Commercial Determinants of Health 1

Defining and conceptualising the commercial determinants of health

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Lancet 2023; 401: 1194–213

Published Online March 23, 2023 https://doi.org/10.1016/S0140-6736(23)00013-2

See Editorial page 1131

See Comment page 1137

See Perspectives pages 1147 and 1148

This is the first in a Series of three papers about commercial determinants of health. All papers in the Series are available at thelancet.com/series/commercial-determinants-health

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Although commercial entities can contribute positively to health and society there is growing evidence that the products and practices of some commercial actors—notably the largest transnational corporations—are responsible for escalating rates of avoidable ill health, planetary damage, and social and health inequity; these problems are increasingly referred to as the commercial determinants of health. The climate emergency, the non-communicable disease epidemic, and that just four industry sectors (ie, tobacco, ultra-processed food, fossil fuel, and alcohol) already account for at least a third of global deaths illustrate the scale and huge economic cost of the problem. This paper, the first in a Series on the commercial determinants of health, explains how the shift towards market fundamentalism and increasingly powerful transnational corporations has created a pathological system in which commercial actors are increasingly enabled to cause harm and externalise the costs of doing so. Consequently, as harms to human and planetary health increase, commercial sector wealth and power increase, whereas the countervailing forces having to meet these costs (notably individuals, governments, and civil society organisations) become correspondingly impoverished and disempowered or captured by commercial interests. This power imbalance leads to policy inertia; although many policy solutions are available, they are not being implemented. Health harms are escalating, leaving health-care systems increasingly unable to cope. Governments can and must act to improve, rather than continue to threaten, the wellbeing of future generations, development, and economic growth.

Introduction

Commercial entities can have positive effects on health and society, not least through the creation of products and services that are beneficial, or even essential, to health. However, there is now overwhelming evidence that some, particularly the largest, multinational and transnational corporations (for definitions of terms used throughout the Series see panel 1) are having increasingly negative effects on human and planetary health and social and health inequities.[9, 14–18] These complex and often negative links between the commercial sector and health are increasingly referred to as the commercial determinants of health (CDOH).[14,19,20]

It is well established that a small number of industries whose primary products are damaging, so-called unhealthy commodity industries (panel 1), have driven many of the world's greatest health problems, including the rising burden of non-communicable diseases (NCDs) and the climate emergency.[12,15,16,21] Indeed, the products of just four industries already account for at least a third of the global preventable deaths each year and likely far more (panel 2; appendix pp 2–4).[22]

Other industries whose products are often seen as benign also cause avoidable health and social harms. Examples include the financial sector's role in the so-called deaths of despair;[23] social media's malign effect on mental health;[24] and the pharmaceutical industry's use of intellectual property protections to secure high prices, restricting access to essential drugs, including COVID-19 vaccines, despite massive public investment in their development.[25]

Indeed, it is the practices and not just the products of major commercial entities that can harm health and widen inequities both within and between countries. Commercial entities' influence on and exploitation of weaker regulatory and enforcement standards in low-income and middle-income countries (LMICs) contributes to inequities in unhealthy product use, environmental damage, and workplace safety between countries.[26,27] For example, pharmaceuticals and pesticides banned for use in high-income countries are exported to LMICs alongside toxic wastes.[27] Unhealthy commodity industries have been shown to disproportionately extract income from and externalise their harms to LMICs, transferring wealth and income to a small elite of shareholders and institutional investors based overwhelmingly in high-income countries, a trend increasing since the 1970s.[28] Over a similar period but across the corporate sector more broadly, executive compensation has increased exponentially whereas typical workers have seen pay stagnate[29,30] and conditions deteriorate.[17,31] The increase in precarious contracts has affected mental and physical health,[17,32,33] including higher rates of COVID-19.[34]

Despite growing recognition of these issues,[14,17,19,20,31] there is still no clear, accepted definition or conceptualisation of the CDOH.[35] Some definitions focus narrowly on how specific commercial entities drive the consumption and use of unhealthy commodities.[20] Other definitions are broader, recognising many other ways in which a focus on profit damages health, regardless of industry sector.[19]

The absence of definitional and conceptual clarity inhibits research and policy action. This Series paper, structured in three parts, seeks to do three things. First, the paper develops a consensus definition and, second, a conceptual model of the CDOH. The model explains how commercially driven ill health is the result of a pathological system in which dominant commercial entities are enabled to influence societal norms and values, political and economic systems, policies, environments, incomes, and behaviours. As the health harms that result from this system increase, the ability to address them declines as the governments, organisations, and individuals needed to hold commercial actors to account are increasingly impoverished, disempowered, or captured by the interests of an increasingly powerful commercial sector. Consequently, the problems are escalating, fundamentally threatening development, economic growth, and the wellbeing of future generations.[17,36] The third part of this paper uses the model to explore in further detail how health harms and inequities are generated. Although commercial entities can and do have positive effects on health, the purpose of this Series paper is to create a robust foundation for understanding the problems. The other two papers in this Series focus on the diversity of commercial entities involved in and potential solutions to the CDOH.

A definition of the CDOH

We define the CDOH as the systems, practices, and pathways through which commercial actors drive health and equity.

