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# Workshop on using big data for forecasting and statistics

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Monday, 7 and Tuesday, 8 April 2014  
European Central Bank, Eurotower  
Frankfurt am Main





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*The Economist*

# Different, not better

Big data may lead to new economic indicators, not just improve existing ones



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**a story . . .**



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**General  
Electric  
MRI  
machine,  
1990**





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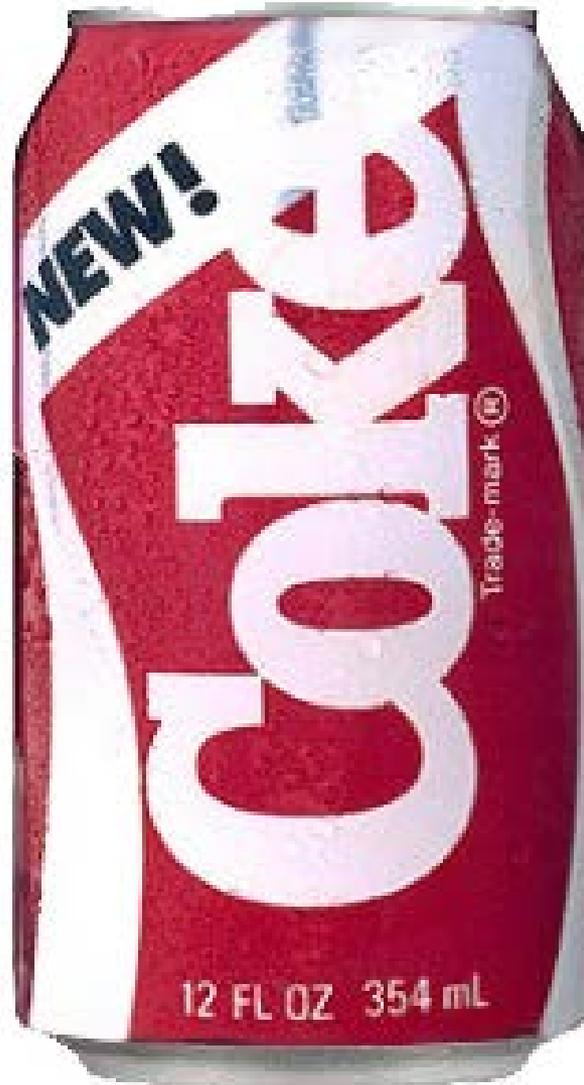
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**“small data”**



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**“anecdata”**



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***“My contacts report that cutbacks in spending are widespread, especially for discretionary items. For example, East Bay plastic surgeons and dentists note that patients are deferring elective procedures. [Laughter] Reservations are no longer necessary at many high-end restaurants...”***

