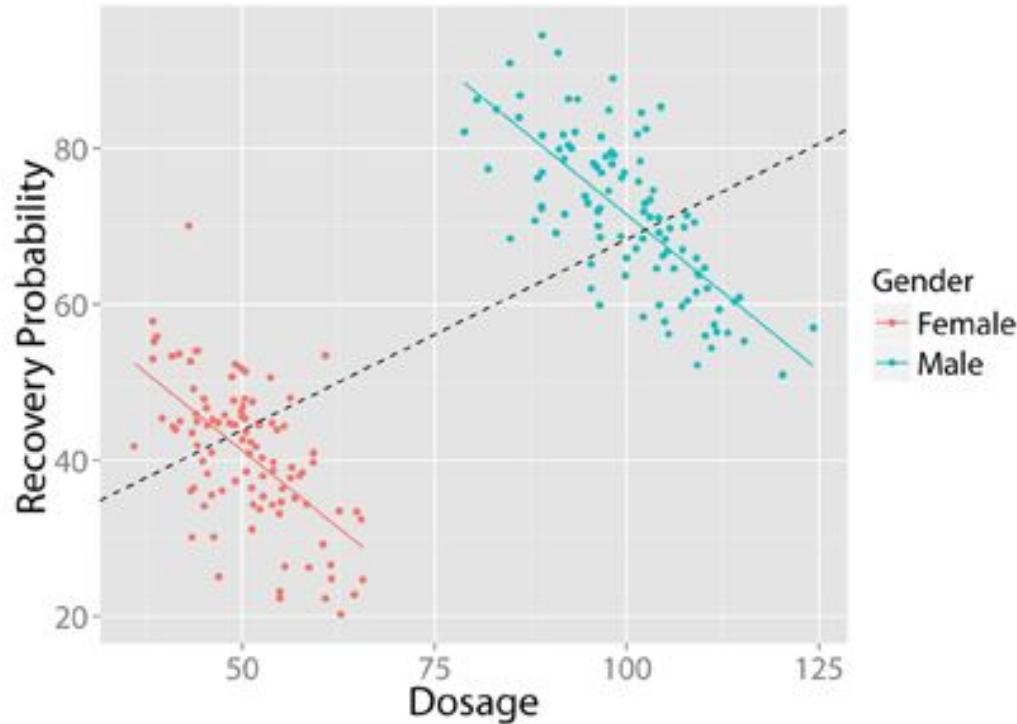
https://en.wikipedia.org/wiki/Simpson%27s_paradox

VARIÁVEIS OCULTAS

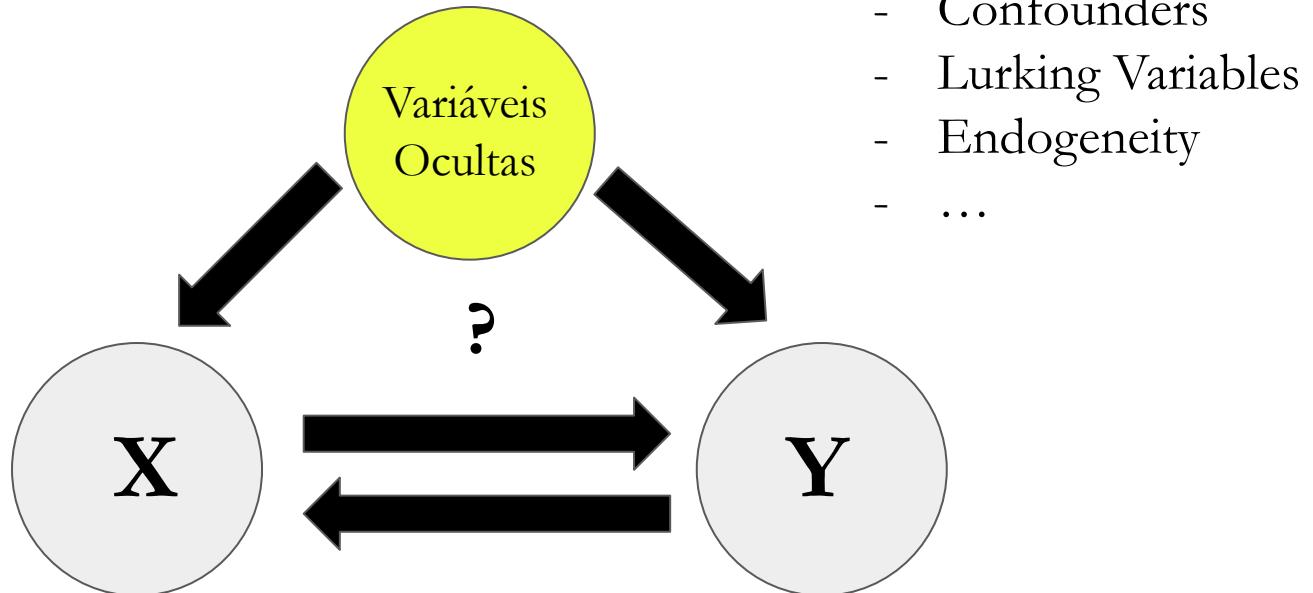
Como as estatísticas podem ser enganadoras - Mark Liddell

<https://www.youtube.com/watch?v=sxYrzzy3cq8>

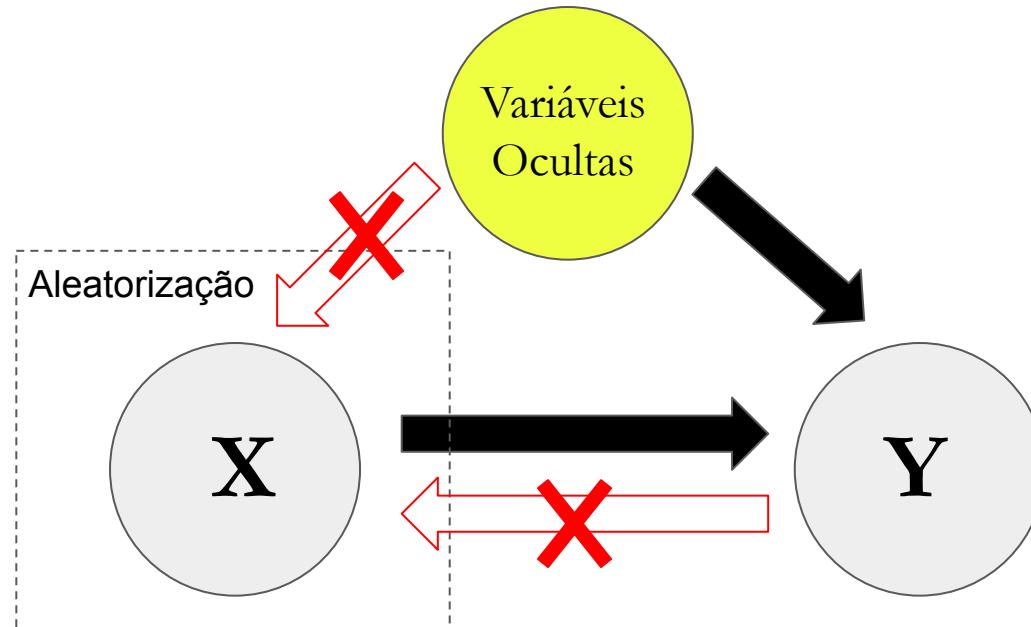
MOTIVO



PROBLEMA DA CAUSALIDADE



ALEATORIZAÇÃO DO TRATAMENTO



[AOS MÉDICOS](#)[ÀS EMPRESAS](#)[À SOCIEDADE](#)

Enfermeira que foi a primeira vacinada no Brasil tomou placebo durante testes da CoronaVac*

