Truthcoin

Prediction Markets for Bitcoin

"Ending the Age of Bullshit"
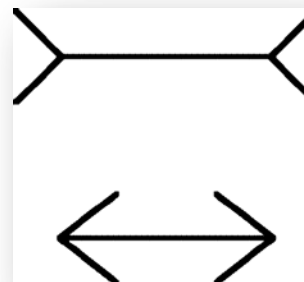
First Half Of Slides Presented to

MIT Bitcoin Club

on

Jan 20th, 2015

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Who / Why

- Degrees (BA, MS-M, MBA) from CWRU in **economics**, **psychology**, **statistics** and **finance**.

- Researcher at Yale Economics Dept for 2 years.

- Consulting experience - Finance role.

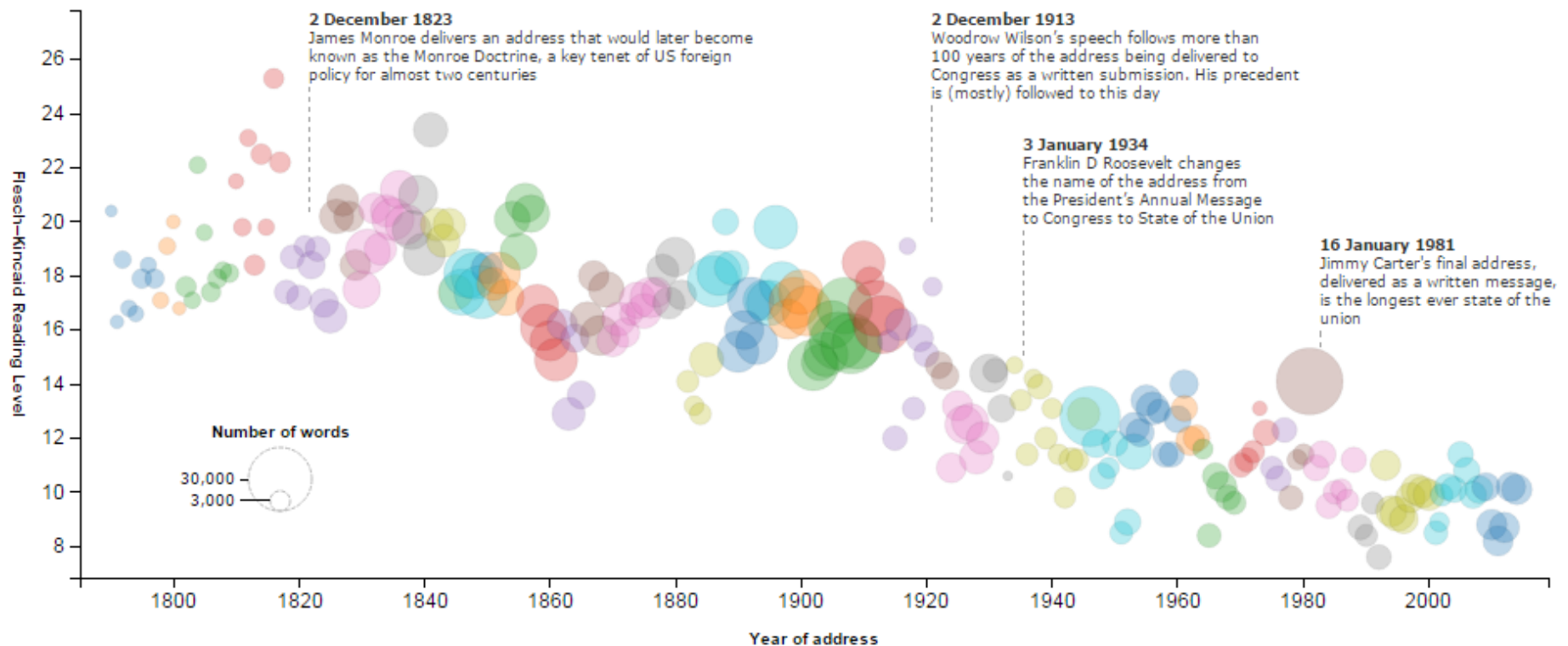- Lifelong interest in human biases and **prediction markets**.