This definition aims to convey four key issues. First, this definition encompasses all commercial entities rather than just corporations because we recognise their diversity—from small stall holders to transnational corporations.[2] Many commercial entities play a crucial role in society and a narrower focus would limit possible solutions involving, for example, alternative structures for accountability of commercial entities and their investors.[2,37] We use the term actors because major commercial entities rarely act alone but are supported by a diverse range of other powerful organisations, some of whom they fund and direct, albeit often in hidden ways to give the aura of independence. But these commercial entities are also often enabled by the governments and intergovernmental organisations that should be holding them to account, as part of a global political and economic system that privileges an increasingly wealthy and narrow elite at the expense of the many.[28,8,38]

The second issue the definition attempts to convey is this complexity. The definition goes beyond a simple focus on unhealthy commodities and profits as the sole driver, instead recognising that the links between the commercial sector and health are varied, involving complex political, economic, and social systems.

Third, the definition is deliberately neutral, aiming to recognise positive and negative contributions and the potential for change.

Key messages

- Current definitions of the commercial determinants of health vary widely and often overlook the diverse effects of the commercial sector. This Series paper proposes a broad definition of the commercial determinants of health as: the systems, practices, and pathways through which commercial actors drive health and equity. This definition recognises that commercial entities are diverse and can make both positive and negative contributions to human and planetary health and equity. Commercial entities do not act in isolation but alongside other actors, including governments, and within systems that currently enable, but have potential to constrain, commercially driven health harms.
- This Series paper develops a conceptual model of the commercial determinants of health that provides a simple means of understanding this complex issue. The model identifies (among other things) key commercial practices that, when inadequately regulated, harm health in often hidden and indirect ways and the pathways through which these practices harm health, from the most upstream (influencing political and economic systems) to the more downstream (including directly driving consumption of products damaging to health or limiting access to services and products essential to health for those unable to pay).
- The model also identifies the underpinning, systems-level problems that are often overlooked, yet explain why commercially driven health harm is hard to address and continues to escalate. In addition to externalities and power, these problems include the ubiquity of corporate norm shaping, enabled by a media that increasingly represents corporate interests, and that major corporations have not only shaped downstream policies in their interests but have established regulatory approaches that make it harder to pass policies that would protect human and planetary health.
- The model can be used to guide solutions from specific interventions addressing commercial practices to system changes; it highlights that commercial entities will need to meet the true costs of the harm they cause, governments will need to exercise their power in holding commercial entities to account, and norms need to be reshaped in the public interest, drawing attention to the right to health and the governmental obligation to protect health and not just corporate freedoms.

Fourth and finally, we focus our definition on health (both human and planetary health, which are interlinked and codependent;[7] panel 1) and equity as the primary outcomes of concern. Equity is deliberately highlighted because the commercial sector (including increasingly the financial sector) plays an important, yet often overlooked, role in driving social and health inequity both within and between countries.[18,28]

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See **Online** for appendix

Panel 1: Key terminology and definitions

Capitalism
An economic system in which "a substantial proportion of its means of production is owned and operated by private individuals in pursuit of profit".[1]

Commercial or commerce
Related to the buying and selling of goods or services intended to generate a profit or a return on investment.

Commercial entity
An entity engaged in buying and selling of goods or services (ie, commerce) primarily for profit or a return on investment; commercial entities may take many forms including sole proprietorships, partnerships, companies, corporations, or state-owned enterprises (see the second paper in this Series[2] for further discussion).

Commodity or product
The goods or services produced by an entity.

Company, business, firm, or enterprise
Generalised terms for commercial entities.

Corporation, multinational corporation, and transnational corporation
A corporation is a specific type of commercial entity in which ownership is separated from management, and the owners (or shareholders) enjoy limited liability. The corporation is a body of people authorised by law to act as one person, granted certain rights and responsibilities (eg, to own assets, loan and borrow money, sue and be sued, and enter contracts).[3] Specific rules for corporations vary with the jurisdiction in which they are registered.

The terms multinational corporation and transnational corporation are often used interchangeably for major corporations that operate in multiple countries. Where a distinction is made it is generally as follows:

- Multinational corporations are those that own or control production or services in one or more countries outside the one in which they are headquartered, where they have a centralised management system
- Transnational corporations spread their operations (eg, capital, personnel, and research and development) across national boundaries and are thus able to (re)settle wherever serves their interests

For simplicity within this Series, we use the term transnational corporation to refer to both the largest multinational corporations and transnational corporations that represent a particular challenge to global health and governance.

Deregulation
The relaxation or removal of statutory regulation by which public and private sector actors are required to operate;[4] a key feature of neoliberalism.

Externalities
Costs or benefits from the production, consumption, or disposal of a product or service that are incurred by a third party that has no control over, and never chose to incur, those costs or benefits. Examples of negative externalities include biodiversity loss, environmental and health damage from production, and the use and disposal of many food products, tobacco, and fossil fuels. Externalities result in these products being artificially cheap to produce and consume (the price fails to reflect the true societal cost) leading to overuse and, often, to higher profit margins for those industries than if the industries bore these costs; this is a form of market failure.

Financialisation
A "pattern of accumulation in which profit making occurs increasingly through financial channels rather than through trade and commodity production"[5] (for further details see panel 3 and for health impacts of financialisation see Level 1: the political and economic system).