POR ASSESSORIA DE IMPRENSA / SEGUNDA-FEIRA, 18 JANEIRO 2021 / PUBLICADO EM FAKE NEWS

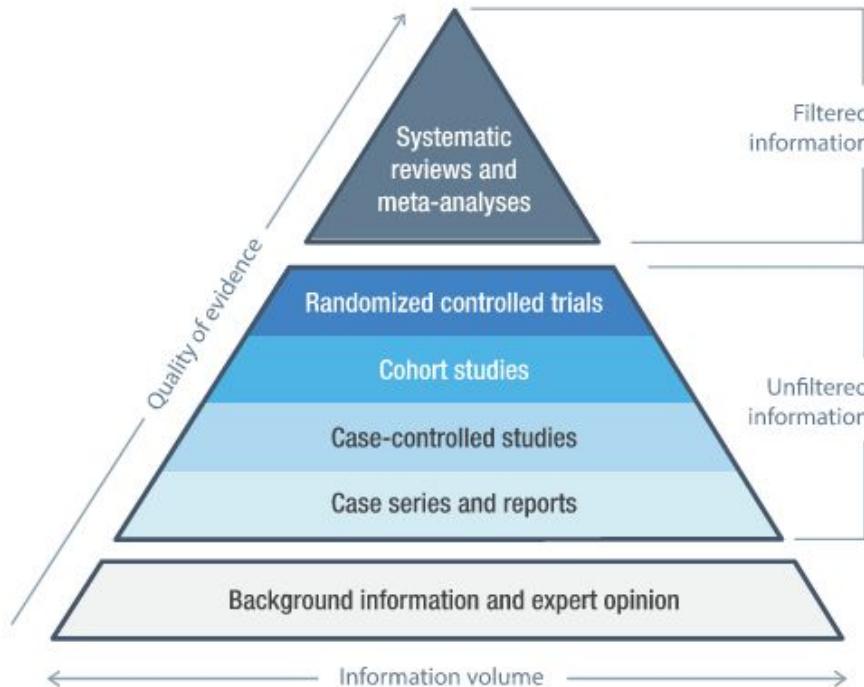
*Reprodução de Aos Fatos.

Postagens enganam ao afirmar que a enfermeira Mônica Calazans – a primeira pessoa a receber uma vacina contra Covid-19 no Brasil – já havia tomado antes a CoronaVac, imunizante aprovado no domingo (17) para uso emergencial.

O Instituto Butantan, que desenvolve a vacina, informou que ela estava no grupo que recebeu o placebo nos testes. Além disso, o exame sorológico da enfermeira apontou ausência de anticorpos, o que seria improvável se já tivesse sido vacinada, segundo especialista ouvida por Aos Fatos.



RANKING DE EVIDÊNCIAS







Experimentos em Ciências Sociais?

1- EXPERIMENTOS (RCT)

A screenshot of a web browser showing the homepage of EAUFBA (Escola de Administração da Universidade Federal da Bahia). The header features the EAUFBA logo (three blue triangles) and the text "Escola de Administração" and "Universidade Federal da Bahia". Social media icons for Facebook, Instagram, Twitter, YouTube, and LinkedIn are present, along with a search bar. A navigation menu below includes links for Escola, Graduação, Pós-Graduação, Pesquisa, Extensão, Apoio ao Estudante, Gestão de Pessoas, and Comunicação.

EAUFBA

Escola de Administração
Universidade Federal da Bahia

Escola Graduação Pós-Graduação Pesquisa Extensão Apoio ao Estudante Gestão de Pessoas Comunicação

A screenshot of a web browser showing the homepage of EAUFBA (Escola de Administração da Universidade Federal da Bahia). The header features the EAUFBA logo (three blue triangles) and the text "Escola de Administração" and "Universidade Federal da Bahia". A navigation menu below includes links for Escola, Professores, Cursos, Estudantes, Pesquisas, and Extensão. The main content area displays a large photograph of a modern building with multiple levels, large windows, and surrounding greenery.

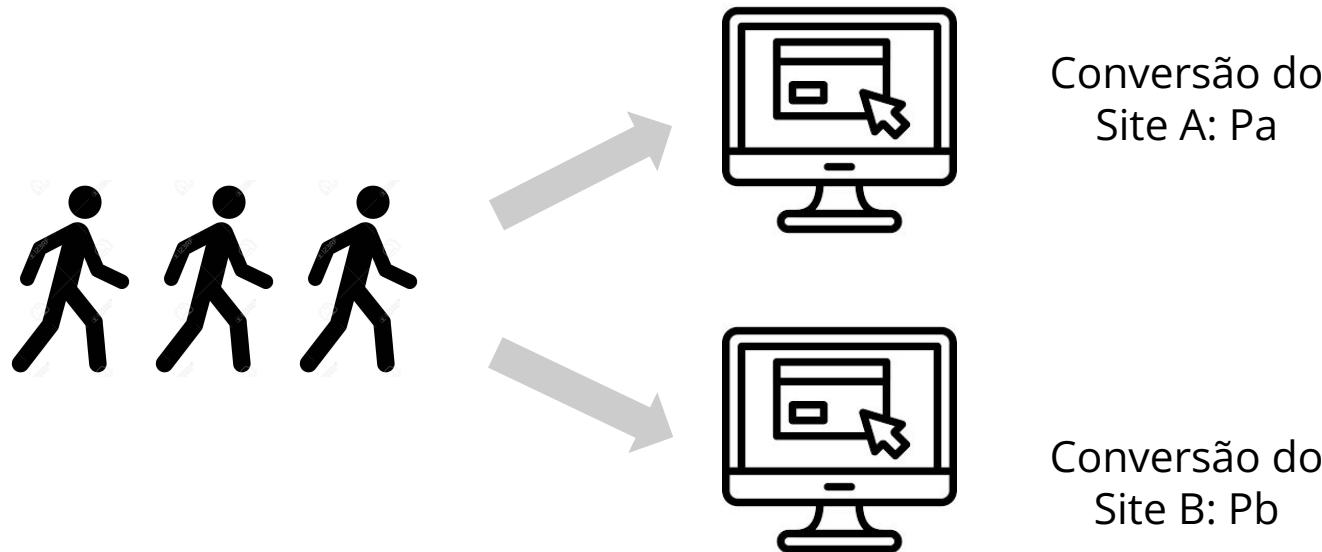
ea.ufba.br

Escola de Administração
Universidade Federal da Bahia

Escola Professores Cursos Estudantes Pesquisas Extensão

TESTE A/B

Duas versões do site são criadas (uma sem alterações e outra com alterações). Cada visitante será direcionado aleatoriamente a um dos sites.





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SIGN UP NOW

SIGN UP

The image shows a screenshot of the Obama '08 campaign website. At the top is the Obama logo with the text "OBAMA '08". Below it is the iconic "CHANGE WE CAN BELIEVE IN" slogan with a black and white photograph of the Obama family. The family consists of Barack Obama, Michelle Obama, and their two daughters. At the bottom left is a call-to-action button "JOIN THE MOVEMENT". To its right are input fields for "Email Address" and "Zip Code". Next to them is a red "LEARN MORE" button. At the very bottom, there's a blue footer bar with the text "PAID FOR BY OBAMA FOR AMERICA" and a "CONTINUE TO WEBSITE" button.

OBAMA '08

CHANGE WE CAN BELIEVE IN

JOIN THE MOVEMENT

Email Address

Zip Code

LEARN MORE

PAID FOR BY OBAMA FOR AMERICA

CONTINUE TO WEBSITE

Aumento de 40.6% nas inscrições

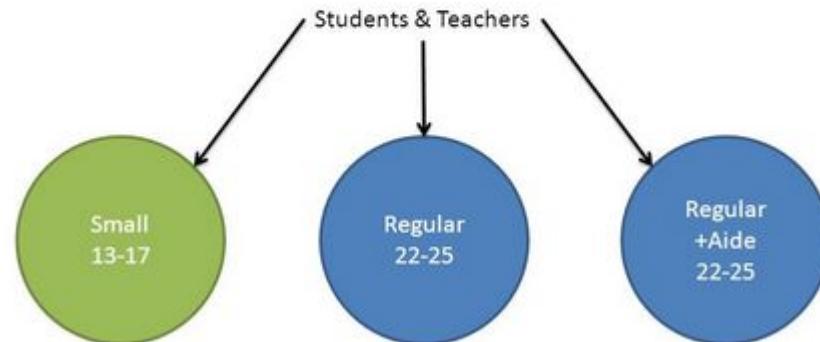
Aumento de \$60 milhões em doações

The Tennessee Study of Class Size in the Early School Grades

Frederick Mosteller

Abstract

The Tennessee class size project is a three-phase study designed to determine the effect of smaller class size in the earliest grades on short-term and long-term pupil performance. The first phase of this project, termed Project STAR (for Student-Teacher Achievement Ratio), was begun in 1985, when Lamar Alexander was governor of Tennessee. Governor Alexander, who later served as secretary of education in the cabinet of President George Bush, had made education a top priority for his second term. The legislature and the educational community of Tennessee were mindful of a promising study of the benefits of small class size carried out in nearby Indiana, but were also aware of the costs associated with additional classrooms and teachers. Wishing to obtain data on the effectiveness of reduced class size before committing additional funds, the Tennessee legislature authorized this four-year study in which results obtained in kindergarten, first, second, and third grade classrooms of 13 to 17 pupils were compared with those obtained in classrooms of 22 to 25 pupils and in classrooms of this larger size where the teacher was assisted by a paid aide. Both standardized and curriculum-based tests were used to assess and compare the performance of some 6,500 pupils in about 330 classrooms at approximately 80 schools in the areas of reading, mathematics, and basic study skills. After four years, it was clear that smaller classes did produce substantial improvement in early learning and cognitive studies and that the effect of small class size on the achievement of minority children was initially about double that observed for majority children, but in later years, it was about the same.



