Outline

• Hypothesis
• Data
• Analysis
• Future Work
• URLs
Outline

• Hypothesis
• Data
• Analysis
• Future Work
• URLs
Hypothesis

Countries with more transparent, democratic governmental institutions should harbor a smaller fraction of misbehaving (blacklisted) hosts.
Outline

• Introduction
• Data
• Analysis
• Future Work
• URLs
Data IP reputation

• Composite Blocking List
  Spamhaus Project
  • IP address list of suspected spam or botnet activity

• country IPv4 allocated
  Regional Internet Registries (RIR)
  • delegation files list which addresses are allocate per country

• country IPv4 users
  CIA Factbook
  • number of Internet user per country

\[
\text{IPop \%} = \frac{\text{country breakdown (CBL)}}{\text{country IPv4 allocated}}
\]

\[
\text{Infection \%} = \frac{\text{country breakdown (CBL)}}{\text{country IPv4 users}}
\]

*provided by Spamhaus
Data Country Reputation

- **Corruption Perceptions Index (CPI)**
  Transparency International
  - combines 13 different surveys and assessments
  - corruption: misuse of public power for private benefit
  - ranges from 0 (highly corrupt) to 100 (very clean)

- **Democracy Index (DI)**
  Economist Intelligence Unit
  - based on 60 indicators:
    - electoral process, civil liberties, function government, political participation, and political culture
  - Score
    - 0-4 Authoritarian Regimes
    - 4-6 Hybrid Regimes
    - 6-8 Flawed Democracies
    - 8-10 Full Democracies
Country level IP Reputation

High Reputation Zone

Mixed Reputation Zone

Democracy Index
- Full democracies
- Hybrid regimes
- Authoritarian regimes
- Flawed democracies

Corruption Perception Index
- Corrupt
- Clean

Infect %
- 0.005 - 0.358 (60%)
- 0.363 - 0.885 (17%)
- 0.890 - 2.055 (18%)
- 2.135 - 8.360 (5%)
Outline

• Introduction
• Data
• Analysis
• Future Work
• URLs
Future Work

- Reproduce the IPoP % and Infected %
  It would be good to reproduce these numbers with our own geolocation and allocation numbers

- Compare it against other Blacklist sources/types
  Darknets, dnswl.org

- Use other country level metrics
  CGI, population, etc

- Compare DI or CPI? with other metrics
  Are there other Internet metrics (Number AS / GDP) that are related to DI or CPI?
URLs

- Composit Blocking List (country breakdown)
  http://cbl.abuseat.org/country.html

- Corruption Perceptions Index
  http://www.transparency.org/research/cpi/overview

- Democracy Index
  activity=download&campaignid=DemocracyIndex2011

Bradley Huffaker
CAIDA, UC San Diego
bradley@caida.org