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Power and the commercial determinants of health: ideas for a research agenda

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Summary box

- With few exceptions, power has been overlooked in conceptualisations of the commercial determinants of health (CDoH), yet attention to and analysis of power are crucial to future research and advocacy efforts.
- Corporate actors exercise power through both coercion and appeasement—coercion is often antagonistic and thus more explicit and visible, while appeasement is more subtle, using concessions to 'pacify' or 'neutralise' industry opposition.
- Understanding how corporate actors exert power shows that the CDoH are not infallible—two important 'cracks' that public health advocates could amplify are vulnerable corporate reputations and conflicts within industry alliances.
- A power lens offers insights into the sources and consequences of corporate actors' market and political influence, as well as illuminates opportunities to challenge or diminish this power.

Researchers increasingly recognise a lack of definitional clarity around the commercial determinants of health (CDoH).[1–4] Common to many conceptualisations of CDoH is a focus on 'unhealthy commodities',[5–9] political practices,[9–12] business practices[5 7 11 13 14] and macro-level conditions.[4 8 11 15 16] A recent review[1] of CDoH definitions found many characterised as 'expressions of economic and political power wielded by large corporate entities, described as 'powerful economic operators". While some recognise power in CDoH,[2] power has often been overlooked. It is foundational to the future CDoH research agenda.

Research on CDoH often refers to power implicitly, for example, through references to 'powerful economic operators' or 'big' industries, for example, big tobacco or big food.[9 17 18] Power is also invoked as a tool that actors employ to keep issues off agendas,[19] frame agendas[20 21] and influence decision making.[22] This implies that certain industries and businesses are powerful, but why they are powerful or how they exercise power is often left unexplained. While it may be accurate to say that these actors are powerful, from a research and advocacy perspective, it is crucial to unpack how and why this is so and how this power shapes CDoH. For example, some political scientists have also considered some of the key drivers of CDoH like the tobacco industry from the lens of power[23]; however, this literature has not yet been integrated into the nascent CDoH literature.

Some CDoH researchers have begun to apply a more nuanced approach to power and CDoH, drawing on Luke's[24] three-dimensional concept of power to explore the different avenues through which the CDoH exercises power.[12 25] Luke's approach has previously been applied to business power,[26 27] and this framework is described in table 1 with illustrative examples. Thus far, research has focused more on the exercise of instrumental and discursive power, and less on structural power. For example, the taxonomies of corporate political activity[28–30] and the policy dystopia model[31–33] offer excellent frameworks to classify instrumental and discursive industry strategies, though they say less about structural power.

To advance this agenda, we elaborate on two considerations about power critical for the study of CDoH to enable a more rigorous and robust research and advocacy agenda.

First, the exercise of power can be both coercive or appeasing. The exercise of instrumental power, sometimes referred to as 'compulsory' power, often involves a visible conflict of interest between two parties—such as when the American sugar industry exerted its lobbying power and the US government threatened an international institution with a funding reduction should it publish guidelines on sugar intake.[34 35] Coercive power tends to be antagonistic, and thus more explicit and visible.[25 35] Examples of coercive power abound in the corporate political activity literature analysing the political strategies corporations use to protect their

Table 1 Luke's three faces of power and the CDoH

Three 'faces' of power	Mechanisms	Example
Instrumental	Exerts direct influence on decision makers, for example, via lobbying, campaign contributions, revolving door; highlights relationships commercial actors have with other stakeholders involved in policy making	In 2013, the American soft drink industry (Coca-Cola, PepsiCo and the American Beverage Association) spent $10.9 million dollars lobbying the US government.[82]
Structural	Influences the agenda-setting process that precedes decision making ('non-decision-making power') and can limit the range of choices available to policy makers; can also involve the acquisition of decision-making power via self-regulation	The political and economic importance of Mexico and Brazil's sugar cane industries influenced government's unwillingness to regulate the food industry.[83]
Discursive	Influences norms and ideas that underpin and precede agenda setting and political decision-making; shapes public opinion of issues and non-issues	The European Union lobby group FoodDrinkTax portrayed a sugar tax as a 'nanny state' intervention that limits 'personal freedom'.[84]

interests, for example, the use of aggressive lobbying or pre-emption to block or weaken public health policies.[31 36–38] Discursive and structural forms of power can also be coercive, such as mounting overt campaigns to characterise policies as 'nanny state'[31] or threatening to relocate a business or to lay off workers if unwanted policies are passed.[39]

