

Corporate Global Catastrophic Risks (C-GCRs)

Hauke.Hillebrandt@gmail.com

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Epistemic status

Very uncertain and speculative. I don't excessively hedge my claims throughout for clarity's sake ('better wrong than vague').

Summary

Are corporations causing global catastrophic risks (C-GCRs)?

Here, I argue for this to be true, based on the following claims:

1.

Corporations grow ever larger over time.
2.

Corporations grow exponentially more powerful over time.
3.

Corporations cause exponentially more regulatory capture over time.
4.

Corporations cause exponentially larger externalities over time.

If all these claims are true and cannot be falsified, then it follows that the externalities of big, powerful, unregulated corporations will increase over time to the level of GCRs.

I then argue for the following corollaries:

1.

Corporations are already the distal cause and main driver of anthropogenic and emergent technological GCRs such as global catastrophic biological risks (GCBRs).
2.

C-GCRs are a bigger threat than GCRs from state actors.
3.

C-GCR reduction is more effective than targeted GCR reduction because it is broader, large in scale, neglected, and solvable.

I suggest concrete policy proposals to reduce C-GCRs, by diversifying corporate ownership, enforcing corporate taxes, and optimizing funding for regulatory agencies.

1. Are corporations growing ever larger?

Economic theory suggests that corporations try to maximize profits. Incentives create strong selective pressure for corporations to grow (e.g. because they benefit from economies of scale).¹

Empirically, corporations have become much bigger especially in the last ~20 years, because of cross-border mergers & acquisitions.²

- Revenues of the Fortune 500 increased from 58% to 73% of US GDP
- Bigger, Fortune 100, corps grew even faster: from 33% to 46% of GDP. Their share of Fortune 500 revenues increased from 57% to 63%.³ This is due to revenues from abroad. The point here is **not** the size of states relative to their domestic firms, but the size of the largest corporations (proxied by the Fortune, even though Fortune **Global** would be better) and the largest state actors (the US).
- Of corporations with \$1bn+ revenues the top 10% now capture 80% of profits—up 1.6x.⁴
- Industries become 'increasingly dominated by 'superstar firms' with high profits and a low share of labor in firm value-added and sales'.⁵ For instance, Walmart has >2 million employees, FAANG corps only on the order of 100k.
- Markups, the ratio of the price to the marginal cost of production, have also increased.

This trend should continue: some corporations' market capitalizations are ~\$1tn.⁶ This is a proxy for market valuation—the discounted sum of all future profits. Profits and revenues correlate, so the market predicts that corporate revenues

¹ Breaking down the barriers to firm growth in Europe

² States versus Corporations

³ FiveThirtyEight - Big Business Is Getting Bigger

⁴ McKinsey Global Institute ‘Superstars’ — The dynamics of firms, sectors, and cities leading the global economy

⁵ David Autor - The Fall of the Labor Share and the Rise of Superstar Firms

⁶ List of public corporations by market capitalization

and thus power will increase. Multinationals can grow bigger than non-multinationals because of cross-border M&A.⁷

As a rule, corporations grow larger over time.

2. Do corporations optimize to become exponentially more powerful over time?

Power is roughly proportional to how many resources an agent has to achieve its goals.

Recently, researchers have proposed that states' 'budgets' (tax revenues) and corporations' 'budgets' (revenues minus their profits) are comparable in that they are crude, but useful proxies for their power (despite corporations and states spending on different things).⁸

For instance, Shell's revenue/budget to sell fossil fuels is \$272bn.⁹ About half of Boeing's \$96bn revenue comes from its defense contractor subsidiary—the amount of power to sell military equipment.

Big state actors (e.g. U.S., EU, China) have the biggest budgets (+\$1tn).¹⁰ But, surprisingly, some corporations now have ~\$0.5tn budgets. Walmart has higher revenues than Spain or Australia and Apple has higher revenues than Belgium or Mexico. 71 out of the 100 actors with the most revenue/power are corporations with combined budgets of \$10tn vs. \$18tn in combined budgets of the 29 states (see Appendix; [spreadsheet](#)).