  - I used to believe in **learning** and **sharing knowledge** through discussion. Now I think that's a waste of time.
  - In fact, I feel it is immoral:
    - Talk is cheap (and you get what you pay for).
    - Encourages trust in experts/authority
    - Better to trust one's own experience, or, even better one's own skepticism (cautious people do "OK").
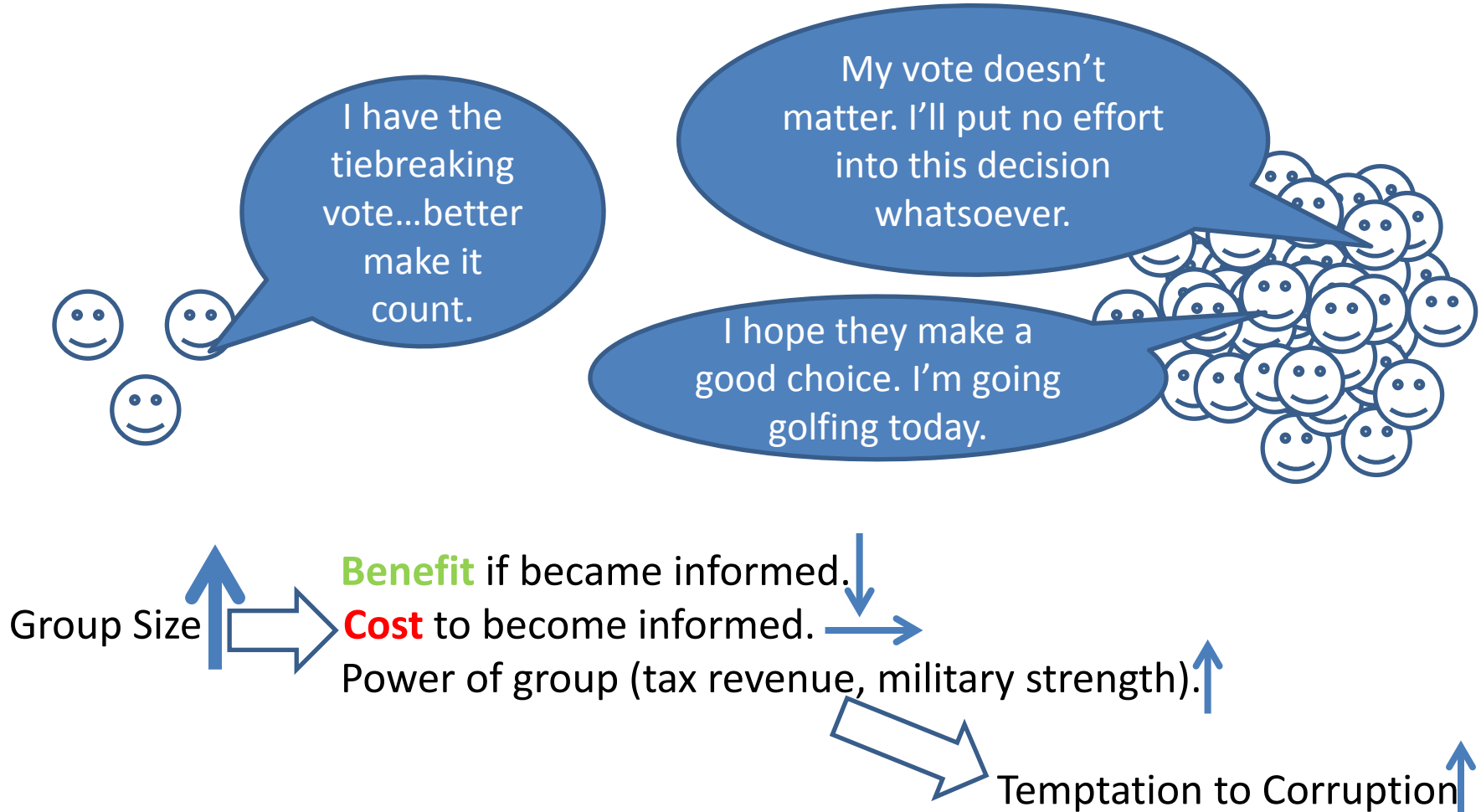
Our Age: The Age of Bullshit

The state of our union is ... dumber:
How the linguistic standard of the presidential address has declined

Using the Flesch-Kincaid readability test the Guardian has tracked the reading level of every State of the Union

Why so bad? Scale. Ex: Voting

I have the tiebreaking vote…better make it count.