Appeasement and accommodation are much more subtle and are not always legible as an expression of power. They can include accommodations and concessions to diffuse challenges to the status quo, reduce and distort pressure for transformative change.[40–43] Levy and Newell[44] and Levy and Egan[40] describe the use of accommodations as a 'passive revolution' to appease industry critics. Similarly, corporate social responsibility initiatives are described as a strategy to 'neutralise opposition', 'pre-empt viable threats' and absorb 'counter hegemonic forces'.[41 45] As with coercive forms of power, appeasement also cuts across Luke's three 'faces' of power. In the late 1990s, for example, in response to the threat of regulation of emissions, the automobile industry began to invest in low-emission technologies and to promoted a 'win–win' rhetoric of environmental sustainability and corporate profits.[40] An earlier example from the soft drink industry was the promotion of voluntary recycling programmes as an alternative to proposed bans and taxes on disposable beverage containers in the USA in the 1960s and 1970s.[43 46] A key consequence of these accommodations and concessions is their potential to 'pacify' industry opposition.[47 48]

Thinking of power in these terms offers important insights into the nature and outcomes of corporate political strategies and helps illuminate how power is exerted and shapes policy making. It is also largely overlooked in the emergent literature on power in health policy and systems research.[49] Coercive strategies tend to foster reciprocal antagonism, whereas appeasement has the potential to foster goodwill and even facilitate important relationships. The value of the appeasement strategy can be seen in the food and alcohol industries, where the rhetoric of partnerships and collaboration has become the norm in global policy settings.[50 51] These public–private partnerships are often criticised for providing more benefits for businesses than public health.[52] Further, because many in public health remain suspicious of appeasement initiatives and the industry's intentions, this strategy has also fragmented the public health community, with those who see industry actors as potential partners on one side and those who prefer a tobacco-style command and control approach on the other.[50 51 53 54] As interest group cohesion is a predictor of political influence, the absence of a unified public health alliance has important consequences.[54–56] Lastly, some appeasement strategies (eg, product reformulation) can in fact increase market resources,[57 58] which can then be translated into political power and influence.

Second, appreciating material resources abetting the exercise of power can help identify openings or 'cracks' in corporate power. Attention to corporate vulnerabilities can identify points of fragility in corporate power—the 'weak links',[59] cracks[60] or 'points of leverage'.[61 62] While these industries are powerful, they are not infallible or redressable. For example, Fuchs[26] argues that theories of power seeking to include and analyse corporate power must integrate a concept of power 'vulnerability' to account for the barriers corporations face.

One potential 'crack' is corporate reputations or legitimacy.[26 63] Legitimacy is key for accessing politicians and for gaining access to the policy-making table or invitations to join or be part of public–private partnerships. The tobacco industry's loss of legitimacy serves as both a warning and lesson for other industries facing criticism of how their products and practices impact health[64 65]; indeed, the alcohol industry, for example, has actively sought to avoid the pariah status of the tobacco industry and actively pursued engagement and partnerships to avoid this fate.[66 67] Legitimacy is also crucial to ensure that audiences believe and trust messages (ie, framing strategies).[27] Already we can observe that some political strategies are becoming denormalised, for example, the funding of research and political donations.[68–70] This presents opportunities for public health advocacy to strategically denormalise industries or practices. While identifying these practices is often challenging, as corporations seek to camouflage them, the open access Industry

Documents Library[71] offers a useful resource to expose and denormalise unscrupulous industry practices.