If a corporation spends just 0.1% of its \$0.5tn annual budget on things that might cause negative externalities, this equates to \$0.5bn. For instance, Apple spends >\$1bn/year on marketing. Lobbying budgets could increase to a similar level.

Also, corporations sometimes combine their power. For instance, if lobbying for certain favorable regulations benefits a whole industry, this creates a free-rider problem. Corporations routinely solve this problem by sharing lobbying costs and throwing budgets together to fund industry bodies and trade associations. This way, corporations become even more powerful. In contrast, state power is curtailed by mandatory and entitlement spending taking up an increasing share of their budgets (e.g. >70% in the US).¹¹

Overall, corporate power has increased to the level of many state actors.

3. Do corporations cause exponentially larger externalities over time?

⁷ List of multinational corporations - Wikipedia

⁸ States versus Corporations

⁹ States versus Corporations

¹⁰ Wikipedia — List of public corporations by market capitalization

¹¹ Wikipedia - US federal budget #Mandatory spending and entitlements

As corporations grow, they create exponentially larger:

- externalities, both positive and negative
- consumer surplus, but also harm to consumers

Historically, big corporations robustly increased net social welfare—outweighing negative externalities.^{12,13,14} Positive externalities: Larger corporations contribute disproportionately to the economic performance of countries- they are more productive, pay higher wages, enjoy higher profits and are more successful in international markets.¹⁵ Uber's easily quantifiable consumer surplus is ~\$3bn.¹⁶ Even the attention economy, vilified for wasting trillions in people's time, might actually create billions in consumer surplus through more content and more efficient ads.¹⁷

But Big Business (such as Big Oil, Tobacco, Alcohol, Pharma, Food, Meat, Agro, Tech, Media, Finance), also creates increasingly negative externalities and harm consumers.

Empirically, we have seen Big Business increasingly playing a large part in the following negative externalities:

- The Global Obesity Epidemic:** 2 billion people are overweight¹⁸ (though some costs are internalized by consumers)
- The Global Tobacco Epidemic:** 1 billion people might die prematurely¹⁹ (though some costs are internalized by consumers)
- Factory farms:** 50 billion animals/year killed.²⁰
- 2008 financial crisis:** >100% GDP cost for the U.S. (\$50k-\$120k for every U.S. household)²¹ and caused 500k excess cancer-related deaths worldwide (through increased unemployment).^{22,23}
- The prison-industrial complex** incarcerates many people and lobbies²⁴ (but see ²⁵)
- Addictive technologies (e.g. social media, smartphones)** affect billions and have been called an emerging public health problem.^{26,27}

In theory, corporate profit-maximization functions should correlate strongly with the social welfare maximization function. But if consumer choice does not correlate perfectly with (long-term average, total) utility (of all

morally-relevant agents), then even a small divergence might result in side-effects causing large negative externalities. Because destroying value is easier than creating value, negative externalities can become very high as evidenced by the examples above. Consider climate change: this is not merely a coincidence, but the result of something inevitably causing harm as a by-product of ruthless optimization.

Thus, as a rule, as corporations grow they cause exponentially larger positive externalities, consumer surplus and utility, but also cause exponentially larger negative externalities, harm consumers and disutility.

4. Do corporations cause regulatory capture proportional to their size?

In economics, governments are to reduce businesses' negative externalities via regulation. But governments are increasingly unable to regulate large corporations. Why?

- Historically, corporate and state power was coupled, because corporate tax on profits increased government budgets proportionally. But average global corporate tax rates are decreasing, from 47% (GDP-weighted: 39%) in 1980 to only 23% (GDP-weighted: 26%) in 2018.²⁸ Corporations actively try to avoid taxes.²⁹
- Governments' capacity to regulate has decreased: between 1979 and 2005, both US House committee and Government Accountability Office staff decreased by ~40%; *Research Service* staff, which provides nonpartisan policy analysis to lawmakers, by 20%.³⁰
- Corporations can use lobbying for regulatory capture³¹. The economics literature has long worried about increasing regulatory capture.³² Generally, lobbying has increased in recent years³³. In the US, corporations spend about \$3bn/year lobbying the government³⁴. In the EU, lobbying has also increased in recent years.³⁵ In particular, Big Tech's and Finance's lobbying budgets have increased.^{36,37}

In general, increasingly powerful corporations can promote their interests through lobbying and evade increasingly weak government regulation through regulatory capture.