My vote doesn't matter. I'll put no effort into this decision whatsoever.

I hope they make a good choice. I'm going golfing today.

Group Size ⟹ **Benefit** if became informed.
Cost to become informed.
Power of group (tax revenue, military strength).
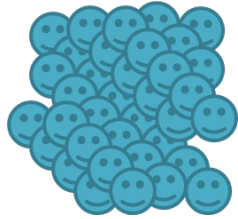
Temptation to Corruption

1. We are **choking on information**: too much on each plate, no reason to chew.
2. Too many **info-sources**, not enough **info-aggregation**.

Rot From Above: Who controls what?
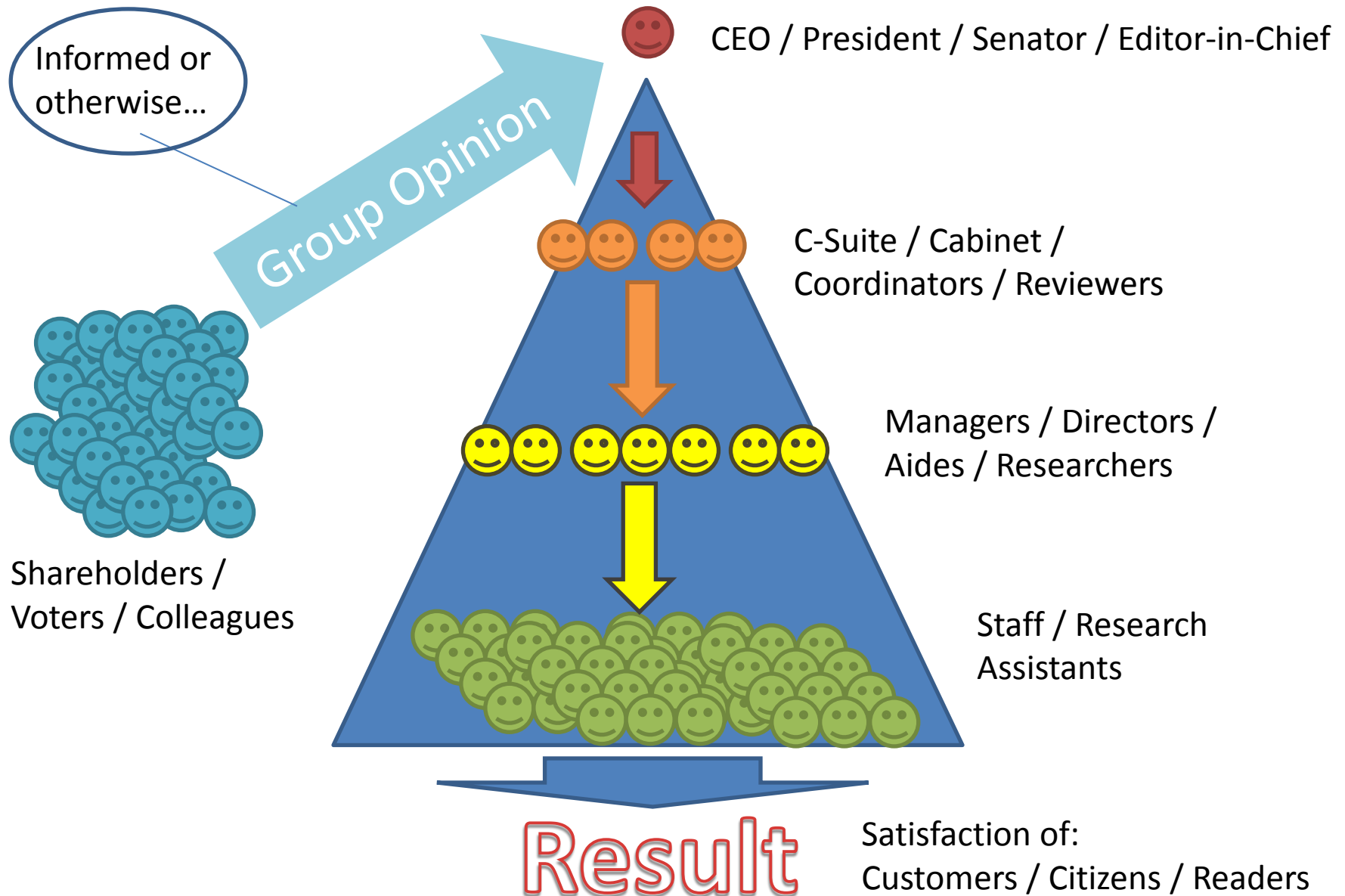
Ownership and Control:
The Weakest Link

Shareholders / Voters / Colleagues

1. How to we **combine** the many preferences of this group into one request?
2. Do we each have to **monitor** the leader's work? If not, who do we trust (and why)?
3. If I don't like this leader, how do I find out if others agree? How do we **fire the leader**?