Globalisation
"Processes by which nations, businesses, and people are becoming more connected and interdependent via increased economic integration and communication exchange, cultural diffusion [...]and travel."[6] Economic integration has involved a growing role for supranational institutions and international trade and investment agreements, which have relatively little direct democratic oversight.[6]

Health
We use existing definitions of human health as "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity"[7] and planetary health as "the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth's natural systems that define the safe environmental limits within which humanity can flourish."[7] Planetary health has also been more simply described as "the health of human civilisation and the state of the natural systems on which it depends."[7]

Limited liability
A legal status where owners or investors of a company will not be liable for the wrongdoings of the company and their personal assets will not be at risk if the company fails.[3]

Neoliberalism
A political approach and ideology often also referred to as market fundamentalism or free market ideology, which has been dominant since the late 1970s, following a concerted political project.[8] Neoliberalism emphasises private property

(Continues on next page)

(Panel 1 continued from previous page)

rights and free markets as the way of organising human interaction, and it promotes privatisation, trade liberalisation, deregulation, and reductions in tax and welfare payments, with the role of the state pared back to ensuring the functioning of the market[4,8,9] (further details are provided in panel 3 and its impacts on health are discussed under Level 1: the political and economic system).

Power

There is no single conceptualisation or definition of power, but, drawing on Fuchs and Lukes, three interconnected forms of power have been identified as central to understanding corporate power and the commercial determinants of health: instrumental—the ability to influence other actors and most specifically their decision making; structural—the ability to use material conditions to shape the structures in which actors interact and thus influence their choices and options (both real and perceived); and discursive—the capacity to influence processes and opinions through the shaping of norms and values.[10]

Privatisation

The full transfer of an activity to private ownership, whereas outsourcing an activity means it remains publicly owned but its performance is contracted out to the private sector.[11]

Industry

The set of all entities engaged primarily in the same or similar kinds of activities, eg, the alcohol, tobacco, or fossil fuel industry.

Public, private, and third sectors

The boundaries between the private sector, public sector, and third sector are often blurry, eg, due to joint ownership or shared functions; definitions have varied over time (see the second paper of this Series[2] for more details). In this Series:

- The public sector is the part of a country's economy that is controlled by the state.
- The private sector is the part of a country's economy that is privately owned and not directly controlled by the state.
- The third sector consists of not-for-profit entities such as charities, voluntary organisations, and community groups.

Unhealthy commodity industry

An industry whose primary product is considered an unhealthy commodity (ie, one that causes significant health damage). Some definitions include only tobacco, alcohol, and ultra-processed foods,[12] whereas others also include breast milk substitute, gambling, palm oil, fossil fuel, automobile, and mining industries.[13]

A model of the CDOH

An overview

Our model (figure 1; appendix p 6) illustrates this definition and the systemic nature of the problem. The model shows the commercial sector on the top left and the determinants of health subsystem, through which health is affected, on the bottom right. The two are separated to acknowledge that commercial actors are an important, but not the sole, influence on that subsystem.

The circle detailing the commercial sector focuses on commercial entities, drawing attention to their growth strategies and business models that, in turn, determine their practices (shown in the inner circle). These practices work interactively and often synergistically to influence health by affecting one or more, and often multiple, levels of the subsystem. The surrounding label of commercial actors and allies allows for the other actors (eg, think tanks and business interest groups) that often act in concert with business entities and represent their interests.

The determinants of health subsystem draws extensively on existing work and models of the structural, social, political, and commercial determinants of health,[10,20,39–42] but emphasises pathways through which commercial actors influence health. Like Dahlgren and Whitehead's work,[39] the model signals that an individual's health (at the centre) is influenced by a series of increasingly structural factors (moving towards the outside) that extend well beyond an individual's control. Levels 1–3 illustrate the political, economic, and policy drivers of ill health, which

Panel 2: Estimates of the harm from commercial products and practices

It is challenging to estimate the exact effect commercial sector products and practices have on health due to the scarcity of comprehensive data and specific studies on this topic. The 2019 Global Burden of Disease (GBD) study (appendix pp 2, 4) estimates that just four commercial products (tobacco, alcohol, ultra-processed food, and fossil fuels) account for 19 million global deaths annually (34% of the 56 million total deaths or 41% of the 42 million NCD deaths). They also provide a very conservative estimate that commercial practices cause over 1·2 million deaths globally, bringing the total annual deaths to 20·3 million (36% of total or 45% of deaths from non-communicable diseases). These numbers are likely to be significant underestimates as they take no account of numerous other products (eg, lead or prescribed opioids) or practices (eg, dumping of toxic substances in water courses). Moreover, other data, including specific GBD studies, suggest a higher toll from some products (appendix pp 2, 3). For example, deaths from unhealthy diets as a whole (rather than just ultra-processed foods) reach an estimated 11 million deaths, air pollution from fossil fuels over 10 million, and alcohol 3 million. If we add these to the GBD estimate of 9 million deaths from tobacco, the total reaches 33 million annual deaths (58% of all deaths and 78% of deaths from non-communicable disease globally; appendix pp 2–4).