5. Are anthropogenic and emergent technological GCRs a form of C-GCR?

²⁸ Tax Foundation - Corporate Tax Rates Around the World

²⁹ Corporate Tax Avoidance Remains Rampant

³⁰ Lindsey - The Captured Economy

³¹ Stigler - The Theory of Economic Regulation

³² Regulatory Capture - A Review

³³ Modern Lobbying: A Relationship Market

³⁴ Tyler Cowen - Big Business

³⁵ LobbyFacts Database

³⁶ Google, Amazon, and Facebook all spent record amounts last year lobbying the US government

³⁷ Igan - Bank Lobbying: Regulatory Capture and Beyond

Because humanity has survived for >200k years, natural GCRs (e.g. asteroids, pandemics) only have a 0.1%-1% risk of causing extinction per century. This might be 10x less than man-made GCRs (e.g. nuclear war, engineered bioweapons, AI, climate change).³⁸, ³⁹

Corporations spend more on R&D than governments.⁴⁰ Generally, corporations are relevant actors in areas of anthropogenic GCRs from emerging technology such as risks from AI⁴¹, GCBRs⁴², climate change, and war.

- Nuclear weapons:** The U.S. plans to spend \$1.7 trillion on nuclear weapons in the coming years⁴³—a share of which will go to corporate contractors.

- Bio-risk:** Corporations have received billions in recent years to work on synthetic biology, a field changing the bio-economy, worth several trillions.^{44,45} Since 2001, US biodefense research spending has increased 20-fold, even though it does not (yet) meet the definition of a biomedical military–industrial complex.⁴⁶

- AI-risk:** Corporations are the main driver of developments in AI and spend billions on R&D.⁴⁷ The level of technical AI expertise at leading AI labs is substantially higher than that within the US military.⁴⁸ Competitive pressure to develop AI is the only reason for AI risk because it takes away the option of slowing down AI development until we have a good solution to the alignment problem.⁴⁹

Corporations also lobby on GCR-relevant issues:

- Climate change:** World Energy expenditure is in the trillions.^{50,51} Thus, it makes sense that fossil fuel companies have spent >\$1Bn on misleading climate-related lobbying.⁵² Climate change might be a GCR edge case: its direct effects might not be an x-risk, but its indirect effects could cascade to GCR-level given that there is a 10% risk of >6°C warming (see ⁵³ for discussion).

³⁸ Toby Ord — Will We Cause Our Own Extinction? Natural versus Anthropogenic Extinction Risks

³⁹ An upper bound for the background rate of human extinction.

⁴⁰ Global private and public R&D funding

⁴¹ The Malicious Use of Artificial Intelligence: Forecasting, Prevention, and Mitigation

⁴² Schoch-Spana et al. - Global Catastrophic Biological Risks: Toward a Working Definition

⁴³ Congress Of The United States Congressional Budget Office—Approaches for Managing the Costs of U.S. Nuclear Forces, 2017 to 2046

⁴⁴ Center for Biosafety Research and Strategy, Tianjin University, China — Synthetic biology: Recent progress, biosafety and biosecurity concerns, and possible solutions

⁴⁵ Synthetic Biology in the Driving Seat of the Bioeconomy

⁴⁶ A biomedical military–industrial complex?

⁴⁷ Artificial intelligence: The next digital frontier? - McKinsey

⁴⁸ 80000hours.org - US AI policy profile

⁴⁹ Thomas Sittler - A shift in arguments for AI risk

⁵⁰ World energy expenditures

⁵¹ Energy expenditure, economic growth, and the minimum EROI of society

⁵² Influencemap.org - Big Oil's Real Agenda on Climate Change

⁵³ John Halstead - Is climate change an existential risk?

