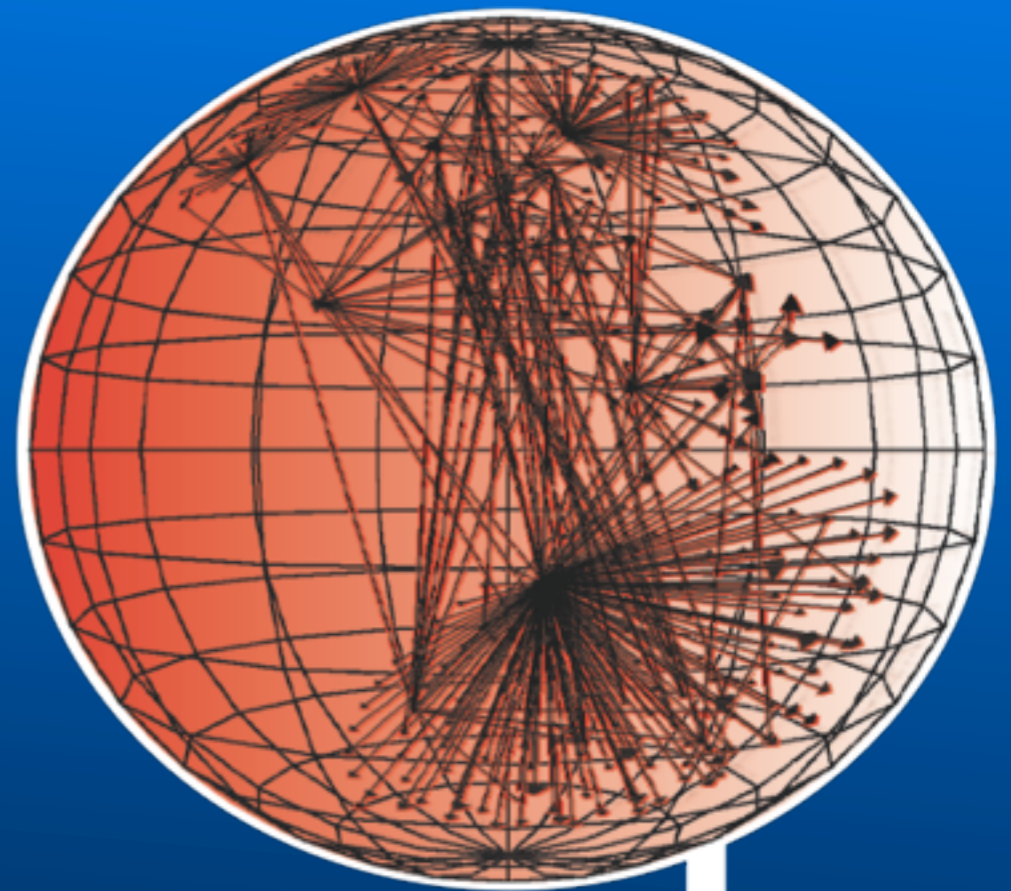


Country Governance and IP Reputation

Bradley Huffaker

Topology Meeting

Naval Postgraduate School, June 2013



caida



Outline

- Hypothesis
- Data
- Analysis
- Future Work
- URLs



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Hypothesis



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



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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

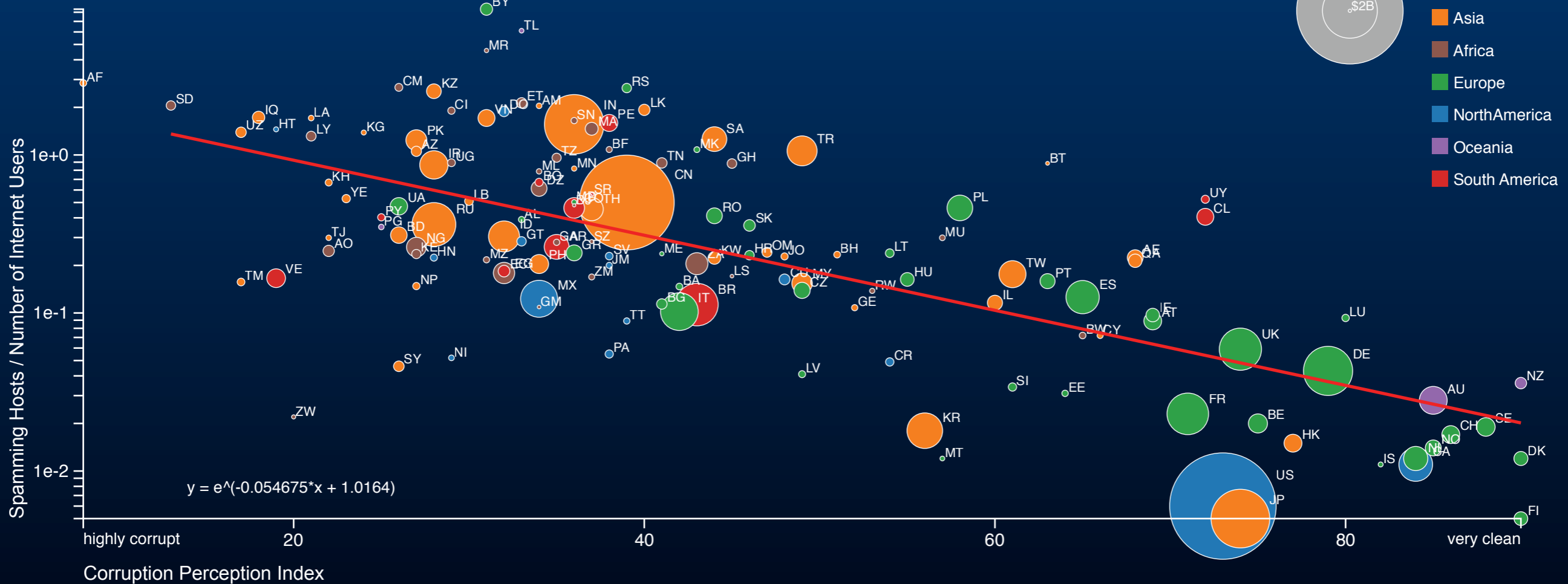
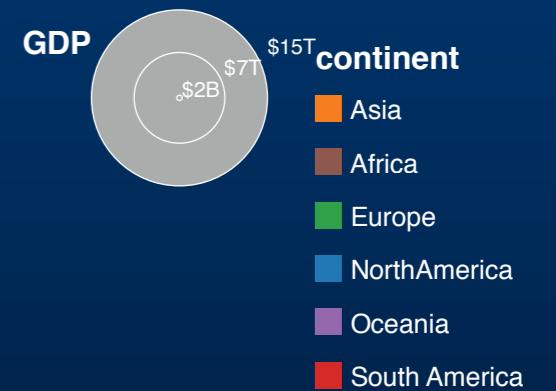