A second potential crack is industry alliances. These organisations can be powerful lobbying tools which speak with a single (well-funded) voice (in contrast to the more fragmented and less well-funded efforts of public health groups). However, there is potential for issues to generate business conflict and to undermine those alliances.[72] The idea that there are tensions and conflicts within the business and financial world aligns with calls for a more nuanced understanding of the diversity of interests and actors that fall under the umbrella of the private sector.[73–75] Debates in the USA over added sugar and genetically modified organism labelling have created divisions between companies favouring and opposing the policies, leading several global food companies to drop their membership in the Grocery Manufacturer's Association (the national trade association for packaged food companies).[76–78] There may be a willingness among packaged food companies to accept a narrower public health advocacy target of sugary drinks to avoid a more comprehensive scope that focuses on sugary foods or ultraprocessed foods. When Mexico first proposed a tax on sugary drinks, the soft drink industry proposed expanding the tax from sugary drinks to all sugary foods,[79] a strategy that it has also adopted in other countries.[80] According to one report, the Mexican food industry was so 'furious' that the soft drink industry dropped the proposal.[79] Sugary drinks have also been singled out by corporate shareholders, for example, some of PepsiCo's shareholders had proposed separating the more profitable snack division from the struggling beverage division of PepsiCo's portfolio.[81] Amplifying or otherwise taking advantage of these areas of business conflict could enable public health advocates to challenge or diminish the political power that comes from strong interest group alliances.[56]

A crucial first step to addressing the CDoH is to unpack, disaggregate, interrogate and thoroughly scrutinise the myriad sources and forms of corporate power. A deeper and richer understanding of power can bolster the political and strategic savvy of public health advocates and their allies.

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REFERENCES

1 de Lacy-Vawdon C, Livingstone C, CJBph L. Defining the commercial determinants of health: a systematic review. *BMC Public Health* 2020;20:1–16.
2 Lee K, Freudenberg N. *Addressing the commercial determinants of health begins with clearer definition and measurement*. London, England: SAGE Publications, 2020.
3 Paichadze N, Werbick M, Ndebele P, *et al*. Commercial determinants of health: a proposed research agenda. *Int J Public Health* 2020;65:1147–9.
4 Lee K, Crosbie E. Understanding structure and agency as commercial determinants of health comment on "how neoliberalism is shaping the supply of unhealthy commodities and what this means for NCD prevention". *Int J Health Policy Manag* 2020;9:315–8.
5 Moodie R, Stuckler D, Monteiro C, *et al*. Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *Lancet* 2013;381:670–9.
6 Collin J, Hill S. Industrial epidemics and inequalities: the commercial sector as a structural driver of inequalities in non-communicable diseases. In: Smith KE, Bambra C, Hill SE, eds. *Health inequalities: critical perspectives*. Oxford: Oxford University Press, 2016.
7 Stuckler D, McKee M, Ebrahim S, *et al*. Manufacturing epidemics: the role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco. *PLoS Med* 2012;9:695.
8 Lencucha R, Thow AM. How Neoliberalism is shaping the supply of unhealthy commodities and what this means for Ncd prevention. *Int J Health Policy Manag* 2019;8:514–20.
9 Kickbusch I, Allen L, Franz C. The commercial determinants of health. *Lancet Glob Health* 2016;4:e895–6.
10 Freudenberg N. Public health advocacy to change corporate practices: implications for health education practice and research. *Health Educ Behav* 2005;32:298–319.
11 Freudenberg N. *Lethal but legal: corporations, consumption, and protecting public health*. New York: Oxford University Press, 2014.
12 Madureira Lima J, Galea S. Corporate practices and health: a framework and mechanisms. *Global Health* 2018;14:21.
13 Jahiel RI, Babor TF. Industrial epidemics, public health advocacy and the alcohol industry: lessons from other fields. *Addiction* 2007;102:1335–9.
14 Rochford C, Tenneti N, Moodie R. Reframing the impact of business on health: the interface of corporate, commercial, political and social determinants of health. *BMJ Glob Health* 2019;4:e001510.
15 Smith J. Towards critical analysis of the political determinants of health comment on "how neoliberalism is shaping the supply of unhealthy commodities and what this means for NCD prevention". *Int J Health Policy Manag* 2020;9:121–3.
16 Milsom P, Smith R, Walls H. A systems thinking approach to inform coherent policy action for NCD prevention comment on "how neoliberalism is shaping the supply of unhealthy commodities and what this means for NCD prevention". *Int J Health Policy Manag* 2020;9:212–4.
17 Buse K, Tanaka S, Hawkes S. Healthy people and healthy profits? elaborating a conceptual framework for governing the commercial determinants of non-communicable diseases and identifying options for reducing risk exposure. *Global Health* 2017;13:34.
18 Freeman B, Sindall C. Countering the commercial determinants of health: strategic challenges for public health. *Public Health Res Pract* 2019;29:e2931917.
19 Buse K, Hawkes S. Health in the sustainable development goals: ready for a paradigm shift? *Global Health* 2015;11:13.
20 McKee M, Stuckler D. Revisiting the corporate and commercial determinants of health. *Am J Public Health* 2018;108:1167–70.
21 Sula-Raxhimi E, Butzbach C, Brousselle A. Planetary health: countering commercial and corporate power. *Lancet Planet Health* 2019;3:e12–13.
22 Knai C, Petticrew M, Mays N, *et al*. Systems thinking as a framework for analyzing commercial determinants of health. *Milbank Q* 2018;96:472–98.
23 Cairney P, Studlar D, Mamudu H. *Global tobacco control: power, policy, governance and transfer*. Springer, 2011.