Bad

CEO / President / Senator / Editor-in-Chief

C-Suite / Cabinet / Coordinators / Reviewers

Managers / Directors / Aides / Researchers

Staff / Research Assistants

Can easily…
…make requests.
…observe work/results.
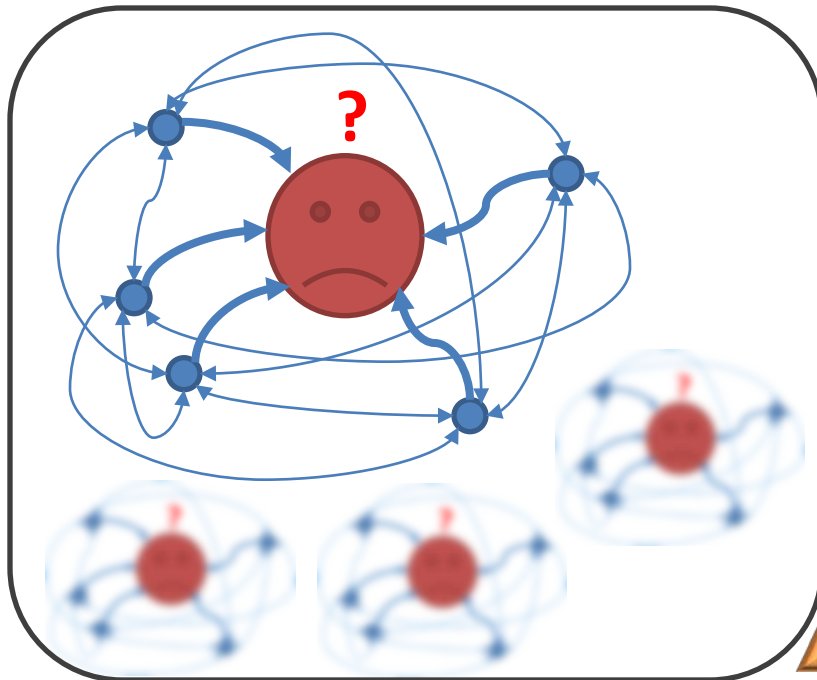…fire insubordinates.

Good

Truthcoin enables **Prediction Markets** to Aggregate Info

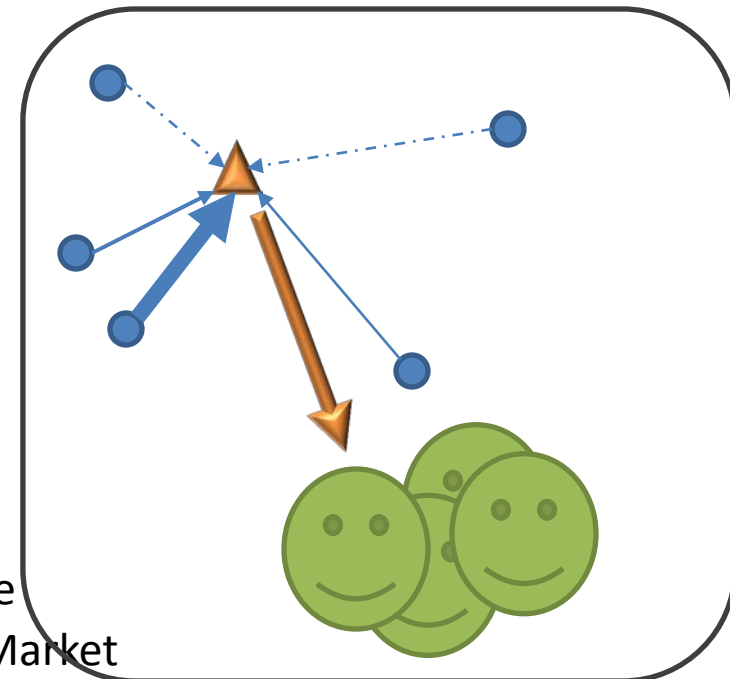- For the Public: **Reliable** and **Common** Information

It's right.