What Have Researchers Learned from Project STAR?

DIANE WHITMORE SCHANZENBACH

Project STAR (Student/Teacher Achievement Ratio) was a large-scale randomized trial of reduced class sizes in kindergarten through the third grade. Because of the scope of the experiment, it has been used in many policy discussions. For example, the California statewide class-size-reduction policy was justified, in part, by the successes of Project STAR. Recent (failed) proposals in the Senate that sought federal assistance for class-size reductions were motivated by Project STAR research. Even the recent discussion of small schools often conflates the notion of small schools and smaller classrooms.

Because of the importance of Project STAR, it has been studied by many scholars looking at a wide variety of outcomes and even exploiting the randomization to understand variations in inputs and other aspects of the education production function that do not directly relate to class size. This paper provides an overview of the academic literature using the Project STAR experiment.

Handwriting or Typewriting? The Influence of Pen- or Keyboard-Based Writing Training on Reading and Writing Performance in Preschool Children

Markus Kiefer¹, Stefanie Schuler², Carmen Mayer², Natalie M Trumpp², Katrin Hille², Steffi Sachse²

Affiliations + expand

PMID: 26770286 PMCID: [PMC4710970](#) DOI: [10.5709/acp-0178-7](#)

Free PMC article

Abstract

Digital writing devices associated with the use of computers, tablet PCs, or mobile phones are increasingly replacing writing by hand. It is, however, controversially discussed how writing modes influence reading and writing performance in children at the start of literacy. On the one hand, the easiness of typing on digital devices may accelerate reading and writing in young children, who have less developed sensory-motor skills. On the other hand, the meaningful coupling between action and perception during handwriting, which establishes sensory-motor memory traces, could

Published on Let's Talk Development

A randomized controlled trial brings evidence on how mobile money can improve livelihoods even in very poor and remote areas

CHRISTINA WIESER & MIRIAM BRUHN | OCTOBER 21, 2019

This page in: English



[Início](#) » [Acontece](#) » [Notícias](#) » Instituto Unibanco e Jovem de Futuro são teaching case na London School of Economics

INSTITUTO UNIBANCO E JOVEM DE FUTURO SÃO TEACHING CASE NA LONDON SCHOOL OF ECONOMICS

29/03/2022 | Editado em 01/04/2022 14:43

TEACHING CASE DA
LONDON SCHOOL
OF ECONOMICS

explora experiência do Instituto Unibanco
e do programa Jovem de Futuro



MAIS LIDAS

Lançado em 2007, o programa Jovem de Futuro é a principal iniciativa do Instituto e tem como objetivo a melhoria da aprendizagem dos estudantes do Ensino Médio, sua permanência na escola e a redução das desigualdades educacionais, por meio da gestão da educação.

Realizado em parceria com secretarias estaduais de educação, o programa já beneficiou **mais de 3 milhões de estudantes em 11 estados**. Atualmente, é implementado em seis estados (CE, ES, GO, MG, PI e RN), englobando 3.597 escolas e 1.212.326 estudantes, cerca de 19% da matrícula do Ensino Médio brasileiro.

Além disso, o Jovem de Futuro tem uma das avaliações de impacto com maior abrangência do Brasil, abarcando 1.161 escolas em 380 experimentos, em nove estados. O modelo, baseado em experimentos, é semelhante ao desenvolvido pelos economistas Abhijit Banerjee, Esther Duflo e Michael Kremer, premiados pelo Nobel de Economia em 2019. Os resultados indicam um aumento em quatro pontos na escala do Sistema de Avaliação da Educação Básica (Saeb) em Língua Portuguesa e Matemática. Isso significa 30% a mais de conhecimento.

2-QUASE-EXPERIMENTOS / EXPERIMENTOS NATURAIS

Saiba o que são os 'experimentos naturais' premiados com o Nobel de Economia

Os pesquisadores David Card, Joshua Angrist e Guido Imbens são os vencedores da premiação em 2021. Eles fizeram estudos para entender os efeitos de salário mínimo, imigração e educação no mercado de trabalho.



Por France Presse

11/10/2021 15h09 · Atualizado há um ano



EXPERIMENTOS NATURAIS

“Em **experimentos controlados e randomizados**, relações causais são estabelecidas mediante a comparação dos dados obtidos a partir da observação controlada de um grupo experimental e um grupo de controle aleatoriamente compostos. O controle da observação e a **composição aleatória dos grupos** diminui o risco de meras correlações empíricas entre variáveis serem confundidas com relações causais.

Já nos **experimentos naturais**, os grupos são encontrados e observados em **situações de vida real**, de modo que a derivação de relações causais a partir dos dados observados requer que a escolha das situações reais e dos **grupos apropriados** se conforme a exigências metodológicas específicas.”



Property rights and poverty reduction: Effects of land titling on Argentina's urban poor

Articles

Published 05.09.17



Sebastian Galiani

Professor of Economics, University of Maryland

Galiani, S and Schargrodsy, E (2010), “[Property Rights for the Poor: Effects of Land Titling](#)”, *Journal of Public Economics* 94(9-10): 700-729.

The case of Argentina

In Galiani and Schargrodsky (2010), my co-author and I took advantage of a natural experiment to resolve this comparability problem. More than 30 years ago, a large number of comparable households took over unused urban land on the outskirts of Buenos Aires, Argentina. The land that they occupied was composed of a number of different plots, each of which was owned by a different person. An expropriation law was then passed under which the land was to be transferred to the state in exchange for monetary compensation. However, only some of the legal owners agreed to cede their land so that legal title to those plots could then be handed over to the families living there.

In 2003, at the time that we carried out the main data collection for our study, other owners were still challenging the amount of compensation being offered by the government in the slow-moving courts of Argentina. As a result, one group of settlers obtained legal title to the properties where they were living while another group continued to live on quite similar plots but without having legal title to them.



Volume 125, Issue 2
May 2010

< Previous Next >

JOURNAL ARTICLE

Superstar Extinction Get access >

Pierre Azoulay, Joshua S. Graff Zivin, Jialan Wang

The Quarterly Journal of Economics, Volume 125, Issue 2, May 2010, Pages 549–589,
<https://doi.org/10.1162/qjec.2010.125.2.549>

Published: 01 May 2010

“ Cite Permissions Share ▾

Abstract

We estimate the magnitude of spillovers generated by 112 academic “superstars” who died prematurely and unexpectedly, thus providing an exogenous source of variation in the structure of their collaborators’ coauthorship networks. Following the death of a superstar, we find that collaborators experience, on average, a lasting 5% to 8% decline in their

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CITATIONS



VIEWS



ALTMETRIC



DI TELLA, Rafael; SCHARGRODSKY, Ernesto. Do police reduce crime? Estimates using the allocation of police forces after a terrorist attack. *American Economic Review*, v. 94, n. 1, p. 115-133, 2004.

Do Police Reduce Crime? Estimates using the Allocation of Police Forces after a Terrorist Attack

Rafael Di Tella and Ernesto Schargrodsky
Harvard Business School *UTDT*

May 29, 2003

Abstract

An important challenge in the crime literature is to isolate causal effects of police on crime. Following a terrorist attack on the main Jewish center in the city of Buenos Aires, Argentina, in July 1994, all Jewish institutions (including schools, synagogues, and clubs) were given 24-hour police protection. Thus, this hideous event induced a geographical allocation of police forces that can be presumed to be exogenous in a crime regression. Using data on the location of car thefts before and after the terrorist attack, we find a large deterrent effect of observable police presence on crime. The effect is local, with little or no appreciable impact outside the narrow area in which the police are deployed.