24 Lukes S. *Power: a radical view*. London: Macmillan, 1974.
25 McKee M, Stuckler D. Responding to the corporate and commercial determinants of health. *Am J Public Health* 2018:e1–4.
26 Fuchs D. Commanding heights? the strength and fragility of business power in global politics. *Millennium* 2005;33:771–801.
27 Fuchs D. *Business power in global governance*. Boulder, Colorado: Lynne Rienner, 2007.
28 Savell E, Fooks G, Gilmore AB. How does the alcohol industry attempt to influence marketing regulations? A systematic review. *Addiction* 2016;111:18–32.
29 Savell E, Gilmore AB, Fooks G. How does the tobacco industry attempt to influence marketing regulations? A systematic review. *PLoS One* 2014;9:e87389.
30 Mialon M, Swinburn B, Sacks G. A proposed approach to systematically identify and monitor the corporate political activity of the food industry with respect to public health using publicly available information. *Obes Rev* 2015;16:519–30.
31 Ulucanlar S, Fooks GJ, Gilmore AB. The policy Dystopia model: an interpretive analysis of tobacco industry political activity. *PLoS Med* 2016;13:e1002125.
32 Bhatta DN, Crosbie E, Bialous SA, *et al*. Defending comprehensive tobacco control policy implementation in Nepal from tobacco industry interference (2011-2018). *Nicotine Tob Res* 2020. doi:10.1093/ntr/ntaa067. [Epub ahead of print: 20 Apr 2020].
33 Mialon M, Gaitan Charry DA, Cediel G, *et al*. 'I had never seen so many lobbyists': food industry political practices during the development of a new nutrition front-of-pack labelling system in Colombia. *Public Health Nutr* 2020;131:1–9.
34 Boseley S, McMahon J. Political context of the world Health organization: sugar industry threatens to scupper the who. *Int J Health Serv* 2003;33:831–3.
35 Shiffman J, Knowledge SJ. Knowledge, moral claims and the exercise of power in global health. *Int J Health Policy Manag* 2014;3:297.
36 Mialon M, Gomes FdaS, da Silva Gomes F. Public health and the ultra-processed food and drink products industry: corporate political activity of major transnationals in Latin America and the Caribbean. *Public Health Nutr* 2019;22:1898–908.
37 McCambridge J, Mialon M, Hawkins B. Alcohol industry involvement in policymaking: a systematic review. *Addiction* 2018;113:1571–84.
38 Crosbie E, Schmidt LA. Preemption in tobacco control: a framework for other areas of public health. *Am J Public Health* 2020;110:345–50.
39 Saxena A, Koon AD, Lagrada-Rombaua L, *et al*. Modelling the impact of a tax on sweetened beverages in the Philippines: an extended cost-effectiveness analysis. *Bull World Health Organ* 2019;97:97–107.
40 Levy DL, Egan D. A Neo-Gramscian approach to corporate political strategy: conflict and accommodation in the climate change Negotiations*. *J Management Studs* 2003;40:803–29.
41 Shamir R. Corporate social responsibility: A case of hegemony and counter-hegemony. In: BdS S, Rodríguez Garavito CA, eds. *Law and globalization from below*. Cambridge: Cambridge University Press, 2005: 92–117.
42 Bloomfield MJ. Is forest certification a hegemonic force? the FSC and its challengers. *J Environ Dev* 2012;21:391–413.
43 Jaeger AB. Forging hegemony: how recycling became a popular but inadequate response to accumulating waste. *Soc Probl* 2018;65:395–415.