Janet Yellen

President, San Francisco Federal Reserve

FOMC meeting, 16 September 2008



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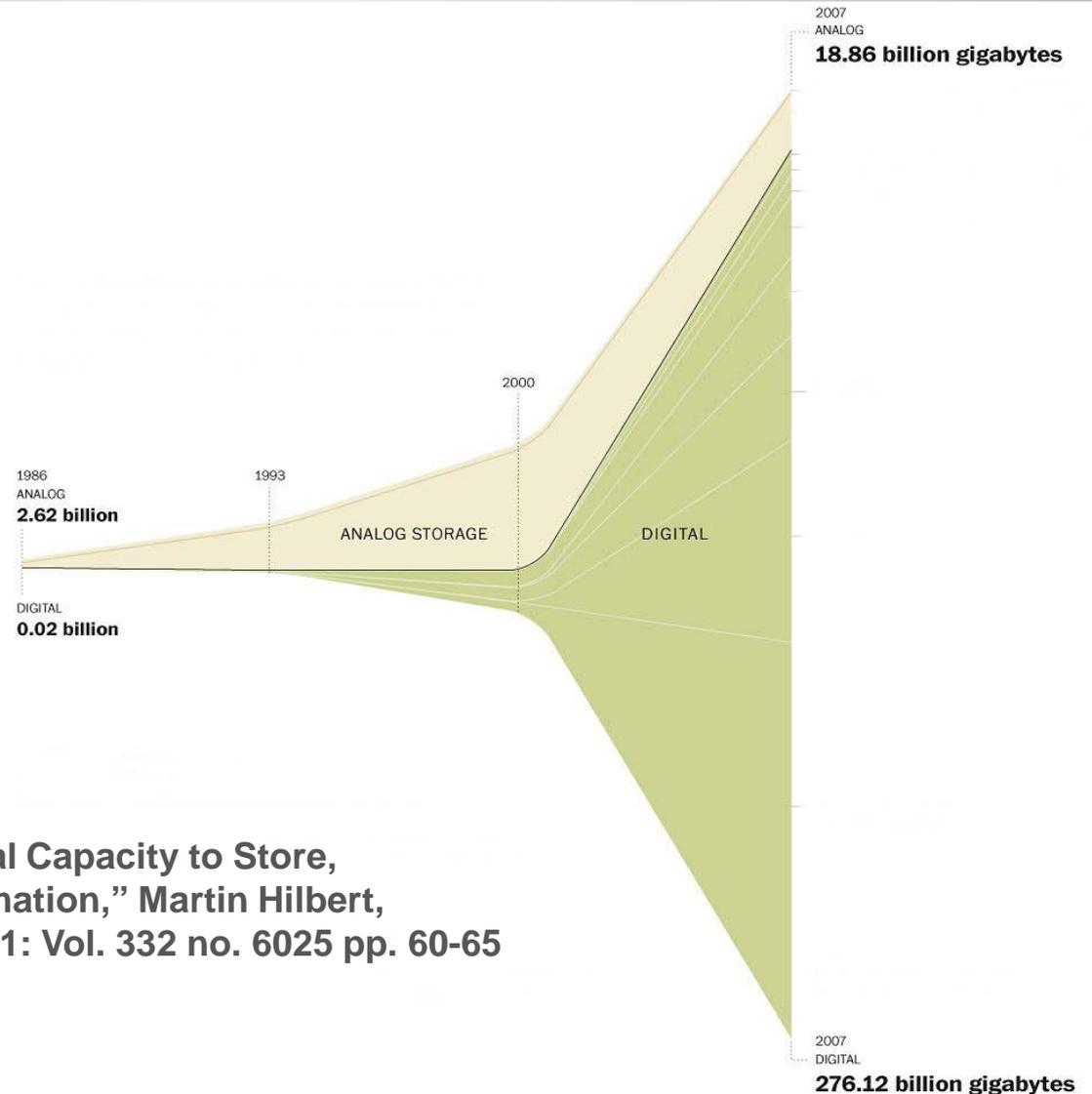
# BIG

data?



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Source: "The World's Technological Capacity to Store, Communicate, and Compute Information," Martin Hilbert, Priscila López, *Science*, 1 April 2011: Vol. 332 no. 6025 pp. 60-65



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**“datafication”**

location

posture



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**new**

reported vs observed data  
*revealed preferences*

fixed vs variable costs  
*measure to individual unit*

snapshot vs continuous  
*real time and constant (like weather data)*



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## **examples:**

- inrix: traffic = local economies
- premise: granular price info
- alibaba: credit ratings from sales