**EXPOSING CORRUPT POLITICIANS:
THE EFFECTS OF BRAZIL'S PUBLICLY RELEASED AUDITS
ON ELECTORAL OUTCOMES***

CLAUDIO FERRAZ AND FREDERICO FINAN

This paper uses publicly released audit reports to study the effects of disclosing information about corruption practices on electoral accountability. In 2003, as part of an anticorruption program, Brazil's federal government began to select municipalities at random to audit their expenditures of federally transferred funds. The findings of these audits were then made publicly available and disseminated to media sources. Using a data set on corruption constructed from the audit reports, we compare the electoral outcomes of municipalities audited before versus after the 2004 elections, with the same levels of reported corruption. We show that the release of the audit outcomes had a significant impact on incumbents' electoral performance, and that these effects were more pronounced in municipalities where local radio was present to divulge the information. Our findings highlight the value of having a more informed electorate and the role played by local media in enhancing political selection.

DETERring Deforestation in the Brazilian Amazon: Environmental Monitoring and Law Enforcement

Juliano Assunção^{a,b,*}, Clarissa Gandour^a, Romero Rocha^a

^a*Climate Policy Initiative Rio de Janeiro (CPI Rio) & Núcleo de Avaliação de Políticas Climáticas da PUC-Rio (NAPC/PUC-Rio)*

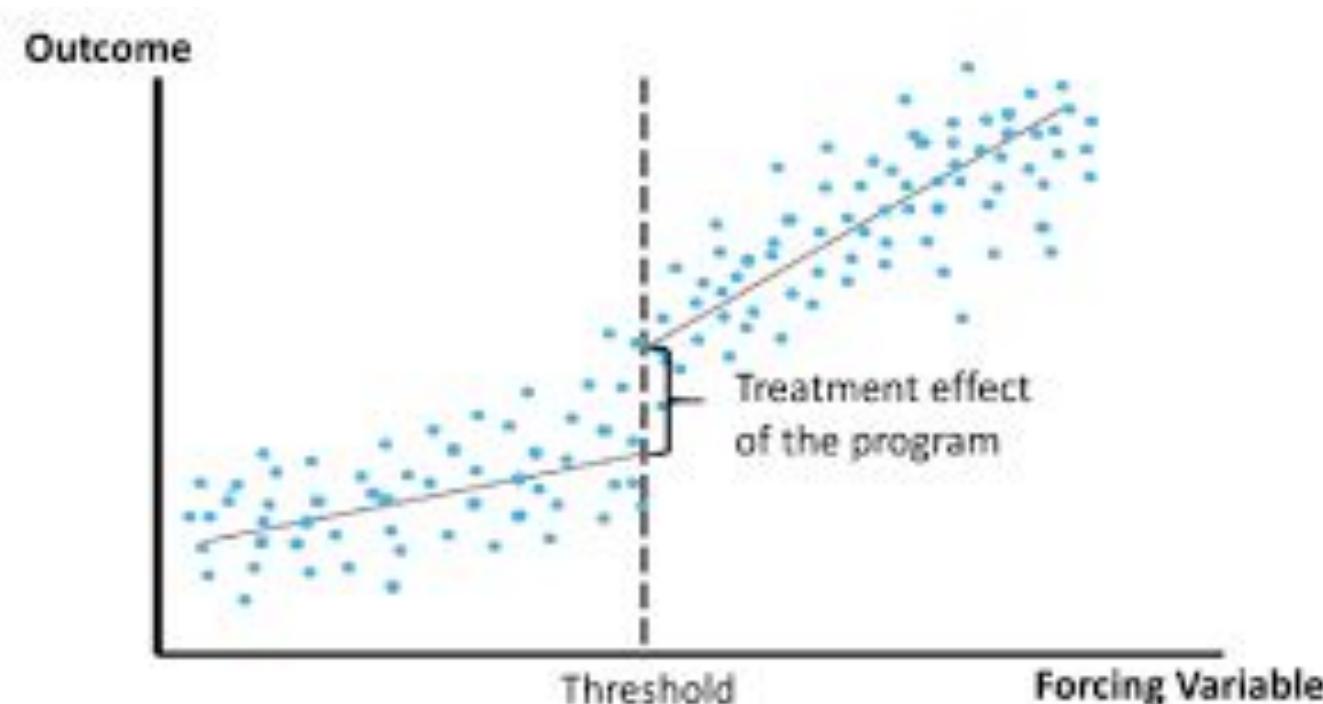
^b*Department of Economics, PUC-Rio*

Abstract

This paper evaluates the impact of law enforcement and monitoring on deforestation. It focuses on DETER, a satellite-based system for real-time detection of deforestation, which is the key tool for targeting law enforcement activities in the Brazilian Amazon. DETER cloud coverage, which limits satellite visibility, is shown to be correlated with environmental fines. Cloud coverage is then used as a source of exogenous variation in the number of fines for the estimation of the effect of monitoring on deforestation. Deforestation observed from 2007 through 2011 was 75% smaller than it would have been in the absence of fines. More stringent monitoring had no impact on municipality-level agricultural production.

Keywords: deforestation, conservation policies, law enforcement

DESCONTINUIDADE



DESCONTINUIDADE

“The study asks two important causal questions: did easy-to-use electronic voting machines broaden the effective franchise, by allowing poorer and less well-educated voters to more accurately record their choices in the ballot box? And did this de facto extension of the suffrage have political and policy consequences? In the **1998** legislative elections in Brazil, **electronic voting machines were introduced in municipalities with more than 40,500 registered voters**, while municipalities with fewer than 40,500 voters continued to use traditional paper ballots. Hidalgo (2010) finds that among municipalities with 1996 populations located **within 5,000 voters of this threshold, the introduction of electronic voting lowered “null”-vote rates by an estimated 13.5 percentage points and “blank” votes by an estimated 10 percentage points**. In total, the technology increased the number of votes affecting political outcomes by about 23 percentage points”

Government Transfers and Political Support

Marco Manacorda

Edward Miguel

Andrea Vigorito

AMERICAN ECONOMIC JOURNAL: APPLIED ECONOMICS

VOL. 3, NO. 3, JULY 2011

(pp. 1-28)

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Article Information

Comments (0)

Abstract

This paper estimates the impact of a large anti-poverty cash transfer program, the Uruguayan PANES, on political support for the government that implemented it. Using the discontinuity in program assignment based on a pretreatment eligibility score, we find that beneficiary households are 11 to 13 percentage points more likely to favor the current government relative to the previous government. Political support effects persist after the program ends. Our results are consistent with theories of rational but poorly informed voters who use policy to infer politicians' redistributive preferences or competence, as well as with behavioral economics explanations grounded in reciprocity. (JEL D72, H23, H53, I38, O15, O17)

A Regression Discontinuity Test of Strategic Voting and Duverger's Law*

Thomas Fujiwara

Department of Economics, Princeton University, USA;
fujiwara@princeton.edu.

ABSTRACT

This paper uses exogenous variation in electoral rules to test the predictions of strategic voting models and the causal validity of Duverger's Law. Exploiting a regression discontinuity design in the assignment of single-ballot and dual-ballot (runoff) plurality systems in Brazilian mayoral races, the results indicate that single-ballot plurality rule causes voters to desert third placed candidates and vote for the top two vote getters. The effects are stronger in close elections and cannot be explained by differences in the number of candidates, as well as their

The Spoils of Victory: Campaign Donations and Government Contracts in Brazil

Taylor C. Boas, F. Daniel Hidalgo, and Neal P. Richardson

PDF

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Abstract

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Abstract

When firms give money to candidates for public office, what return can they expect on their investment? Prior studies have been inconclusive, due to both methodological challenges and unique features of the U.S. political context on which they have focused. Using data from Brazil, we employ a regression discontinuity (RD) design to identify the effect of an electoral victory on government contracts for a candidate's corporate donors. Firms specializing in public-works projects can expect a substantial boost in contracts—at least 14 times the value of their contributions—when they donate to a federal-deputy candidate from the ruling Workers' Party (PT) and that candidate wins office. We find no effects among allied parties, indicating that the PT prioritizes this form of state spending for party strengthening rather than coalition management.



The Journal of Politics
Volume 76, Number 2
April 2014

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The quotas law for people with disabilities in Brazil: is it a guarantee of employment?