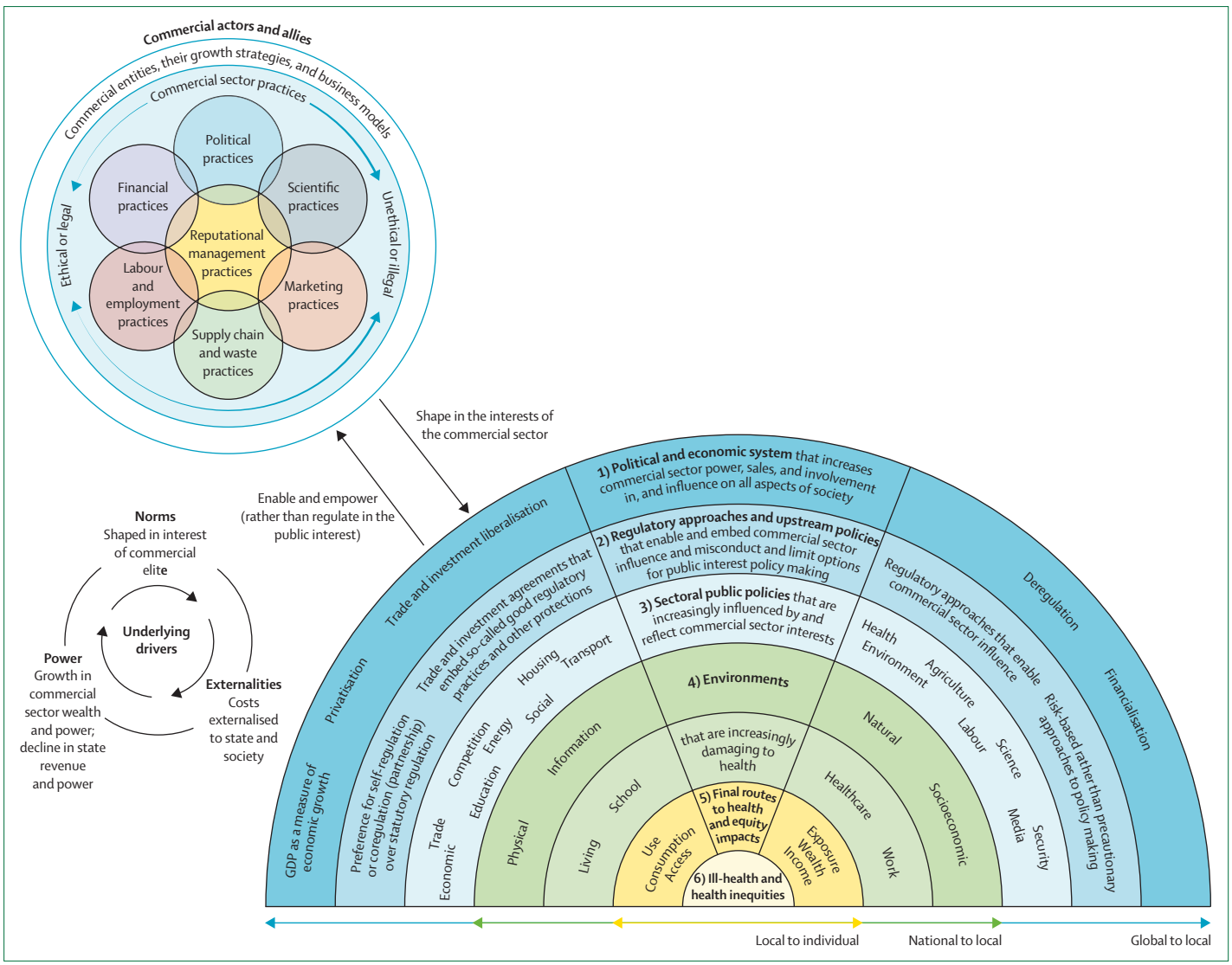

Figure 1: **Model of the commercial determinants of health**

Figure 1 illustrates our current pathological system that is damaging to health. The black arrows signal the complex interactive nature of the system: the straight arrows show how commercial actors shape political and economic systems and are, in turn, shaped by them; the circular arrows represent the escalating harms to health that can occur if norms, power, and externalities are left unchecked. Appendix (p 6) shows how this might look once rebalanced in the public interest.

operate largely from the global to national level. Level 4 details the environmental drivers that, in turn, shape and constrain individual behaviours, exposures, and health practices (level 5) and operate largely from the national to local level (although environmental damage, including global warming, clearly transcends borders). These structural and environmental drivers lead, ultimately, to health and equity effects (level 6) through varying routes, such as influencing product use, service access, or exposure to pollutants.

The model draws attention to three issues that lie at the heart of the CDOH: the political and economic system (outer layer), the commercial sector (top left circle), and key underlying drivers—power, externalities, and norms (black circular arrows). The black arrows (both circular and straight) signal the complex interactive nature of the system: that commercial actors shape the political and economic system and are, in turn, shaped by it (straight arrows), whereas externalities, power, and norms, if unchecked, can lead to escalating health harms (circular arrows). It is these checks in the system, which reflect the balance of power between public and commercial interests, that play a pivotal role in determining the extent to which the commercial sector has positive or negative effects on health. We therefore illustrate the model under two scenarios: first, illustrating our current pathological system (figure 1) and, second, this system rebalanced in the public interest (appendix p 6).

Using the model to understand the pathological system

Closely interconnected changes to these three issues (most notably the emergence of neoliberalism from the late 1970s [panel 3]), and consequently to the system's checks and balances, explain why the commercial sector is having an increasingly negative effect on health. These changes led to an increasingly globalised neoliberal political and economic system; truly transnational corporations with enormous power, influence, and reach;[3] and the simultaneous decline in the power and role of the state and other countervailing forces required to hold the commercial sector to account.[57,58] The consequent shift in wealth from the public to the private sector,[59] the "extraordinary concentrations of wealth and power"[8] among a narrow group in which corporate executives and investors feature heavily, and the growing intersection of corporate and political power as the significance of corporate and financial actors in society increased have all been recorded.[8,38] What is less well known is the key role that major corporations played in pushing for these changes (panel 3).