¹² Steven Pinker - Enlightenment Now

¹³ Tyler Cowen - Big Business

¹⁴ Big Is Beautiful

¹⁵ Breaking down the barriers to firm growth in Europe

¹⁶ Using Big Data to Estimate Consumer Surplus

¹⁷ The Economics of Attention Markets

¹⁸ Health Effects of Overweight and Obesity in 195 Countries over 25 Years

¹⁹ The Global Tobacco Epidemic

²⁰ Factory farming - 80,000 Hours

²¹ Staff Papers

²² Economic downturns, universal health coverage, and cancer mortality in high-income and middle-income countries, 1990–2010

²³ Financial crisis may have caused 500,000 cancer deaths worldwide: study

²⁴ Prison–industrial complex - Wikipedia

²⁵ Are private prisons driving mass incarceration?

²⁶ Problematic smartphone use: Digital approaches to an emerging public health problem

²⁷ Adam Alter - Irresistible

- **Nuclear War / Great power war:** Corporations are lobbying to get NATO countries to spend 2%/GDP on defense.⁵⁴ The US ICBM program was partially created due to corporate lobbying.⁵⁵ Defense company Lockheed Martin has the second most lobbyists in DC (31 in-house lobbyists + 53 connections with lobbying firms).⁵⁶ In France, India, UK, and the US, corporations make atomic bombs.⁵⁷ Corporations made +\$2bn in profit in the last 10 years, and there are many safety risks, while the *National Nuclear Security Administration* is understaffed.⁵⁸ China's and Russia's nuclear weapons programs are government-owned and controlled, but some talk about a Russian nuclear-industrial complex.⁵⁹
- **Biorisk:** Biotech-pharma has diluted the *Biological Weapons Convention* verification protocol and influenced the US to reject it.⁶⁰
- **Other emerging tech:** Fukushima has been cited as a case study for emergent technological GCRs: the Japanese nuclear sector had revolving doors to the regulator, 'destined to result in [...] regulatory capture.'^{61,62}

Thus, corporations deserve special attention when horizon-scanning for emerging technological GCRs as they are their distal cause.

6. C-GCR reduction is more effective than targeted GCR from emerging tech reduction

Reducing C-GCRs is a more generalized intervention than targeted reduction of GCRs from emerging tech. Its broad cross-cutting nature makes it more effective.⁶³

Because corporations will create as of yet unknown emerging tech that causes GCRs, C-GCR reduction is good for horizon-scanning and preventative GCR reduction. Regulators or altruists who focus on particular GCRs play Whac-A-Mole with corporations. Every industry can create its own GCR- for instance, see research on GCRs from chemicals.⁶⁴ Even if one is particularly concerned about just one GCR from say AI, C-GCR prevention is more effective than targeted GCR reduction, because the distal source of it comes from corporations.

What can be done? I go through some policies in the next sections.

7. Policy solutions to decrease corporate GCRs

1. Breaking up big corporations

A natural response might be to limit corporate size, however, I do not think this is a good policy. In theory, because corporations cause exponentially more disutility as they grow, breaking up big corporations (or preventing M&A) to lower their power might reduce the size of their externalities. But because there is no consensus amongst economists on whether governments should regulate the size of big corporations more generally (e.g. through preventing M&A or breaking them up).^{65,66}, this policy seems very intractable, as countries will worry too much about their economic competitiveness.

CSET- Antitrust and Artificial Intelligence

2. Increasing corporate taxes for bigger corporations

Corporate taxes have some advantages, but they are not usually considered to be Pigovian⁶⁷ (and might also have other drawbacks⁶⁸). But in light of C-GCRs, corporate taxes become Pigovian because corporations are usually causing large externalities. Increasing (the progressiveness of) corporate taxes (i.e. the bigger the corporation the higher the tax)⁶⁹ might reduce C-GCRs.

But currently corporate tax is regressive. Why? Because bigger corporations are better at avoiding tax by shifting profits overseas, and thus have a lower tax rate than smaller firms.⁷⁰ A politically tractable solution might be to reduce corporate tax avoidance.