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# **stats science fiction**

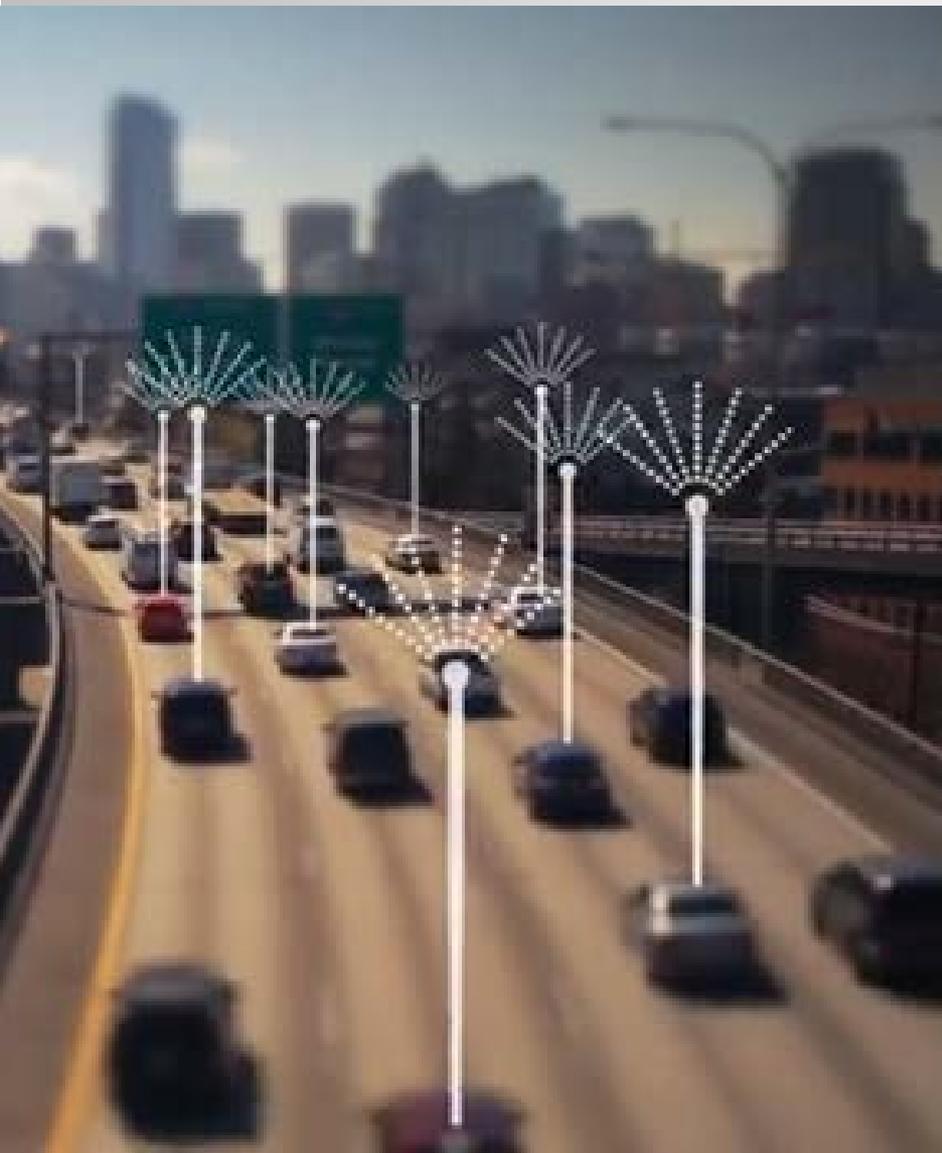
“investor sentiment index”

*(the shift from risk to uncertainty)*



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# stats science fiction

“investor sentiment index”

*based on sleep patterns, biochemistry, driving  
and time per news consumption*



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March 28, 2014 11:38 am

# Big data: are we making a big mistake?

By Tim Harford

Big data is a vague term for a massive phenomenon that has rapidly become an obsession with entrepreneurs, scientists, governments and the media