It's broadcast to everyone (and everyone knows that everyone got it).

For example: **no more bullshit about climate change (either way)**.

= Info Source

= Prediction Market

1. PMs: 'stock market' for a special kind of derivative.
Below: **event derivative** (InTrade.com) on 2012 global warming

Worth $100 if 2012 is the warmest year on record.

Ran from Jan 2011 to End of 2012

Climate Change: PM vs Talk

- Talk: Why even bother becoming informed?
  - Hard to learn this stuff (and I only have so much time)
  - How am I supposed to convince others?
  - Why résumés *must* be short (info-processing costs).
  - Minimal-info strategies (join a tribe/"political party").
- PM forces a clear definition.
- Prices are **constantly** and **unanimously** acceptable. <u>At all times,</u> <u>everyone</u> agrees with the price (if not, they can profitably trade).
- Note: Suppose climate change were false. The "reliability" and "broadcast" problems are much worse.
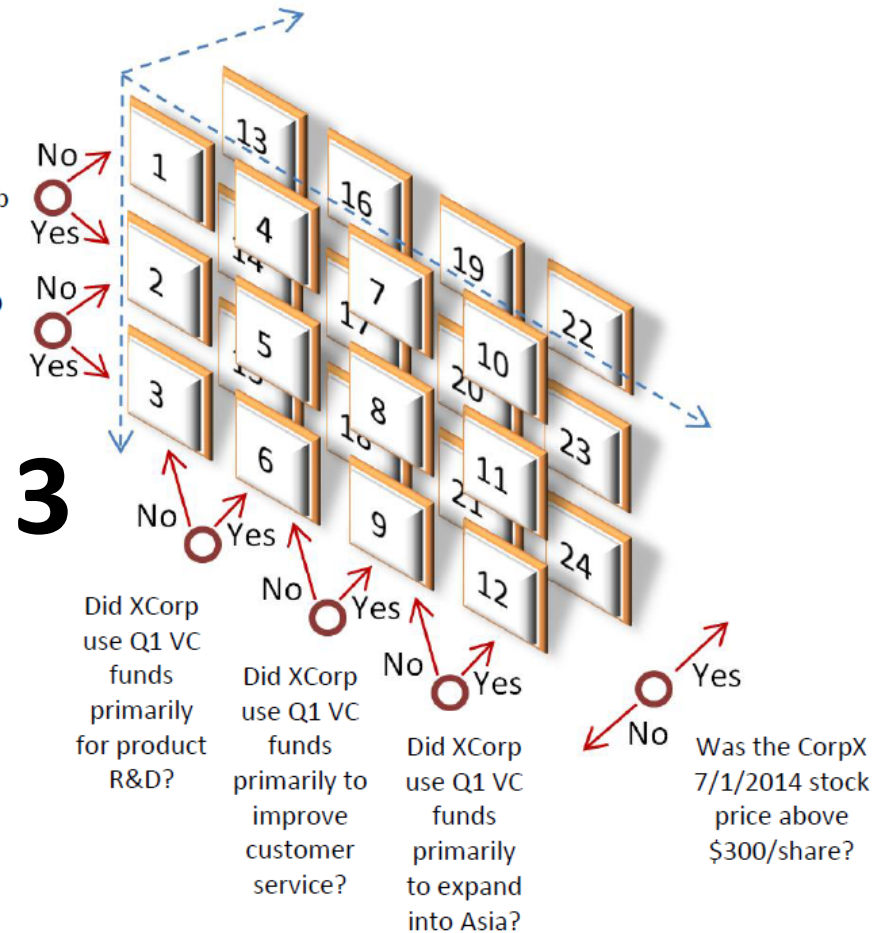
Prediction Market Magic:
More Than One Dimension
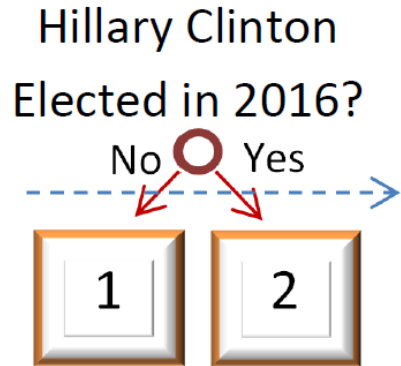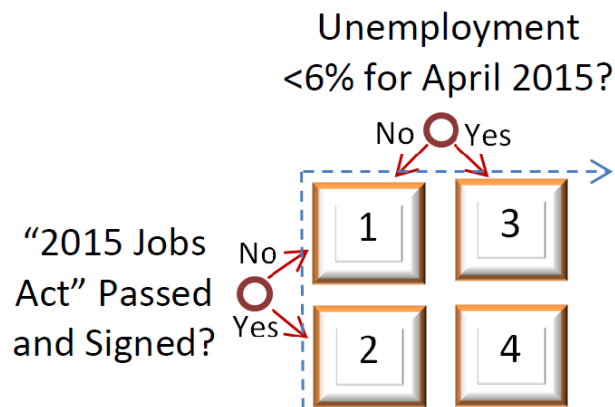
More Dimensions: More Forecasts, AND More **Relationships**