***Panel 3*: Global political and economic changes underpinning the commercial determinants of health**

Changes to global political and economic systems

Changes in the way capitalism is organised have occurred repeatedly throughout modern history.[3] From the late 1800s onwards, there was a shift away from small, individual-owned and family-owned firms and partnerships towards the corporation as the dominant economic entity in the 20th and 21st centuries.[3] Key features of corporations (the separation of ownership from management and limited liability) enabled, and in some jurisdictions required, corporations to prioritise shareholder profits over protecting people or planet.[3]

From the 1930s, unbridled capitalism gave way to a more regulated form, which culminated in the mixed economy model of 1945–1975. Subsequently, the late 1970s saw the emergence of a free-market capitalist system labelled neoliberalism. This system was characterised by a significantly reduced role of the state, focused on ensuring the smooth operation and primacy of the market.[4,8,9] Key features of neoliberalism plus global economic integration led to the consolidation of many smaller corporations into a few larger and uniquely powerful transnational corporations:[3] deregulation led to reduced oversight of business; global economic integration and trade and investment liberalisation enabled corporations to expand globally; and privatisation extended their reach into services once considered the function of the state.[3,4,8,43] Yet the competitive markets on which neoliberalism is premised often did not materialise, with ever larger transnational corporations increasingly negotiating and enjoying monopolistic and oligopolistic positions,[44] especially when utilities such as water were privatised, with widespread externalities a cause of market failure.[4,8,43,45]

In most business sectors, a handful of transnational corporations now dominate; their economic wealth and power outstripping that of many national governments, presenting novel challenges to governance and democracy. For example, Walmart has higher revenues than the governments of Australia or Spain, and ExxonMobil than the governments of Belgium or Mexico (appendix p 5).[46] This monopoly concentration of most sectors has reduced competition and the power of consumers. Simultaneously, globalisation increased the power of transnational private actors whose ability to act is not constrained by the national borders that restrict sovereign states. It made it easier to rapidly shift capital, avoid taxes, escape effective regulation, and participate in (and secure influence over) the increasing complex systems and institutions of global governance.[47–49]

More recently, and consequent to financial deregulation, the accumulation of profit has increasingly occurred through financial channels rather than through trade and commodity production.[5] Financialisation involves new ways of profiting from financial transactions rather than from producing and selling products and has led to financial institutions, including banks and private equity investors, becoming major players in global economic systems and therefore important in commercial determinants of health.[17]

The role of corporations in pushing for these changes

Recognising the opportunity to reduce tax and regulation, major corporations and very wealthy individuals played a substantial role in promoting neoliberalism.[4,9,17,43] Many corporations and wealthy individuals formed or became donors to neoliberal think tanks such as the Institute of Economic Affairs[50] and Reason Foundation,[51] which popularised neoliberalism in their home countries,[9] and the Atlas Network, which developed a network of neoliberal think tanks and promoted the ideology more widely.[8,52] To help mainstream neoliberal thinking, corporations funded business schools in prestigious universities and supported the creation of other powerful organisations, including the World Economic Forum, the World Business Council for Sustainable Development, and the International Chamber of Commerce.[8,53] By bringing together corporate executives and leaders from policy, academia, and media, these organisations helped entrench and globalise corporations' favoured political, economic, and policy approaches,[54] set global economic norms,[55] and translate corporate business interests into government action or inaction.[56] Advocates of neoliberalism came to hold positions of power in education, media, and national and international institutions (such as the International Monetary Fund, World Bank, and WTO) and, with pressure from the US Government in particular, this led to the International Monetary Fund and World Bank becoming "centres for the propagation and enforcement"[8] of neoliberal orthodoxy, thereby helping to mainstream and globalise a previously marginal ideology.

In the pathological system that emerged (figure 1), increasingly powerful commercial actors can shape the political and economic system, its underlying regulatory approaches, and policies in their own interests. Those systems, regulatory approaches, and policies in turn enable (rather than effectively regulate) commercial actors, increasing their ability to externalise costs to others. Consequently, the costs of the harm caused by the production, consumption, and disposal of their products[4] (eg, paying to treat the NCDs they cause, to address the social harms of alcohol and gambling, and to clear up oil spills and plastic waste) are largely met by the states, families, and individuals affected. Having to meet these costs diminishes state, community, and individual budgets for housing, health, welfare, civil society organisations, and so on, thus further damaging health. Meanwhile, the corporate entities involved tend to enjoy excess profits, and the power imbalance between transnational corporations and the states, civil society organisations, and individuals needed to hold them to account continues to grow, fuelling the problem (as represented by the black circular arrows in figure 1). Until this system problem that is fuelled by externalities is recognised and addressed, poor health outcomes and inequities in health will continue to grow, causing huge economic and social damage.[36]

Using the model to understand how health harms and inequities are generated

Operationalising power

Health damage arises when commercial entities operationalise their accumulating power in all its forms (structural, instrumental, and discursive) by engaging in practices and shaping norms that serve to make their organisational needs a higher priority than protecting health, the environment, or social cohesion.[58,60,61]

Seven key commercial sector practices

We group the practices that commercial entities routinely engage in into seven overlapping and mutually reinforcing categories: political, scienctific, marketing, supply chain and waste, labour and employment, financial, and reputational management (figure 1). Reputational management is positioned in the centre because, by enhancing the commercial actor's legitimacy and credibility,[62] it enables and is often integral to the other six practices.[63–65]

The extent to and ways in which each commercial entity engages in these practices, and whether they generate harm, depends in large part on that entity's product, business model, and growth strategy[66] (as illustrated in figure 1 and examined further in the second paper in this Series[2]). Most evidence of substantial harm, and certainly the most egregious, concerns transnational corporations (table). Practices also vary with the context in which entities operate, with transnational corporations more easily able to exercise power and influence and less likely to be held to account in LMICs.[72]

Growing evidence indicates that transnational corporations across diverse sectors not only engage in the same practices[65,69,126,127] but often also work collectively[8,67,68] with "a shared interest in the defeat of bills such as consumer protection and labour law reform, and in the enactment of favourable tax, regulatory and antitrust legislation".[8] This coordination is consistent with evidence of their growing financial,[128] operational,[68] and board-level[129] ties.