Ana Cléssia Pereira Lima de Araújo, Maria Analice D. Santos Sampalo, Edward Martins Costa 

Ahmad Saeed Khan, Guilherme Irffi & Rayssa Alexandre Costa

Pages 496-525 | Received 17 Apr 2021, Accepted 10 Jun 2021, Published online: 20 Aug 2021

 Download citation

 <https://doi.org/10.1080/02692171.2021.1962257>



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ABSTRACT

This study aims to evaluate the effects and effectiveness of establishing legal employment quotas for people with disabilities (PWD) in Brazil for the years of 2007 and 2016. By estimating Regression Discontinuity Design (RDD) models, we verify that, in 2007, the Law of Quotas did not affect the employment of people with disabilities. However, in 2016, the effects are positive for firms that employ 100 to 500 workers. Regarding the effectiveness of the law, in 2016, the increase in the number of employed workers with disabilities is approximate to the required quota for firms with 100 to 200 employees.



Regular Article

Empowering refugees through cash and agriculture: A regression discontinuity design

Claire MacPherson ^a, Olivier Sterck ^b  

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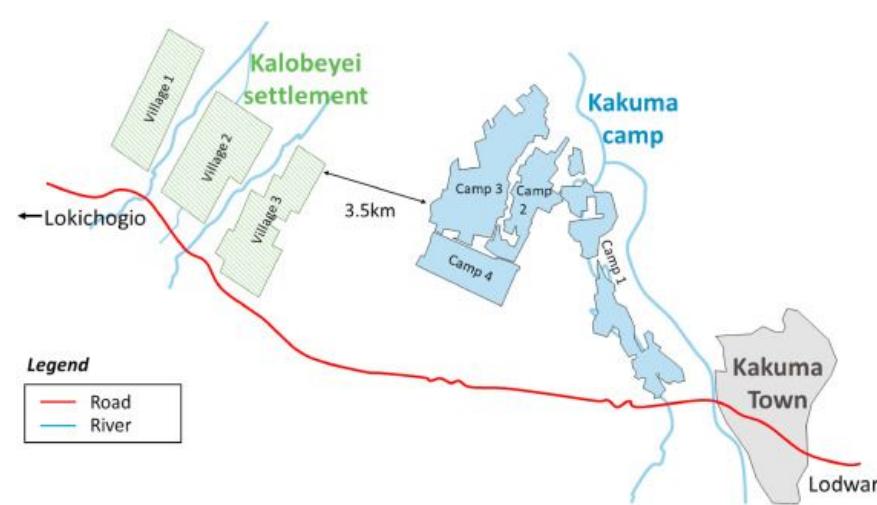
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<https://doi.org/10.1016/j.jdeveco.2020.102614>

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Abstract

Assistance to refugees is shifting from a humanitarian model, which focuses on protection, emergency relief, and shelter, to a development



We use a regression discontinuity design to assess the short-run effect of the development approach promoted in Kalobeyei. We take advantage of the rule used by the United Nations High Commissioner for Refugees (UNHCR) to assign newly arriving refugees between the Kakuma camp and the Kalobeyei settlement. Households who arrived before the 13th of May 2016 were invited to settle in the Kakuma camp, while those who arrived after the 14th of May 2016 went to live in Kalobeyei. This analysis draws on data from a representative household survey of refugees who were living in Kakuma camp and Kalobeyei settlement in September and October 2017. We exploit the discontinuity in the UNHCR assignment rule to compare the average outcomes of refugees who arrived shortly before and after the cutoff date, and interpret any concurrent discontinuity in average outcomes as resulting from the differing programs between the two sites. We use both a parametric and a non-parametric approach to estimate treatment effects (Jacob et al., 2012; Calonico et al., 2019).

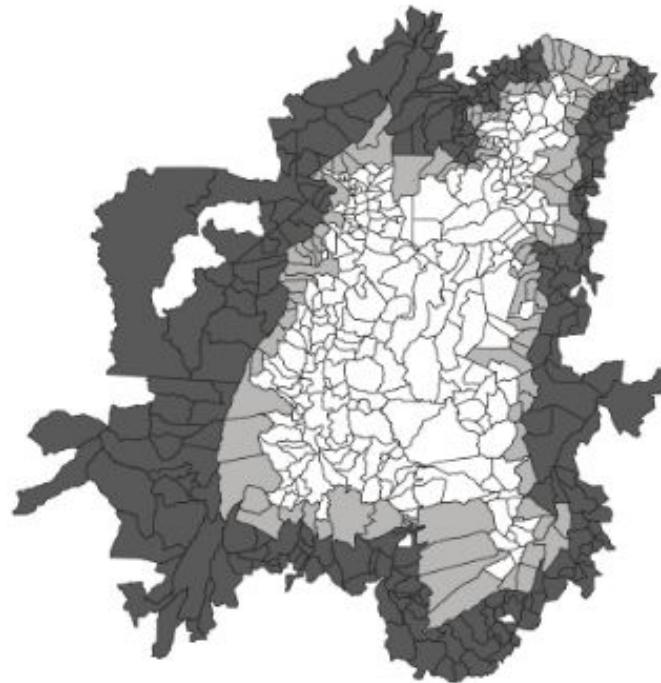
SPATIAL DISCONTINUITY FOR IMPACT ASSESSMENT OF THE MATOPIBA BORDER INSTITUTION (BRAZIL)

Abstract

The socioeconomic impact of the MATOPIBA border institutionalization through the Matopiba Agricultural Development Plan (PDA-MATOPIBA) have not been exploited yet. This paper exploits this boundary as spatial discontinuity to estimate the causal effect of this institutional decision on employment per capita, GDP per capita and agricultural GVA per capita at the municipal level; and formal income at the individual observation. The analysis were developed in a border strategy framework (municipalities contiguous to the MATOPIBA boundary). Evidence shows zero effect of the border officialization on employment per capita, a positive effect of the magnitude of 8.8% on GDP per capita and 20.8% on agricultural GVA per capita when working with data aggregated by municipalities. Regarding individual observation, it appears that being part of MATOPIBA increases the income from formal labor by 13%.

Keywords: MATOPIBA, Impact Assessment, Geographic Discontinuity.

Figure 1: Geographic discontinuity in MATOPIBA.



Motivating Politicians: The Impacts of Monetary Incentives on Quality and Performance*

Claudio Ferraz[†]

PUC-Rio

Frederico Finan[‡]