44 Levy DL, Newell PJ. Business strategy and international environmental governance: toward a neo-Gramscian synthesis. *Glob Environ Polit* 2002;2:84–101.
45 Shamir R. The De-Radicalization of corporate social responsibility. *Crit Sociol* 2004;30:669–89.
46 Elmore BJ. *Citizen coke: the making of Coca-Cola capitalism*. New York: W. W. Norton & Company, 2015.
47 Bernstein S, Cashore B. Can non-state global governance be legitimate? an analytical framework. *Regul Gov* 2007;1:347–71.
48 Ken I. A healthy bottom line: obese children, a Pacified public, and corporate legitimacy. *Soc Curr* 2014;1:130–48.
49 Sriram V, Topp SM, Schaaf M, *et al*. 10 best resources on power in health policy and systems in low- and middle-income countries. *Health Policy Plan* 2018;33:611–21.
50 Stuckler D, Nestle M. Big food, food systems, and global health. *PLoS Med* 2012;9:e1001242.
51 Herrick C. The post-2015 landscape: vested interests, corporate social responsibility and public health advocacy. *Sociol Health Illn* 2016;38:1026–42.
52 Lie AL. 'We are not a partnership' – constructing and contesting legitimacy of global public–private partnerships: the Scaling Up Nutrition (SUN) Movement. *Globalizations*2020:1–19.
53 Herrick C. Alcohol, ideological schisms and a science of corporate behaviours on health. *Crit Public Health* 2016;26:14–23.
54 Cullerton K, Donnet T, Lee A, *et al*. Effective advocacy strategies for influencing government nutrition policy: a conceptual model. *Int J Behav Nutr Phys Act* 2018;15:83.
55 Falkner R. The troubled birth of the" biotech century": global corporate power and its limits. In: Clapp J, Fuchs DA, eds. *Corporate power in global agrifood governance*. Cambridge: MIT Press, 2009: 225–52.
56 Sabatier PA. Toward better theories of the policy process. *PS* 1991;24:147–56.
57 Scrinis G. Reformulation, fortification and functionalization: Big Food corporations' nutritional engineering and marketing strategies. *J Peasant Stud* 2016;43:17–37.
58 Lacy-Nichols J, Scrinis G, Carey R. The evolution of Coca-Cola Australia's soft drink reformulation strategy 2003–2017: A thematic analysis of corporate documents. *Food Policy* 2020;90:101793.
59 Lukes S. *Power*. Oxford: Basil Blackwell, 1986.
60 Fuchs D, Di Giulio A, Glaab K, *et al*. Power: the missing element in sustainable consumption and absolute reductions research and action. *J Clean Prod* 2016;132:298–307.
61 Drahos P, Tansey G. Postcards from international negotiations. In: Tansey G, Rajotte T, eds. *The future control of food: a guide to international negotiations and rules on intellectual property, biodiversity and food security*. London: Earthscan, 2008: 197–211.
62 Sell SK. Corporations, seeds, and intellectual property rights governance. In: Clapp J, Fuchs D, eds. *Corporate power in global agrifood governance*. Cambridge: MIT Press, 2009: 187–223.
63 Fuchs D, Kalfagianni A. The causes and consequences of private food governance. *Bus Polit* 2010;12:1–34.
64 Dorfman L, Cheyne A, Friedman LC, *et al*. Soda and tobacco industry corporate social responsibility campaigns: how do they compare? *PLoS Med* 2012;9:e1001241.
65 Chapman S, Freeman B. Markers of the denormalisation of smoking and the tobacco industry. *Tob Control* 2008;17:25–31.