Political, scientific, and marketing practices primarily cause health harm by maximising the use of potentially harmful industry products, either directly or by enabling transnational corporations to block, delay, or weaken policy and deter litigation.[65,69,126,127] Labour, supply chain, and financial practices—all enabled by political practices that help drive down regulatory standards—harm health when a narrow focus on profit at any cost fails to consider societal effects.[17] Slave labour working conditions in fashion industry sweatshops,[130] illegal discharges of hazardous substances,[131] and deforestation leading to climate change, biodiversity loss, and infectious diseases[132,133] are examples of transnational corporations acting against the public interest.[3,17]

As the model shows, within each practice category the activities vary from legal or ethical to illegal or unethical, with many in the grey zone in between. For example, political practices vary from lobbying[69] to bribery;[49] financial practices vary from full payement of taxes to tax avoidance[109] or evasion, including smuggling.[109,110] Even scientific practices, often seen as essential and therefore tax deductible, have led to conviction for fraud and untold health damage when the dangers of corporate products, or the benefits of interventions to address those dangers, have been deliberately hidden from users and governments.[65,134–136] Even when regulations are implemented, commercial actors often fail to comply or find cost-saving unethical circumventions, such as Volkswagen's now infamous diesel dupe.[17]

Transnational corporate practices (and governmental failure to address them) is such that the system no longer operates in the public's interest but increasingly in the transnational corporations' interest. For example, although externalities can be corrected with fiscal measures, transnational corporations have been uniquely successful in using their financial and political practices to reduce their various tax liabilities and extract state subsidies.[28,106,109,137] Effective tax rates on even the most harmful transnational corporations have fallen steadily since the 1970s[28] and Tax Justice Network estimates that corporations shift 40% of all profits made abroad into tax havens.[109] Combined with wealthy individuals' use of tax havens, countries are losing, on average, the equivalent of 9·2% of their health budget annually.[109] Low-income countries are disproportionately affected, losing an equivalent of 52·4% of their health budgets, whereas high-income countries facilitate 97% of these direct tax losses. Additional indirect tax losses occur when

governments then reduce tax rates in an attempt to reduce this profit tax evasion; the International Monetary Fund estimates that these indirect tax losses are at least three times larger than direct tax losses.[109] The negative effect on government revenues then enables transnational corporations to present what they should have paid in tax as gifts through tax-deductible reputation management efforts that divert attention from the harm they cause and