UC-Berkeley

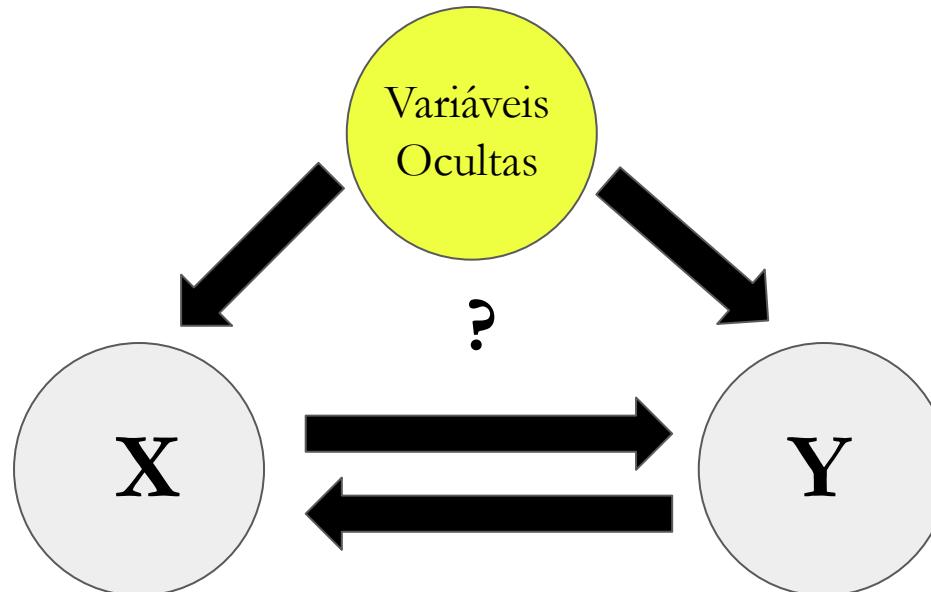
January 2011

Abstract

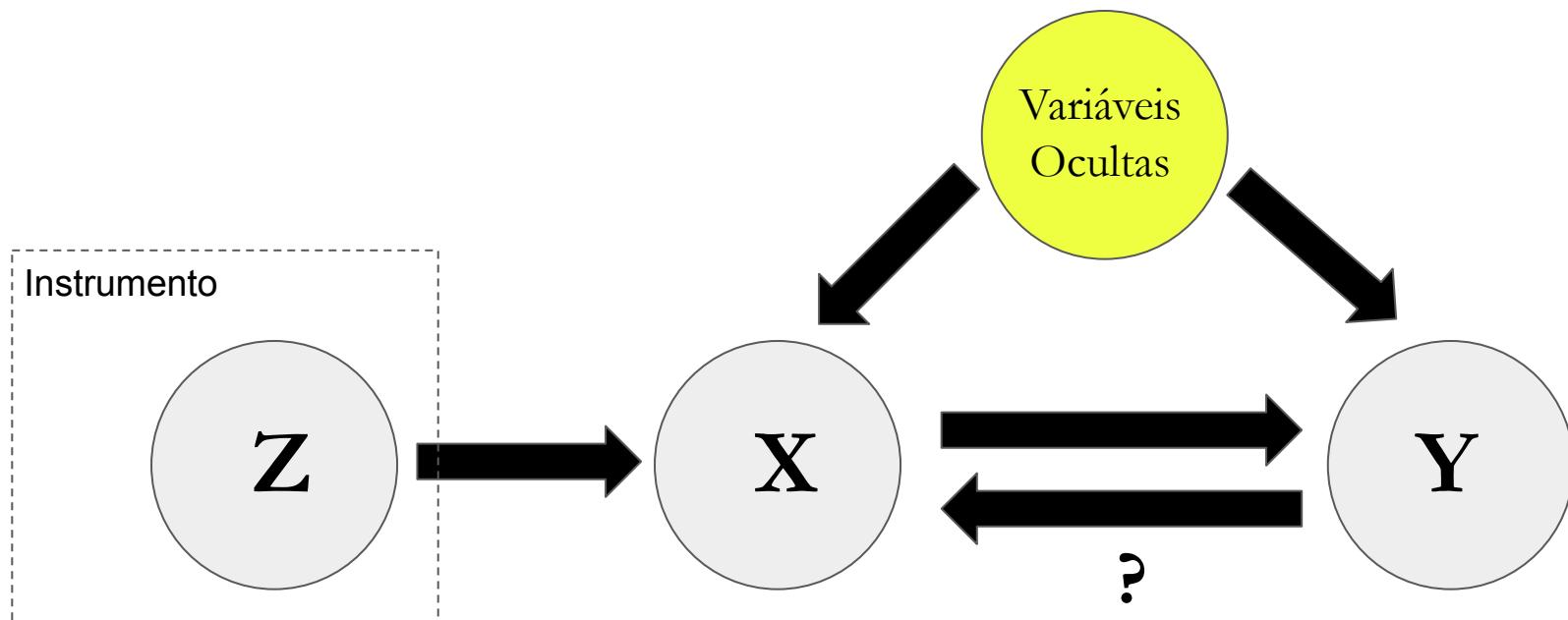
This paper examines whether higher wages for politicians improve political performance, increase competition for office, and attract higher quality candidates. To identify these effects, we exploit a constitutional amendment that sets non-linear salary caps on the wages of local legislators across Brazil's municipal government. Using this exogenous variation, we show that higher wages increase legislative productivity, resulting in more legislative bills and public goods provision. Higher wages also increase political competition and attract wealthier and more educated candidates. Despite these political entry effects, we show that higher wages increase re-election rates among incumbent politicians.

3-VARIÁVEIS INSTRUMENTAIS

VARIÁVEL INSTRUMENTAL



VARIÁVEL INSTRUMENTAL



Economic Shocks and Civil Conflict: An Instrumental Variables Approach

Edward Miguel, Shanker Satyanath and Ernest Sergenti

Journal of Political Economy

Vol. 112, No. 4 (August 2004), pp. 725-753 (29 pages)

Published By: The University of Chicago Press



Abstract: Determining the impact of poverty on the likelihood of civil conflict in less developed countries is difficult because of omitted variable bias and endogeneity. We use exogenous weather variation – as measured in satellite vegetation readings – as an instrumental variable for economic growth in 40 Sub-Saharan African countries during 1983-1999, and estimate that economic growth is strongly negatively related to the incidence of civil conflict: a negative growth shock of 5 percentage points increases the likelihood of major civil conflicts by roughly one-half. This relationship is not significantly different in countries that have higher per capita income, that are more democratic or more ethnically diverse. We use a new and comprehensive dataset of civil conflict in the analysis.

ECONOMIC DETERMINANTS OF LAND INVASIONS

F. Daniel Hidalgo, Suresh Naidu, Simeon Nichter, and Neal Richardson*

Abstract—This study estimates the effect of economic conditions on redistributive conflict. We examine land invasions in Brazil using a panel data set with over 50,000 municipality-year observations. Adverse economic shocks, instrumented by rainfall, cause the rural poor to invade and occupy large landholdings. This effect exhibits substantial heterogeneity by land inequality and land tenure systems, but not by other observable variables. In highly unequal municipalities, negative income shocks cause twice as many land invasions as in municipalities with average land inequality. Cross-sectional estimates using fine within-region variation also suggest the importance of land inequality in explaining redistributive conflict.

I. Introduction

CONFFLICT over land is endemic to many rural economies. In environments marked by a highly skewed distribution of property, incomplete land and credit markets, poorly or unevenly enforced property rights, and weak political institutions, agents often resort to extralegal means to improve their economic positions. The poor frequently invade private properties and occupy them until either forcibly expelled or granted official titles. Land conflict, which is prevalent in many countries such as Brazil, South Africa, Uganda, and Venezuela, may distort the allocation of resources in the agricultural sector away from productive uses and thereby contribute to the persistence of rural poverty. How do economic conditions affect this redistributive conflict?

This paper explores this question using a rich municipal-level data set of 5,299 land invasions from 1988 to 2004 in Brazil. We follow Miguel, Satyanath, and Sergenti (2004) by using rainfall as a source of exogenous variation to study the relationship between income and conflict, and we find that adverse economic shocks cause the rural poor to invade large landholdings. This effect exhibits considerable heterogeneity by land inequality and land tenure systems. In

cause significantly more land invasions in municipalities with a greater proportion of land under fixed-rent contracts. By contrast, we find no evidence of heterogeneity on a range of other political and socioeconomic variables, including political competition, sharecropping, police expenditures, and social welfare spending.

Recent microeconomic studies have examined two channels by which economic factors can cause conflict: (1) lowering the opportunity cost of engaging in conflict and (2) increasing the returns to violence. With respect to opportunity costs, in a study of the Colombian civil conflict, Dubé and Vargas (2006) present evidence that steep declines in coffee prices reduced workers' wages and increased their propensity to join armed groups. Similarly, Do and Iyer (2006) analyze community-level data from Nepal and find that civil conflict is strongly correlated with poverty and lower levels of human capital, which they consider to be proxies for opportunity costs. With respect to returns to violence, Angrist and Kugler (2008) present evidence on economic factors that increase the rents of engaging in armed conflict in Colombia. They find that increases in the price of coca act as a type of "resource curse" that leads to more violence as people are drawn into the illegal drug trade. Deininger (2003) also finds some support for this latter channel in a study of the Ugandan civil war, observing a positive correlation between expropriable agricultural assets (coffee plants) and violence, though he argues that this channel may be less important than suggested by the cross-country literature.

Consistent with previous findings about the opportunity-costs channel, our paper finds evidence that rural productivity shocks, such as droughts, lower the returns to aeri-

The Colonial Origins of Comparative Development: An Empirical Investigation

Daron Acemoglu

Simon Johnson

James A. Robinson

AMERICAN ECONOMIC REVIEW
VOL. 91, NO. 5, DECEMBER 2001
(pp. 1369-1401)

Download Full Text PDF
(Complimentary)

Article Information

Abstract

We exploit differences in European mortality rates to estimate the effect of institutions on economic performance. Europeans adopted very different colonization policies in different colonies, with different associated institutions. In places where Europeans faced high mortality rates, they could not settle and were more likely to set up extractive institutions. These institutions persisted to the present. Exploiting differences in European mortality rates as an instrument for current institutions, we estimate large effects of institutions on income per capita. Once the effect of institutions is controlled for, countries in Africa or those closer to the equator do not have lower incomes.

Revisiting the Resource Curse: Natural Disasters, the Price of Oil, and Democracy

Kristopher W. Ramsay

Abstract Fluctuations in the price of oil and the contemporaneous political changes in oil-producing countries have raised an important question about the link between oil rents, political institutions, and civil liberties. This article presents a simple model of the relationship between resource income and political freedom and, using an instrumental variables approach, estimates the causal effect of shocks to oil revenues on levels of democracy. Using a new data set, multiple measures of democracy, and various specifications, I find that the effect of oil price shocks is larger than might be expected and on the order of the effects found from changes in gross domestic product.