66 Miller D, Harkins C, strategy C. Corporate strategy, corporate capture: food and alcohol industry lobbying and public health. *Crit Soc Policy* 2010;30:564–89.
67 Marten R, Hawkins B. Stop the toasts: the global fund's disturbing new partnership. *Lancet* 2018;391:735–6.
68 Serôdio PM, McKee M, Stuckler D. Coca-Cola - a model of transparency in research partnerships? A network analysis of Coca-Cola's research funding (2008-2016). *Public Health Nutr* 2018;21:1594–607.
69 Greenhalgh S. Soda industry influence on obesity science and policy in China. *J Public Health Policy* 2019;40:5–16.
70 Kypri K, McCambridge J, Robertson N, *et al*. 'If someone donates $1000, they support you. If they donate $100 000, they have bought you'. Mixed methods study of tobacco, alcohol and gambling industry donations to Australian political parties. *Drug Alcohol Rev* 2019;38:226–33.
71 UCSF Industry Documents Library. Industry documents library: University of California San Francisco, 2020. Available: https://www.industrydocuments.ucsf.edu/ [Accessed 8 Oct 2020].
72 Falkner R. *Business power and conflict in international environmental politics*. Basingstoke: Palgrave Macmillan, 2008.
73 Moodie AR. Corporations taking deadly AIM. *Am J Public Health* 2016;106:781–2.
74 Zoller HM. Health activism targeting corporations: a critical health communication perspective. *Health Commun* 2017;32:219–29.
75 Herrick C. Why we need to think beyond the 'industry' in alcohol research and policy studies. *Drugs* 2011;18:10–15.
76 Nestle M. Has Mars joined the food movement? food politics, 2016. Available: https://www.foodpolitics.com/?s=added+sugar+label+Mars [Accessed 1 Aug 2018].
77 Watson E. Nestlé to exit the GMA at the end of the year. food navigator USA, 2017. Available: https://www.foodnavigator-usa.com/Article/2017/10/24/Nestle-to-exit-the-GMA-at-the-end-of-the-year# [Accessed 1 Aug 2018].
78 Nestle M. Defections from GMA: the score increases. food politics, 2018. Available: https://www.foodpolitics.com/2018/02/defections-from-gma-the-score-increases/ [Accessed 11 Sep 2018].
79 Rosenberg T. How one of the most obese countries on earth took on the soda giants the guardian, 2015. Available: http://www.theguardian.com/news/2015/nov/03/obese-soda-sugar-tax-mexico [Accessed 5 Nov 2015].
80 Pfister K. Leaked: coca-cola's worldwide political strategy to kill soda taxes. Observer, 2016. Available: http://observer.com/2016/10/leaked-coca-colas-worldwide-political-strategy-to-kill-soda-taxes/ [Accessed 27 Apr 2017].

81 Stanford D. PepsiCo rejects Peltz call to separate beverage division. Bloomberg Business, 2014. Available: http://www.bloomberg.com/news/articles/2014-02-13/pepsico-profit-rises-4-9-as-ceo-nooyi-retains-beverage-unit [Accessed 3 Feb 2016].
82 Nestle M. *Soda politics: taking on big soda (and winning)*. New York: Oxford University Press, 2015.
83 Gómez EJ. *The transnational and domestic contexts facilitating Sugary beverage and fast food industry policy and research manipulation in Mexico, Brazil, and India. annual meeting of the*. Boston: American Political Science Association, 2018.
84 Tselengidis A, Östergren P-O. Lobbying against sugar taxation in the European Union: analysing the lobbying arguments and tactics of stakeholders in the food and drink industries. *Scand J Public Health* 2019;47:565–75.