A solution might be to tax the self-assessed value of a corporation's domestic legal entity.⁷¹ At the self-assessed value would ba strike price that they'd be required to sell it to anyone. For instance, Apple pays little corporate tax in the UK, because Apple UK does not make a lot of profit. But getting Apple to give a true estimate of the value of Apple UK Ltd and putting say a 5% tax might be harder to avoid.

3. Mission hedging to fund regulators

A foundation whose mission is to stop climate change can invest their endowment using 'mission hedging' by investing in fossil fuel stocks.⁷² This way it has more money to give to organizations that combat climate change when more fossil fuels are burned, fossil fuel stocks go up and climate change will get particularly bad. When fewer fossil fuels are burnt and fossil fuels stocks go down, the foundation will have less money, but it does not need the money as much. Generally, increasing investment in objectionable

corporations creates a hedge around an actor's mission, which sometimes, maximizes expected utility.⁷³

Similarly, governments can use mission hedging to reduce C-GCRs. For instance, governments can set up a sovereign wealth fund that invests in an index fund that covers all corporations weighted by market capitalization or revenue. Dividends from individual corporate stocks could then be used to fund regulators so their budgets increase with corporate size. In other words, if Apple revenue/power increases and Apple stocks generate higher returns, this would increase the staff/budget of a department within a regulatory agency tasked with regulating Apple. Similarly, the sovereign wealth fund could also own stocks of foreign firms to fund intelligence agencies to monitor foreign corporations.

4. Diversifying corporate ownership through sovereign wealth funds and reducing home bias

If the ownership of corporations would be more diversified more, then there would be fewer incentives to create externalities. In other words, if everyone were a shareholder of Big Oil, then shareholder value might be maximized by reducing emissions. This is because both profits and negative externalities are shared more widely and nobody has an advantage from profiting from untaxed externalities.

This might also reduce arms races: if a technology's up- and downsides are shared, then it decreases adversarialism and increases collaboration.⁷⁴ Relatively few individuals sometimes own and control major AI corps (FAANG).^{75,76} In contrast, ~25% of Baidu is owned by 10 Western funds (Vanguard, Blackrock, etc).⁷⁷

Governments setting up sovereign wealth funds that invest in an index fund that covers all corporations weighted by market capitalization or revenue would diversify ownership.

This policy might be politically tractable. Countries such as China now allow fully foreign-owned enterprises,⁷⁸ increasing government-ownership of corporations has recently been suggested,⁷⁹ and sovereign wealth funds might increase tax receipts⁸⁰ and create a hedge against risks to the domestic economy. Note that governments being minority shareholders across an industry would be different from state-owned enterprises that often create more externalities than private firms.⁸¹

Another way to diversify ownership of corporations might be to reduce home bias, where countries and people hold suboptimal amounts of foreign equity.

⁵⁴ Defense Contractors Say Russian Threat Is Great

⁵⁵ Who's Really Driving Nuclear-Weapons Production?

⁵⁶ Tyler Cowen - Big Business

⁵⁷ Don't Bank on the Bomb

⁵⁸ Light penalties and lax oversight encourage weak safety culture at nuclear weapons labs

⁵⁹ The Russian Nuclear-Industrial-Complex

⁶⁰ Unwarranted Influence? The Impact of the Biotech-Pharmaceutical Industry on U.S. Policy on the BWC Verification Protocol

⁶¹ Classifying global catastrophic risks

⁶² A Nuclear Complex? A Network Visualization of Japan’s Nuclear Industry and Regulatory Elite

⁶³ Nick Beckstead - A Proposed Adjustment to the Astronomical Waste Argument

⁶⁴ Global Catastrophic Risks from Chemical Contamination

⁶⁵ IGM Forum - Breaking Up Large Tech Companies

⁶⁶ IGM Forum - Breaking up European Champions

⁶⁷ Why Tax Corporations?

⁶⁸ Good recent review paper on corporate taxes effects

⁶⁹ Why isn't the corporate income tax progressive?

⁷⁰ Corporate Tax Avoidance Remains Rampant

⁷¹ Glen Weyl – Radical Markets

⁷² Brigitte Roth Tran - Divest, Disregard, or Double Down?