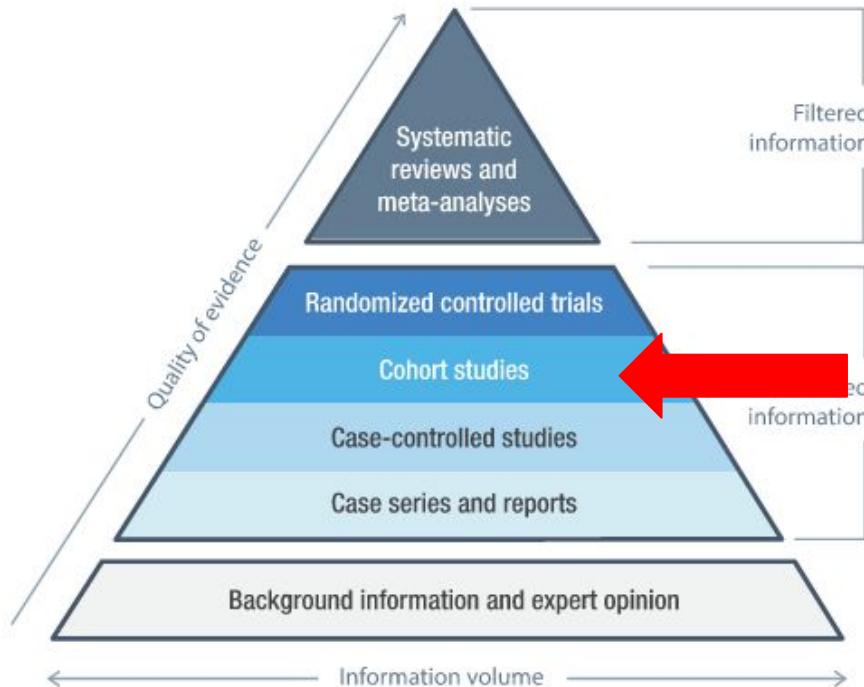
VARIÁVEL INSTRUMENTAL

Introduction to Instrumental Variables (IV)

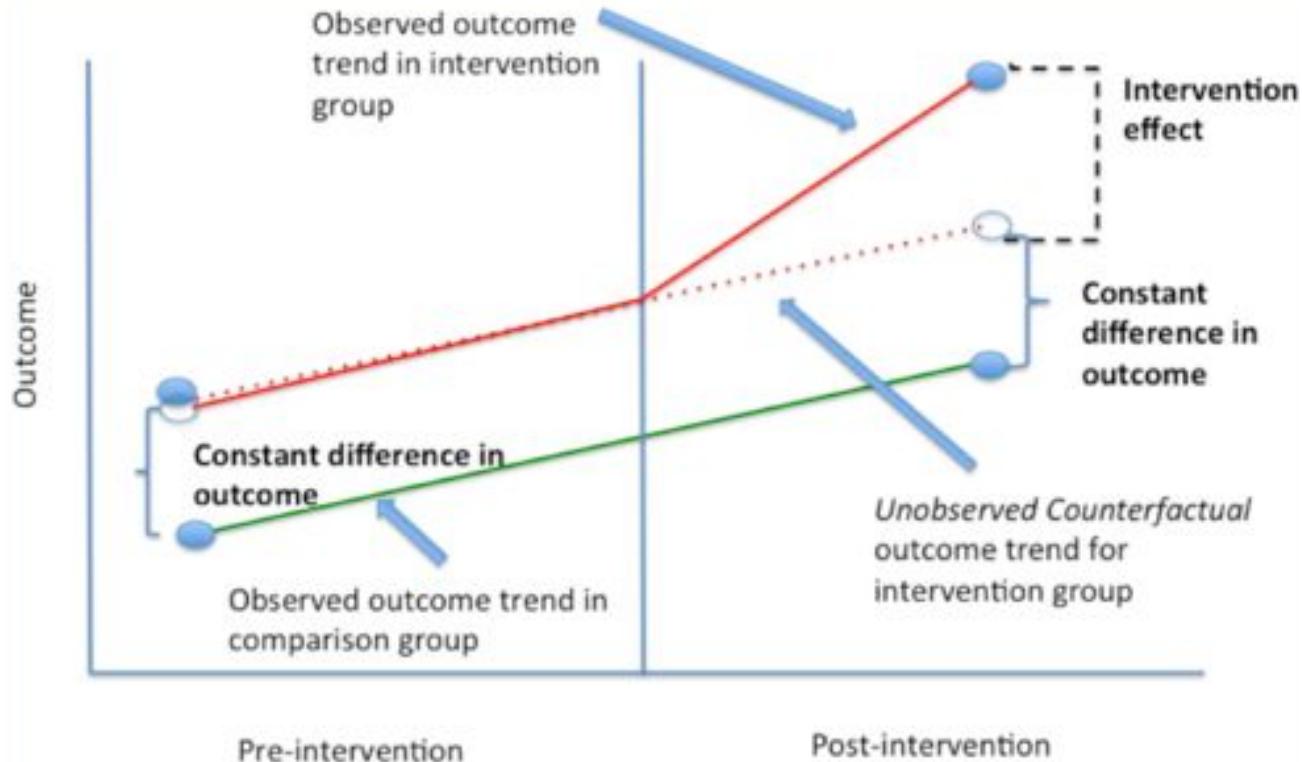
<https://www.youtube.com/watch?v=eoJUPd6104Q>

4-ESTUDOS OBSERVACIONAIS

RANKING DE EVIDÊNCIAS



DIFFERENCE IN DIFFERENCE (“Diff in Diff”)



DIFFERENCE IN DIFFERENCE (“Diff in Diff”)

Introduction to Differences-in-Differences

<https://www.youtube.com/watch?v=eiffOVbYvNc>



The Brazilian bankruptcy law experience

Aloisio P. Araujo ^{a, b}  , Rafael V.X. Ferreira ^b  , Bruno Funchal ^c  

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<https://doi.org/10.1016/j.jcorpfin.2012.03.001>

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Abstract

In early 2005, the Brazilian Congress approved a new bankruptcy law. The new legislation increased creditor protection and improved the efficiency of the bankruptcy system. This paper evaluates the empirical consequences of a bankruptcy reform on a poorly developed credit market. Using data from Brazilian and non-Brazilian firms, we estimated, using two different

Following a quasi-experimental approach, we compare Brazilian firms (our treatment group) to non-Brazilian firms from Argentina, Chile and Mexico (our control group), with respect to the behavior of debt related variables. This approach helps to control our analysis for shocks in the credit market common to these countries during our sample period.

We start our analysis by looking at the time series of aggregate data on private credit extended to firms and compare its path before and after the bankruptcy law reform, for the Brazilian and non-Brazilian markets. We then move to firm-level panel data and estimate the impact that changes in the bankruptcy law had on contractual and non-contractual debt characteristics. First, we use a difference-in-difference model in which Brazilian firms are the treatment group and non-Brazilian firms compose the control group. To check whether the results were driven by changes in macroeconomic conditions in Brazil instead of the reform, we perform a battery of falsification and placebo tests that replicate our estimation, under slightly different conditions. The falsification tests are based on data from before the reform, which we use to replicate our empirical exercise in counterfactual situations. The placebo tests try to capture possible pre-reform trends through the inclusion of binary explanatory variables for the years before the reform came into effect.

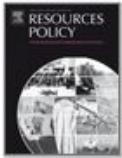


The impact of structured teaching methods on the quality of education in Brazil

Abstract

Maria Carolina Leme ^{a, b} , Paula Louzano ^c , Vladimir Ponczek ^{a, b}
, André Portela Souza ^{a, b}

This paper estimates the impact of the use of structured methods on the quality of education for students in primary public school in Brazil. Structured methods encompass a range of pedagogical and managerial instruments applied in the educational system. In recent years, several municipalities in the state of São Paulo have contracted out private educational providers to implement these structured methods in their schooling systems. Their pedagogical proposal involves structuring of curriculum content, development of teacher and student textbooks, and the training and supervision of teachers and instructors. Using a difference-in-differences estimation strategy, we find that the 4th- and 8th-grade students in the municipalities with structured methods performed better in Portuguese and mathematics than did students in municipalities not exposed to these methods. We find no differences in passing rates. A robustness test supports the assumption that there is no unobserved municipal characteristics associated with proficiency changes over time that may affect the results.