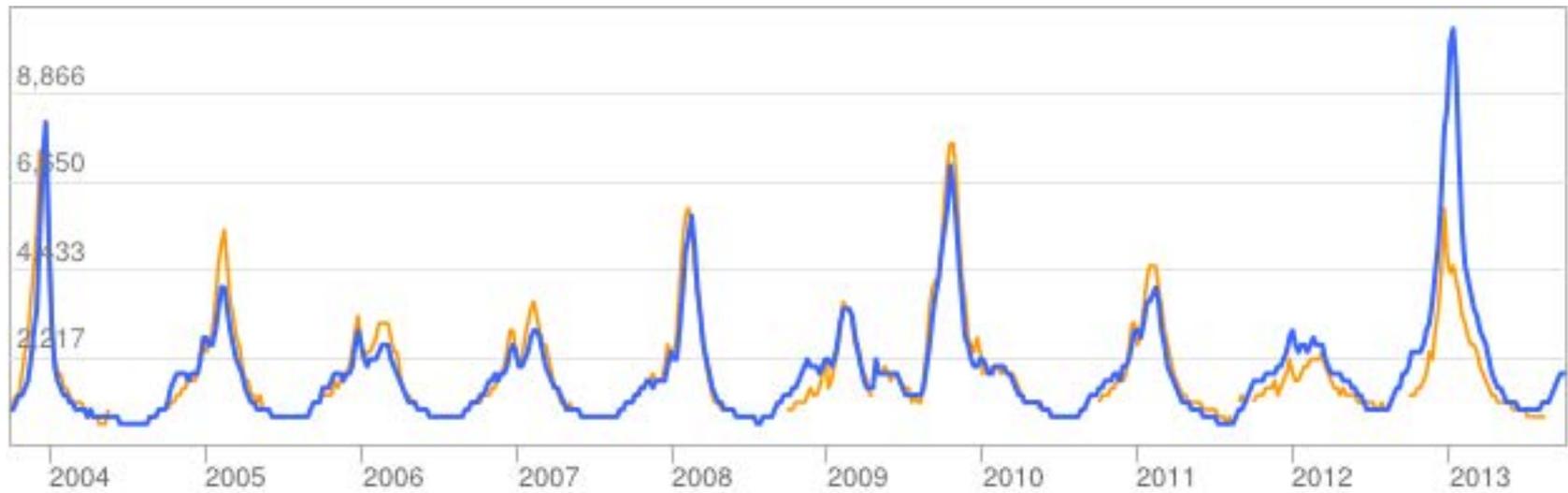




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# google flu trends





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# ground truth?

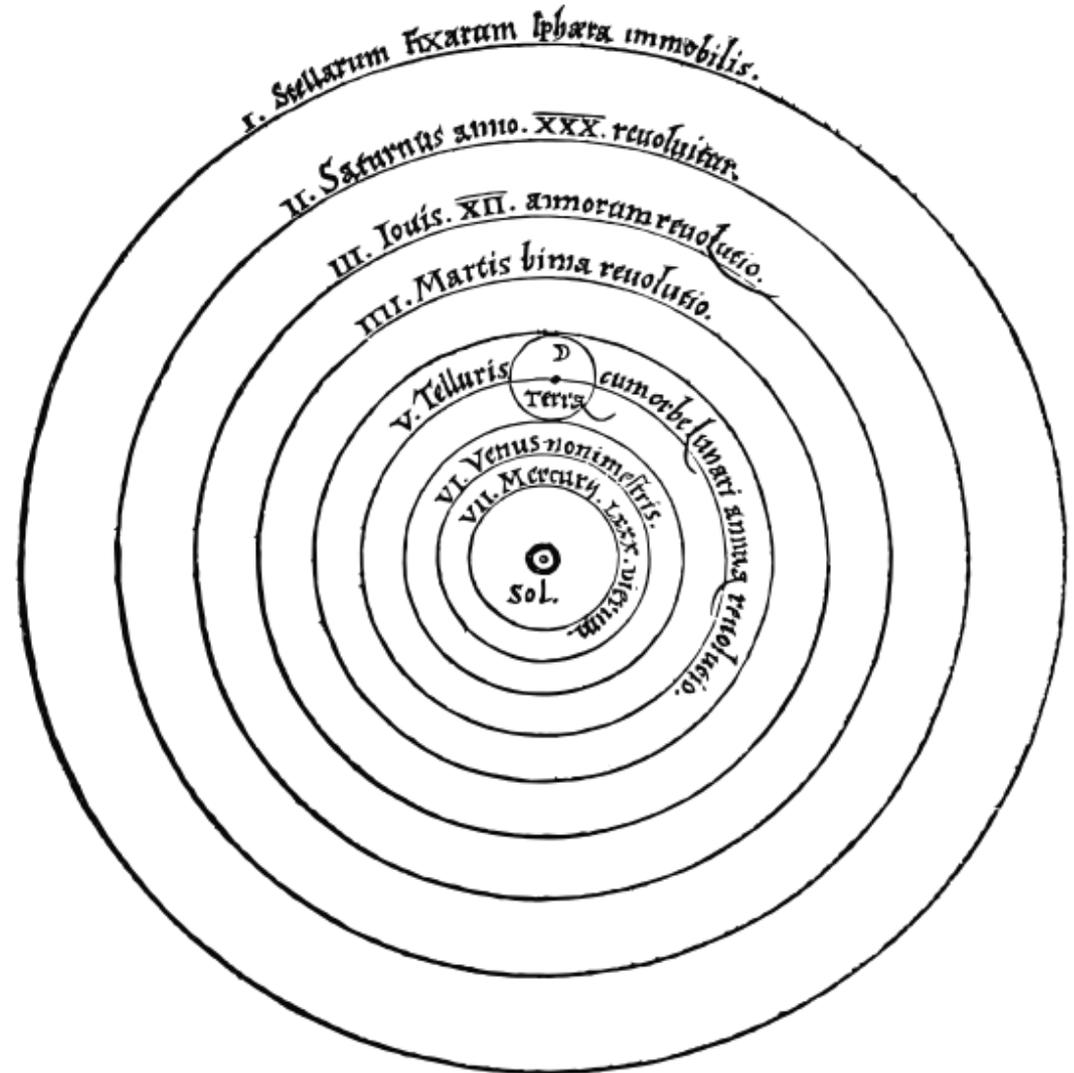
- *searches (media attention)*
- *visits to clinics (recession)*