	Definition	Examples of negative effects
Political practices[63]	Practices to secure preferential treatment or prevent, shape, circumvent, or undermine public policies (or a combination of the above) in ways that further corporate interests	The commercial sector seeks to influence diverse policies at all levels of governance, from global to local. There is growing evidence of joint working[67,68] and consistency in approaches across diverse industries including direct involvement and lobbying; building constituencies of support (including third parties through which they operate); producing and using (often misleading) information to make the industry's case that the policy will be ineffective and economically disastrous; threatening and taking legal action; and intimidating opponents.[63-71] The specific strategy varies with the context and the industry's standing. In LMICs policy influence is often more audacious.[72] Examples include: cases from the tobacco industry for which there is documentary evidence. British American Tobacco made extensive payments to politicians, civil servants, and others in Africa to secure policy influence, in one instance paying as little as US$3000 to change legislation in Burundi.[49] In Thailand, British American Tobacco claimed "the only means of negotiation with politicians is dollar and cent".[73] Tobacco corporations seriously threatening advocates based in LMICs also occurs.[74] By contrast, in jurisdictions where the tobacco industry is denormalised, lobbying efforts are increasingly directed through third parties, the scale of which can be overwhelming. In the case of a policy on standardised tobacco products in the UK, 82 third parties with links to the tobacco industry opposed the policy, giving a misleading impression of widespread opposition.[75] The tobacco industry routinely threatens, and sometimes legally challenges, legislation, using its power to exert a chilling effect—although the industry is almost always unsuccessful, legal costs can be prohibitive.[76] In multilateral settings, the tobacco industry (like other corporations) often operates by gaining the support of powerful governments, which can be a particular challenge for LMICs.[67,71]
Scientific practices[65]	Practices involving the production and use of science to alter products or otherwise secure favourable outcomes (or both) for the industry	Transnational corporations influence every step of the scientific process, from evidence production to dissemination and use, with clear evidence that diverse industry sectors act in the same way.[65] Examples include: in 1999 Merck launched a large clinical trial on the anti-inflammatory drug rofecoxib (Vioxx). When the study was published, the company misrepresented the trial's results to hide evidence of rofecoxib's cardiovascular toxicity. Despite Merck being aware of Vioxx's health risks, the company strongly promoted the drug to health professionals, providing them with misleading information.[77] This led to thousands of avoidable cardiovascular events in patients taking the drug.[78] In 2015 the International Agency for Research on Cancer classified glyphosate as "probably carcinogenic to humans".[79] Monsanto continued to argue that its glyphosate-based herbicide is safe and internal documents reveal that the company tried to influence the scientific debate. The control over the scientific process happened at multiple levels. For example, attempting to influence editorial decisions and distorting the peer-review process and engaging scientists who signed Monsanto ghost-written reports that were then published in scientific journals.[80] The goal was to both discredit the International Agency for Research on Cancer's decision and to prevent other regulatory agencies from conducting a re-evaluation of glyphosate.[81]
Marketing practices	Practices to promote sales of products or services	Marketing practices increase the demand for and consumption of products (ie, unhealthy commodities[82,83]), including by changing physical and information environments, such as physical alterations to bars[84] and increased outlet and marketing density[85] in ways that drive consumption.[85] Marketing also exaggerates structural inequalities[18] by targeting specific geographical areas[87] and population subgroups categorised by ethnicity[88] or vulnerability, such as people who are homeless or mentally ill.[89] Marketing shapes new cultures and norms to drive consumption. Examples include: the normalisation of youth smoking was facilitated by child-friendly advertising, with Camel cigarettes' Joe Camel having approximately the same recognition as Mickey Mouse among children.[90] Similar efforts by the alcohol industry normalised drinking in young people[91] and women through so-called pink washing, leading to increased consumption.[92]
Supply chain and waste practices	Practices involved in the creation, distribution, retail, and waste management of products or services	Transnational corporations adopt supply chain and waste practices that negatively affect human and planetary health. For example, extractive companies frequently despoil the environment and externalise the costs of restoration. Local communities (often Indigenous or multiply disadvantaged) are left living in these despoiled areas with mental and physical health effects. Less stringent regulation, often enabled by political practices that help drive down standards and costs, means that environmental damage is often worse in LMICs. Specific examples include: Rio Tinto, a mining company, destroyed two 46 000-year-old Aboriginal rock shelters in Western Australia's Juukan Gorge.[93] Such destructive practices have contributed to the gap between Indigenous life expectancies and those of the rest of the population.[94] Australian–Canadian conglomerate Oceana Gold subjected El Salvador to a lengthy multimillion dollar lawsuit when the country denied the company permission to mine gold deposits there after its prospecting led to substantial concerns about impacts on water supplies, among other things.[95] Coca-Cola's bottling plant in Kerala, opened in 2000, led to groundwater contamination and toxic waste release. Eventually, the plant was closed but local communities never received full compensation.[96,97]
Labour and employment practices	Practices to manage people employed directly within, or under contract to, the organisation within its supply chain	Commercial actors actively seek ways to destabilise, outsource, and offshore the responsibility for the costliest aspects of production. Enabled by a weakening in labour market regulation, this has led to a range of perverse working conditions and practices that disproportionately affect low-income workers, especially in LMICs, and lead to physical and mental ill health.[17,34] Examples include: a growth in modern slavery and informal or zero-hour contracts that offer no stability of income. For example, some companies continue to support forced labour in the garment industry by purchasing low-cost supplies from the Xinjiang region of China, where Uyghur and other Muslim ethnic and religious minorities held in so-called re-education and detention facilities are forced to produce or process cotton and textiles.[98] Clothing retailers offset losses from COVID-19 onto their suppliers and workers who could least afford it, leading to an increase in forced labour whereas retailers received public bail-out funds and continued to sell at below-cost prices.[99] An increase in child labour in mines with extreme physical, psychological, and social dangers.[100] A decline in private-sector union coverage that has reduced workers' ability to protect themselves against policies and practices that weaken job safety,[27] leading to workplace injuries. The workplace fatalities in South Africa's mining industry, four times higher than those in Australia, are attributed to weaker occupational health and safety legislation there.[101] Comparative statistics also show that some businesses in the same industry incur higher injuries, suggesting their practices are the cause; Amazon warehouse employees are injured at twice the rates than those working in other companies' warehouses.[102]

(Table continues on next page)