Outline

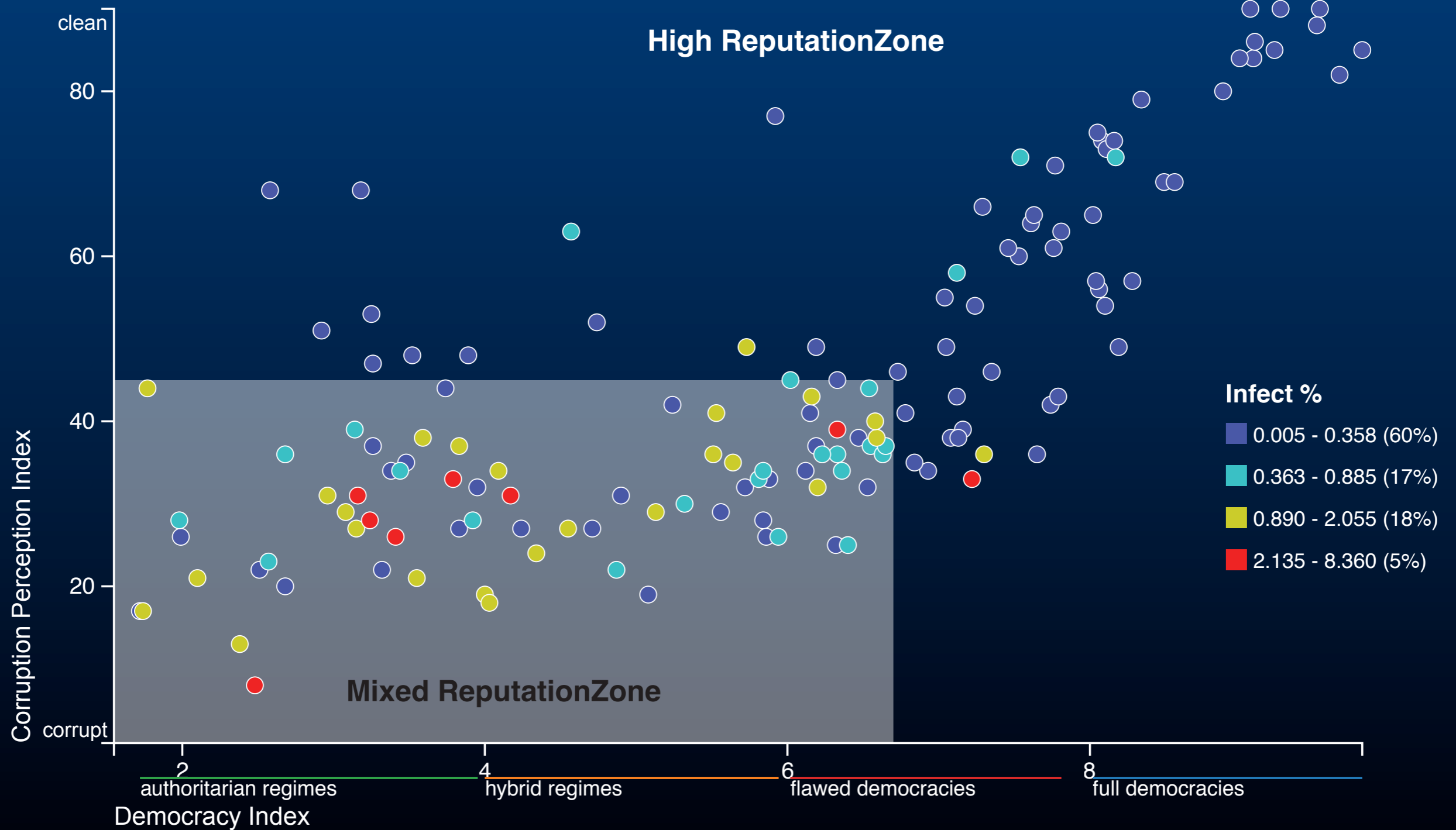
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Country level IP Reputation

<http://www.caida.org/research/policy/country-level-ip-reputation/>



Country level IP Reputation





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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



<http://www.caida.org/research/policy/country-level-ip-reputation/>

- Composit Blocking List (country breakdown)

<http://cbl.abuseat.org/country.html>

- Corruption Perceptions Index

<http://www.transparency.org/research/cpi/overview>

- Democracy Index

http://www.eiu.com/public/thankyou_download.aspx?activity=download&campaignid=DemocracyIndex2011

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