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# Copernicus 1473-1543

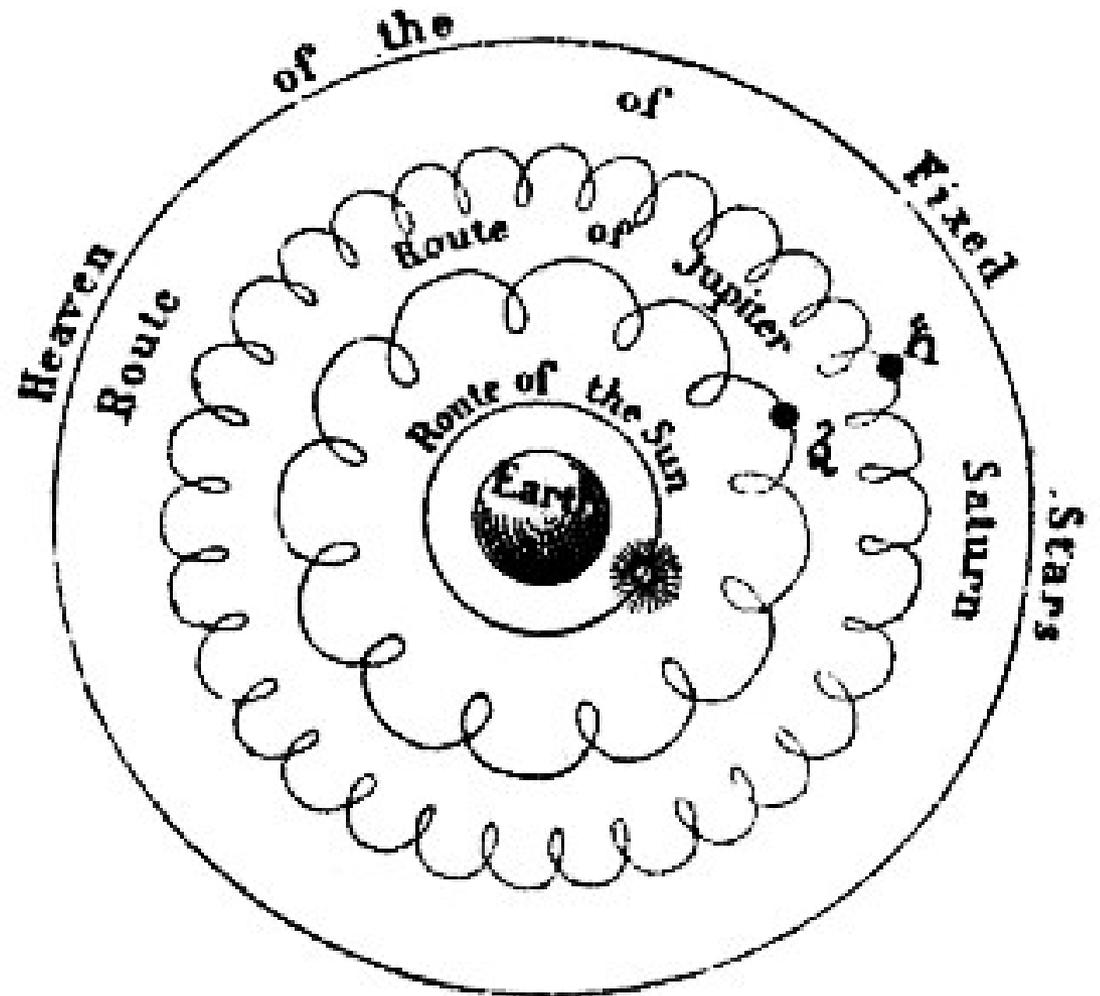




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# Ptolemy, 90-168 AD





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**questions, comments, insults?**

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