⁷³ Hauke Hillebrandt - A generalized strategy of ‘mission hedging’

⁷⁴ Amanda Askill on the 80k podcast

⁷⁵ The Top 5 Google Shareholders

⁷⁶ The Top 6 Shareholders of Facebook

⁷⁷ Baidu Shareholders

⁷⁸ China unveils draft law to allow fully foreign-owned enterprises

⁷⁹ Mariana Mazzucato - The Entrepreneurial State

⁸⁰ Paul Christiano on Sovereign Wealth Funds

⁸¹ When Governments Regulate Governments

US investors have 78% of their equity portfolio in U.S. stocks, which are only a third of world market portfolio, by capitalization.⁸² Reducing home bias as an intervention might be tractable because getting home biased investors to diversify ownership of corporations might also benefit them financially. This might be an alternative to windfall clauses.⁸³ Governments could grant tax incentives to their citizens invest in foreign equities or give incentives for diversifying their portfolio.

Coda: Are corporations optimization demons?

2.5bn years ago stromatolites changed the atmosphere from a CO2-rich to O2-rich through photosynthesis, because they had no competition.⁸⁴ A corporation might not be a superintelligence,⁸⁵ but it might create one. We should not let corporations lead on AI governance as has been suggested.⁸⁶ Usually, CSR/PR is relatively small relative to lobbying activities and externalities corporations create (e.g. fossil fuel companies will sometimes come out for a carbon tax, but then spend money on anti-climate lobbying; corporations will invest a small amount of money into AI safety but spend much more AI R&D).

In sum, I think it might be useful to think of corporations as dangerous optimization demons which will cause GCRs if left unchecked by altruism and philanthropy.⁸⁷

⁸² Literature review on Home Bias

⁸³ Allen Defoe - AI Strategy, Policy, and Governance

⁸⁴ Stromatolites

⁸⁵ Corporations vs. superintelligences - Arbital

⁸⁶ Jade Leung - Why Companies Should be Leading on AI Governance

⁸⁷ Paul Christiano - More realistic tales of doom

Appendix: Top 100 state and corporate actor by revenue ≈ power (Fortune Global 2017)

Adapted from Barbic et al. 'States versus Corporations'

Spreadsheet here

1	United States		\$3,363bn
2	China		\$2,465bn
3	Japan		\$1,696bn
4	Germany		\$1,507bn
5	France		\$1,288bn
6	United Kingdom		\$996bn
7	Italy		\$843bn
8	Brazil		\$632bn
9	Canada		\$595bn
10	Walmart	US	\$482bn
11	Spain		\$461bn
12	Australia		\$421bn
13	State Grid	CN	\$330bn
14	Netherlands		\$323bn
15	Korea		\$304bn
16	ChinaNat.Petroleum	CN	\$299bn
17	Sinopec Group	CN	\$294bn
18	Royal Dutch Shell	NL/ GB	\$272bn
19	Sweden		\$248bn
20	ExxonMobil	US	\$246bn

