

Analysing the Extent of Global Offshoring Activities



Network Analysis of Global Offshoring & Tax Avoidance Behaviour

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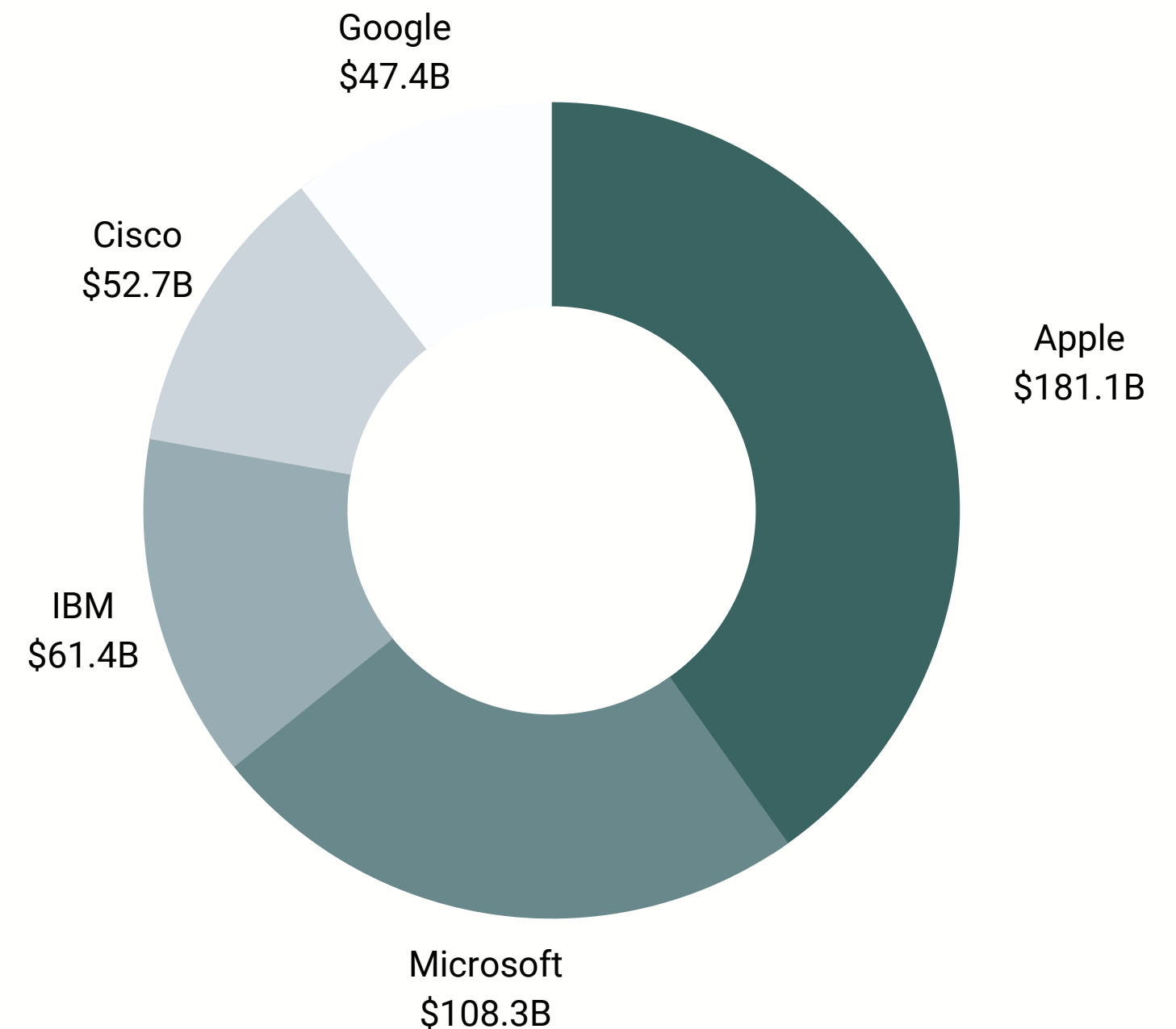
Offshoring & Tax Avoidance

Offshoring is done for both legitimate and nefarious reasons.

Looking into global offshoring network gives the possibility to uncover secret asset holdings, done by eminent individuals or entities.

This is is a **high priority social problem** due to its massive scale and extent.

Amount of Money Top 5 U.S Tech Companies held in Offshore Activities Overseas



Social Costs & Prevalence of Offshoring



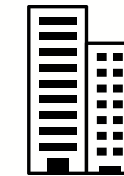
USD\$500 - 600 Billion

Estimated global loss of tax money annually due to offshore activities.



10% of world GDP

Estimated amount retained in tax havens.



200 countries

Were connected to the global offshore network, whether through individuals or entities.



Offshore Leaks (2013)

>100,000 entities through Portcullis Trustnet and Commonwealth Trust Limited



Panama Papers (2016)

>200,000 entities; Data from Panamanian law firm Mossack Fonseca



Bahamas Leaks (2016)

People linked to companies registered in Bahamas between 1990 - 2016



Paradise Leaks (2017)

>290,000 entities; 1 specialised law firm and 19 registries/providers



Pandora Papers (2021)

14 offshore providers, information on wealthy elites on >200 countries

Our Data Sources

ICIJ Offshore Leaks Database

Proposed Objectives

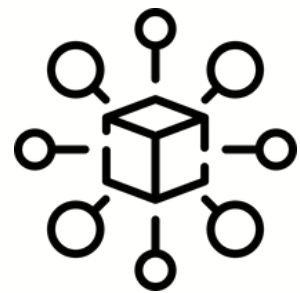
Identification of Network Structure (Descriptive)

1. Can we identify and cluster the behaviours of certain countries?
2. Can an actor be removed to disrupt the network?

Change in Network Behaviour (Causal)

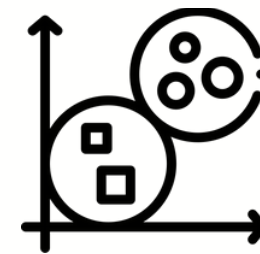
1. Do specific world events trigger an uptick in offshore activities?
2. Do new regulations or tax related laws change the network structure?

Proposed Network Solutions



Network Measures

Use centrality measures and page rank to learn about the network structure.



Cluster Analytics

Use clustering to identify similar groups and behaviours of individuals, entities or countries.



Network Visualisation

Use chord diagrams to understand overlaps and relationships between individuals, entities or countries.



Robustness Disruption

Apply disruption strategies (e.g: targeted randomized and attractor-guided) to measure an actor's importance within the network.

References

1. <https://www.imf.org/external/pubs/ft/fandd/2019/09/tackling-global-tax-havens-shaxon.htm>
2. <https://www.sciencedirect.com/science/article/pii/S2405844020311373>
3. <https://offshoreleaks.icij.org/pages/database>
4. <https://www.sciencedirect.com/science/article/pii/S0198971519305691>

Thank you!

Feel free to approach us if
you have any questions.