2016 Warmest Year on Record?

No ○ Yes

"2015 Climate Act" Passed and Signed?

No
Yes

| 1 | 3 |
| 2 | 4 |
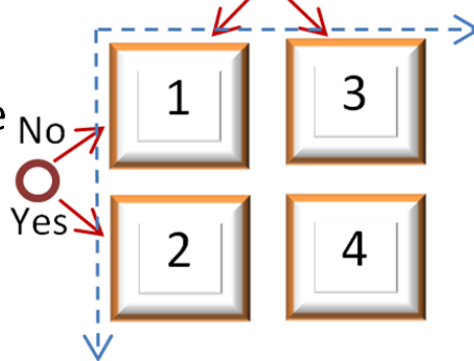
Joint, Marginal, and Conditional Probabilities

MSRs
Bayesian Net

	No	Yes	
No	0.35	0.05	0.40
Yes	0.15	0.45	0.60
	0.50	0.50	1.00

	No	Yes	
No	0.15	0.45	0.60
Yes	0.35	0.05	0.40
	0.50	0.50	1.00

	No	Yes	
No	0.25	0.25	0.50
Yes	0.25	0.25	0.50
	0.50	0.50	1.00

The Point: Probabilities are not only: "Will X happen?"…
…they are also: "Would Y influence X?"

Multidimensional Governance

- Applications
  - "Which CEO *would most increase* **our stock price**?"
  - "Which President *would most decrease* **unemployment**?"
  - "Which FED Policy *would most increase* **GDP**?"
  - "Which law *would most decrease* **violent crime**?"
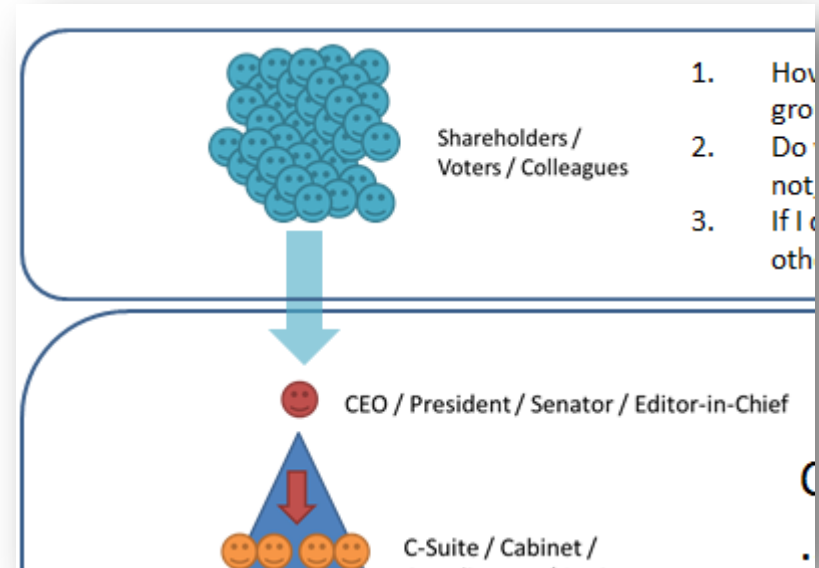
- So much more:
  - Betting "in" USD / DJIA / etc.
  - Provision of Public Goods (without taxes)