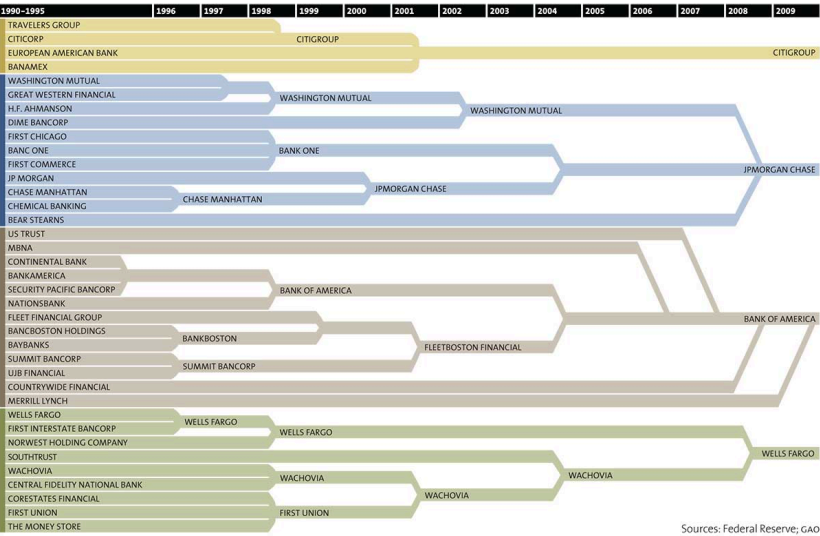
21	Volkswagen		\$237bn
22	Toyota Motor	JP	\$237bn
23	Apple	US	\$234bn
24	Belgium		\$232bn
25	BP	GB	\$226bn
26	Mexico		\$224bn
27	Switzerland		\$216bn
28	Berkshire Hathaway	US	\$211bn
29	India		\$200bn
30	Norway		\$200bn
31	McKesson	US	\$192bn
32	Russia		\$187bn
33	Austria		\$187bn
34	Turkey		\$184bn
35	Samsung Electronics	KR	\$177bn
36	Glencore	CH/ JE	\$170bn
37	ICBC	CN	\$167bn
38	Daimler	DE	\$166bn
39	UnitedHealthGroup	US	\$157bn
40	Denmark		\$157bn
41	EXOR Group	IT/NL	\$154bn
42	CVS Health	US	\$153bn

43	General Motors	US	\$152bn
44	VitolNL/CH		\$152bn
45	Ford Motor	US	\$151bn
46	ChinaConstr. Bank	CN	\$150bn
47	Saudi Arabia		\$150bn
48	AT&T	US	\$147bn
49	Total	FR	\$143bn
50	Hon Hai Precision Ind.	TW	\$141bn
51	General Electric	US	\$140bn
52	CSCEC	CN	\$139bn
53	Amerisource Bergen	US	\$136bn
54	Agricultural Bank of China	CN	\$133bn
55	Verizon	US	\$132bn
56	Chevron	US	\$131bn
57	E.ON	DE	\$130bn
58	AXA	FR	\$129bn
59	Indonesia		\$129bn
60	Finland		\$128bn
61	Allianz	DE	\$123bn
62	Bank of China	CN	\$122bn
63	Honda Motor	JP	\$121bn

64	Cargill	US	\$120bn
65	Japan Post Holdings	JP	\$119bn
66	Costco	US	\$116bn
67	Argentina		\$116bn
68	BNPParibas	FR	\$112bn
69	FannieMae	US	\$111bn
70	PingAnInsurance	CN	\$110bn
71	Kroger	US	\$109bn
72	Société Générale	FR	\$108bn
73	Amazon.com	US	\$107bn
74	ChinaMobile Com.	CN	\$106bn
75	SAIC Motor	CN	\$105bn
76	Walgreens Boots Alliance	US	\$104bn
77	HP	US	\$103bn
78	Assicurazioni Generali	IT	\$103bn
79	Cardinal Health	US	\$103bn
80	BMW	DE	\$102bn
81	Express Scripts Holding	US	\$102bn
82	Nissan Motor	JP	\$102bn
83	ChinaLife Insurance	CN	\$101bn

84	J.P.Morgan Chase	US	\$101bn
85	Koch Industries	US	\$100bn
86	Gazprom	RU	\$99bn
87	China Railway Eng.	CN	\$99bn
88	Petrobras	BR	\$97bn
89	Schwarz Group	DE	\$97bn
90	Trafigura Group	NL/ S G	\$97bn
91	Nippon Telegraph & Tel.	JP	\$96bn
92	Boeing	US	\$96bn
93	Venezuela		\$96bn
94	China Railway Constr.	CN	\$95bn
95	Microsoft	US	\$94bn
96	Bank of America Corp.	US	\$93bn
97	ENI	IT	\$93bn
98	Greece		\$93bn
99	Nestlé	CH	\$92bn
10	WellsFargo	US	\$90bn

Graph shows mergers and acquisitions in the banking sector



Banking M&A chart

Notes

[2009.13676] The Grey Hoodie Project: Big Tobacco, Big Tech, and the threat on academic integrity

'One of the lesser known tactics of that campaign was to actually fund communication strategies that shifted the blame and the responsibility for carbon emissions from the corporations that are responsible for the systems that we rely on to get our energy from, to the individual.