Oil windfalls in Brazil and their long-run social impacts

Fernando Antonio Slaibe Postali ^a , Marislei Nishijima ^b

Abstract

In 1997, Brazil changed the regulatory framework of its oil and gas sector. After this change, a restrict subset of localities started to receive large amounts of oil rents. The goal of this paper is to evaluate whether such rents distributed under this law contributed to improving some social indicators relative to the national average in the eligible municipalities. We used a “difference-in-differences” measurement to compare changes in selected social indicators within affected Municipalities in the last two decades, taking the unaffected districts as control group. The Municipal data on social indicators were collected from three National Censuses, conducted in 1991, 2000 and 2010. Results show that royalties had a positive and statistically significant impact on household's access to electric wiring, piped water and waste collection, as well as in the decrease of illiteracy rate. This means the eligible districts were able to improve some of their social indicators in the long-run.



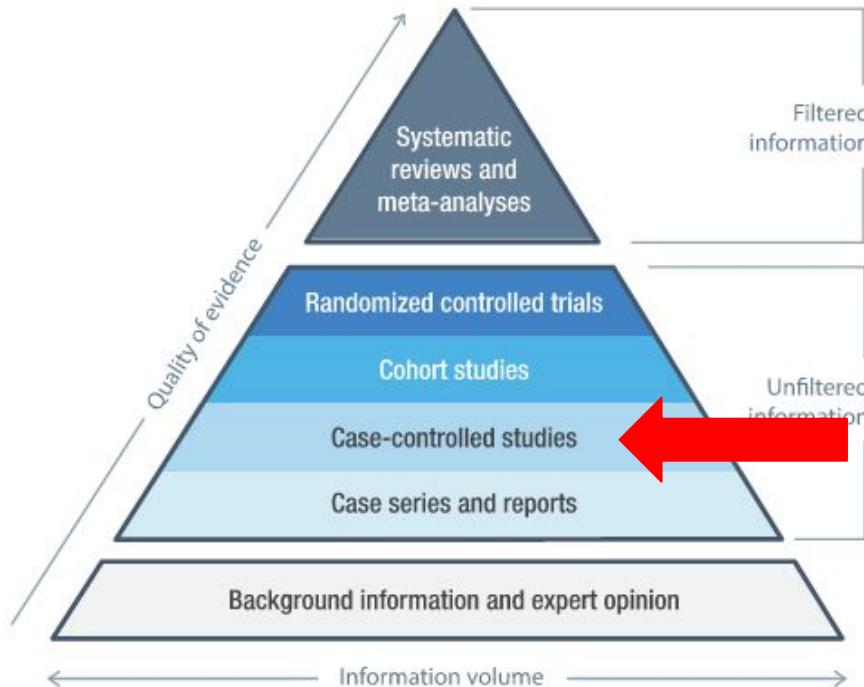
**Revista de
Administração
Contemporânea**
Journal of Contemporary Administration

Tutorial Article

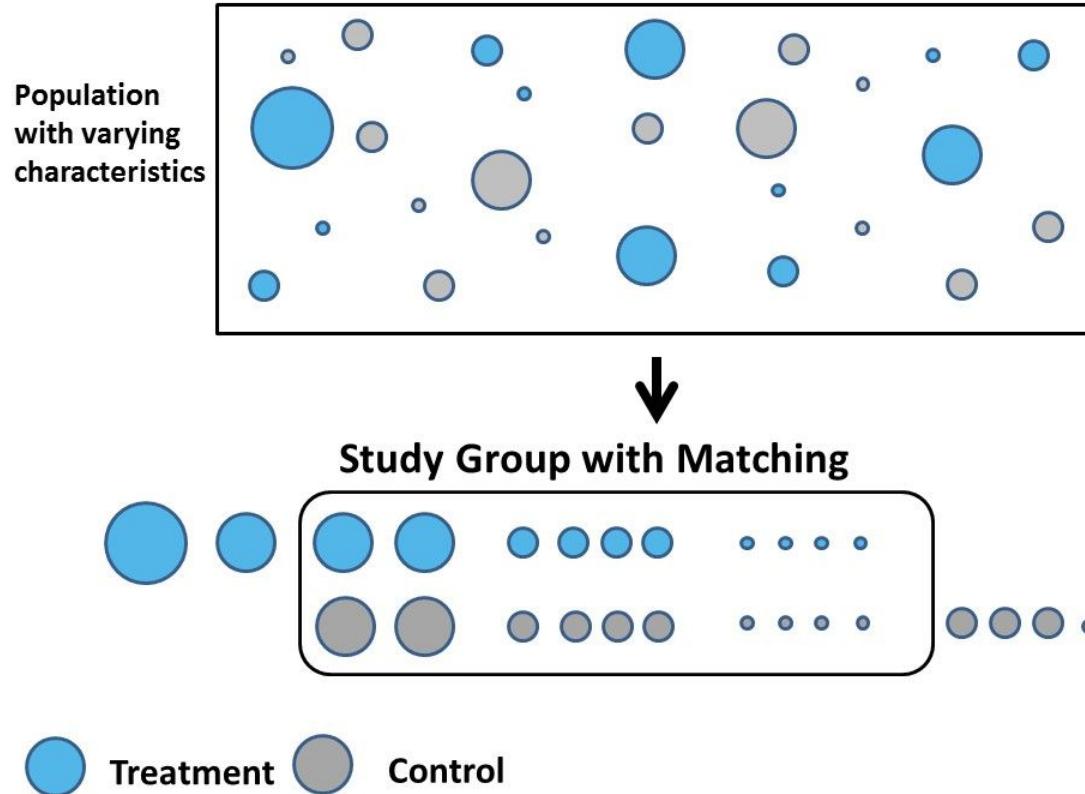
A Tutorial on the Use of Differences-in-Differences in Management, Finance, and Accounting

**Um Tutorial Sobre o Uso de Diferenças em Diferenças em Administração,
Finanças e Contabilidade**

RANKING DE EVIDÊNCIAS



PROPENSITY SCORE MATCHING (PSM)



Assessing the impact of a doctor in remote areas of Brazil

[Joana Raquel Raposo dos Santos](#) , [Hellen Geremias dos Santos](#), [Carlos Manuel Matias Dias](#) & [Alexandre Dias Porto Chiavegatto Filho](#)

International Journal of Public Health **65**, 267–272 (2020) | [Cite this article](#)

326 Accesses | 3 Citations | [Metrics](#)

Abstract

Objectives

The More Doctors Program (MDP) is an ongoing Brazilian policy that aims to improve healthcare by providing physicians to the most vulnerable municipalities. We aimed to measure the impact of MDP in mortality and infant mortality rate, the proportion of live births with low weight, prenatal appointments, childbirths at first and fifth min Apgar, public health investment and immunization in Brazil.

Methods

Municipal health indicators were collected before and after the intervention (2012 and 2015). Effects were measured by applying propensity score matching with difference-in-differences.

Results

Our findings show that infant mortality presented the highest improvement during the period (a decrease in 11 infant deaths per 1000 live births, $p < 0.01$). A significant effect, albeit smaller, was also found for the age-standardized total mortality (a decrease in five deaths per 10,000 residents), proportion of children with Apgar score lower than 8 in the fifth min and children with low birth weight.

Conclusions

MDP contributed to improve important health indicators, highlighting the importance of a doctor in remote areas of Brazil.

The impact of conditional cash transfer programs on household work decisions in Brazil

Andrea R. Ferro, Ana Lúcia Kassouf, Deborah Levison

Child Labor and the Transition between School and Work

ISBN: 978-0-85724-000-2, eISBN: 978-0-85724-001-9

Publication date: 19 May 2010



Abstract

Conditional cash transfer (CCT) programs have become widespread in poor countries as a way to alleviate current poverty and provide investments in human capital that improve families' living conditions in the long-term. The first goal is accomplished when poor families receive money from governments on a monthly basis. The second goal is reached by conditioning the cash transfers on certain behaviors such as children's regular school attendance. However, these programs may also have impacts on time use decisions within beneficiary households, particularly with respect to time spent working. Using data from 2003, we measure the impact of the Brazilian Bolsa Escola CCT program on children's and parents' labor status using the econometric framework of policy evaluation. Probit regressions and propensity score-matching methods show that this program reduces the probability of work for children aged 6–15, increases school enrollment, and increases mother and father participation in the labor force.