Methods of Mathematical Finance
in honor of Steve Shreve’s 65th birthday

Carnegie Mellon University

Pittsburgh
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DEMOCRACY 2.1
“Democracy is the worst form of government…except for all of the others we have tried.”

Winston Churchill, 1947
HOW WELL IS DEMOCRACY DOING?

In Europe…

- Rise of extremist parties
- Declining voter turnout
- Civil unrest
HOW WELL IS DEMOCRACY DOING?

In the developing world...

Rising corruption  
Fake elections  
Declining trust
Athens (479 – 404 BC)
Lotteries & ‘Minus-Votes’

Voting for their strategos
Athenian ostraka
Rome (509 – 33 BC):

“Weighted” Voting

Voting by tribe in the comitia centuriata

“The Ides of March: collapse of the republic

“Citizens should be weighed, not counted.” - Cicero

DEMOCRACY 2.1
The Enlightenment (1700s): Democratic Innovations

Philadelphia, 1789

The Electoral College
The Path to “One Man One Vote”

- 1830s: The poor (white males only)
- 1919: Women
- 1960s: African-Americans
- 1971: 18-year-olds
Democracy is not only *who* votes, but *how* we vote.
10. - 11. 10. 2014

8 879 respondentů
Piloting D21 (2015): Local Democracy

- New York City participatory budgeting (PB)
- 20 Czech municipalities
- Experiments in Tunisia, planned in Portugal etc.
- Largest Czech bank, polled 1300 employees on priority projects; raised engagement by 25%
Piloting D21 (2015): Řídím Říčany Project

- Two years contract in Říčany, very progressive Czech town
- Project Řídím Říčany ("I drive Říčany"): 15 votes in next two years
- The goal is to test and to upgrade the whole participatory process
- First two "soft" votes underway, first hard vote (participatory budgeting) takes place in the summer
Piloting D21: Czech Municipalities

- Nymburk town: how should the main square look like? (arch. competition)

- Litoměřice: 10 priorities of the town for next year

- The goal is to test and to upgrade the whole participatory process

- Dolní Břežany: which local activities/projects should the town support (PB model)
Piloting D21: Democracy in Education

- Early testing with high school students in the Czech Republic (and senior groups)

- Stanford TreeHacks (800 students): ‘crowd favorite’ vote

- D21 for schools: testing in Říčany (school parliament election, participatory budgeting in schools)
Piloting D21: Richer Data Analysis

- More information – what people want and what they don’t want
- How the options polarize people?
- Correlations (sex, age, part of the town/corporate segment)
Let your 💖 say YES!
&
Let your brain say YES! and NO!
“Democracy [1.0] is the worst form of government…except for all of the others we have tried.”

Winston Churchill, 1947

“Democracy 2.1 is the best form of government…and it’s time to try it.”

Karel Janeček, 2015