ExxonMobil actually funding environmental organizations that encourage people to recycle and to drive less and to eat less meat, etc, etc. I'm not saying that we shouldn't do those things; we should absolutely do everything that we can to reduce our personal carbon footprint.'⁸⁸

Why Not Just: Think of AGI Like a Corporation?

Assessing Corporate Influence on Climate Change Dialogue | SpringerLink

https://influencemap.org/site/data/000/079/Corporate_Influence.pdf

Capitalism in Trouble When Companies Drain Value From Economy- Bloomberg

https://wp0.vanderbilt.edu/wp-content/uploads/sites/78/Spiro.pdf

https://www.ghi-dc.org/fileadmin/user_upload/GHI_Washington/Publications/Bulletin45/bu45_043.pdf

ctrl + f: value-added for a different measure of corporate power

CorporationDIS_2

Effective altruism discussion

Market Value For The World 100 Largest Multinational Corporations	\$16 trillion	(PwC, 2015).		2015
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State capture

New Report Calls Out Banks that Make Nuclear Weapons Investments- Future of Life Institute

differential tech dev: bigger state is good. higher taxes are good

more common law vs. civil law. Big fines for big corporations. huge fines for corporations.

Tax for FCA oder nuclear Industry

Chris Hughes Worked to Create Facebook. Now, He Is Working to Break It Up.-

New Report: Don't Be Evil- A Survey of the Tech Sector's Stance on Lethal Autonomous Weapons- Future of Life Institute

National and Transnational Security Implications of Asymmetric Access to and Use of Biological Data | Bioengineering and Biotechnology

- market cap is a direct measure of power, because it's the discounted future profits that are at stake. Apple's future profit is 1 trillion. If they're willing to spend 1% of these profits to further their objectives, then this is \$10 billion. The market cap of Philip Morris alone is \$140 billion.[33] Other harmful industries are also large enough to make mounting an effective impact investing campaign seem difficult. For example, the world's largest oil and gas companies had a market capitalisation of \$4 trillion at the end of 2012.[34]

Goliath | Book by Matt Stoller | Official Publisher Page

More than third of foreign investment is multinationals dodging tax | Financial Times

Taxing investment income is complicated – The sideways view

Very real progress on the market concentration debate- Marginal REVOLUTION

⁸⁸ Not Cool Ep 25: Mario Molina on climate action - Future of Life Institute

Antitrust policy, increasingly focused on elaborating on a specific class of economic models, has largely ignored [broad trends in the growth of market power](#) and categories of market power that had clear economic logic but did not fit the standard models, such as [the power of institutional investors](#), [the power of employers](#), and [the dynamics of high tech mergers](#). As a result, despite ever increasing expertise, evidence increasingly suggests that market power is near an all-time high in US history. This rise of market power largely unaddressed by existing antitrust institutions appears an important component of rising inequality, wage stagnation and the growth of illiberal populism of the left and right.

[A Genocide Incited on Facebook, With Posts From Myanmar's Military- The New York Times](#)

[Stakeholder Capitalism- IGM Forum](#)

[Too Much Dark Money In Almonds | Slate Star Codex](#)

[JADE LEUNG- DPHIL THESIS- Sep19.pdf](#)

[Why is there so little money in politics?](#)

[! Rent-seeking- Wikipedia](#)

[Should Artificial Intelligence Governance be Centralised?](#)

[Goliath: The 100-Year War Between Monopoly Power and Democracy](#)

[Policy Brief](#)Hm... but I actually just had another idea of how to fund regulators perhaps reducing perverse incentives and also optimizing more for negative externalities.

Consider that the EU has fined [Google \\$10bn](#). I think currently this is disbursed to go into the general budget.

But maybe one could buy Google stocks (or a technology ETF) with that money and use the dividends to fund digital regulation.

This way regulators would be incentivized to reduce negative externalities (through fining companies and the industry), but then also they'd be held back to completely wreck industries or companies, because they're financed by the overall health of the industry after the fine.

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