	Definition	Examples of negative effects
(Continued from previous page)		
Financial practices	Practices to support financial position of the organisation	Financial practices include tax avoidance and evasion; mergers, acquisitions, and buyouts (including to reduce competition and remove superior or healthier products from the market); price fixing; promoting credit and debt; accounting and securities fraud; and financial flows in (investor relations) and out (investment strategy, government subsidies). These practices, often enabled by political practices, have collectively reduced potential state revenues and disposable income for many, with direct and indirect effects on health and welfare often exacerbated by rising costs of health care. Specific examples include: (1) Pricing strategies—in 2021, Taro Pharmaceuticals USA, Sandoz, and Apotex were fined $447·2 million for price fixing various generic drugs in the USA,[103] and in the UK, Auden Mckenzie and Actavis UK (Accord-UK) were fined £260 million for price hiking the drug hydrocortisone, which led to the UK National Health Service paying inflated prices for this drug for nearly 10 years.[104] (2) Tax avoidance and evasion[74]—specific examples of tax avoidance include Amazon, which reportedly paid no corporation tax in Europe in 2020, despite a sales income of €44 billion (£38 billion),[105] and British American Tobacco and Imperial Brands, which over 10 years paid almost no corporation tax in the UK, where they are headquartered, having engaged extensively in all forms of tax avoidance alongside other transnational tobacco companies.[106] Corporations subject to other taxes, such as excise duties levied on harmful products intended to correct market failures and reduce product use, lobby heavily against them, often successfully reducing them.[107,108] Finally, some even orchestrate the smuggling of their product to evade those duties and, despite their involvement, then use the problem of smuggling to push for further excise tax reductions.[109,110] (3) Credit, debt, and the global financial crisis—through mortgages, credit cards, and loans the financial sector encouraged consumer debt, beyond what borrowers could reasonably afford, to ensure that falling real incomes for many, as a result of the labour practices mentioned previously,[111] did not discourage spending.[112] The complex packaging of these debts by the financial sector led to unduly high individual indebtedness, homelessness, and ultimately the 2008 global financial crisis. Most countries responded to the crisis with large bail-outs for the major banks that had caused the problem, financed in large part with cuts to social spending with further effects on wellbeing, particularly for the least well off.[113,114] In Australia, damaging practices of banks were so detrimental to their customers that a Royal Commission[115] was established; it gathered gut-wrenching stories of "people who'd lost their homes and their livelihoods due to misconduct, bad management or straight-out illegal behaviour" by banks and insurance and superannuation companies, with obvious health effects.[116]
Reputational management practices	Efforts to shape legitimacy and credibility, reduce risk, and enhance corporate brand image	Reputational management practices are diverse but can be grouped in two main categories: (1) Corporate social responsibility; environmental, social, and governance; and sustainability—all broadly similar concepts that involve commercial entities making voluntary commitments to uphold ethical norms and refrain from causing harm.[117] Although some of these efforts have real and meaningful effects, often they contribute more to reputation building than to generating real benefits for society.[64] Supporting US legal rulings that genuine corporate social responsibility or corporate philanthropy is illegal,[3] evidence indicates that it is at best a superficial, public relations exercise[118] and at worse a tax deductible way to shape policy outcomes that work against public welfare.[62,64,119] Corporate social responsibility is engaged in most heavily by corporations whose core products are harmful.[13] Examples include: in Thailand, a large donation by an alcohol company to the Thai Government after the 2004 tsunami enabled direct access to the Thai Prime Minister to present the company's preferred policy option.[120] During the COVID-19 pandemic, the brewing company AB InBev committed to distributing more than 1 million litres of drinking water to communities in Brazil. Since water insecurity is an area of reputational vulnerability for the alcohol industry, this created an opportunity for the company to present itself as a responsible partner in water stewardship.[13] In Greece, after tobacco transnational Philip Morris International donated ventilators for the COVID-19 response, its chief executive officer was invited to join a Chamber of Commerce roundtable discussion on the COVID-19 vaccine alongside the Greek Prime Minister, in contravention of Article 5·3 of the Framework Convention on Tobacco Control.[121] Yet Philip Morris International's involvement in tobacco smuggling involving the Greek islands[122] and its wider involvement in tax avoidance[106] are both documented and likely to have deprived the Greek Government of substantial revenue. (2) The institutionalisation of public–private partnerships, where state and commercial actors are "involved in multilevel governance networks with weak enforcement mechanisms and lack of democratic control".[123] The United Nations Global Compact, developed jointly by state and commercial actors to engage corporations in improving their social and environmental effects, has continued to be a highly influential governance device globally, despite a decade of data that "conclusively demonstrates that the UNGC [United Nations Global Compact] failed to induce its signatory companies to enhance their CSR efforts and integrate the 10 principles in their policies and operations".[124] A review concludes that, despite being "an omnipresent policy tool in global health [...] the focus on private sector-driven PPPs [public–private partnerships] in global health ultimately undermines the attempt to significantly improve global health".[125]

LMICs=low-income and middle-income countries.

Table: **Commercial sector practices and examples of how these negatively influence health and social and health inequity**

buy access and influence, perpetuating the problem.[13] This use of gifts to gain political access and influence came to fore during the COVID-19 pandemic when unhealthy commodity industries in particular sought to leverage the situation to their benefit[13] (table).

When it comes to science, Organisation for Economic Co-operation and Development data show that since 1991 there has been a shift away from state funding towards commercial funding.[138] With evidence that corporations across diverse sectors consistently engage in similar strategies to shape science in their own interests,[65] this funding shift raises the possibility that whole evidence bases will increasingly favour commercial actors and their products.[65] Moreover, transnational corporations' growing control over the technology and intellectual property that emerges from this research means they can capture it to advance their goals and veto its use when it does not contribute to profitability, even when this harms health.[16,139] For example, the forerunners of ExxonMobil patented low emissions vehicles as early as 1963 but dropped this line of work, fearful it might reduce demand for oil or increase regulatory pressure, stalling the

development of the electric car.[140] Similarly, profits from products developed in or with substantial funding from the public sector have accrued almost exclusively to commercial actors who then restrict access to purchasers (from states to individuals) able to pay the often-inflated prices. Examples include pharmaceutical companies using intellectual property protection to restrict access to drugs and vaccines for HIV and COVID-19[141,142] and Apple making massive profits from GPS and touch-screen displays developed by the US Government and military.[143] This conversion of public knowledge to intellectual property means it no longer "belongs to humanity" as Pasteur claimed[139] and that the public (including governments) often pay twice—to fund the research and then purchase the product.

Technology companies have begun to do the same with private knowledge, commodifying personal information in what Zuboff labels "surveillance capitalism".[144] In the absence of appropriate regulation, they collect personal information and sell it to others or use it to refine algorithms to modify human behaviour for commercial and political ends. For example, Facebook's (now Meta) role in the targeted marketing of unhealthy commodities (often contravening regulations); amplifying misinformation, racism, sexism, and xenophobia; harming mental health; and influencing voting patterns has all been established.[24] Whistleblowers allege the company understood potential dangers but declined to act because doing so would reduce profits.[24]

It is important to stress that these behaviours often threaten the small and medium enterprises that make a disproportionately high contribution to inclusive economic growth and employment.[145] Transnational corporations' ability to act in this way reflects their power and legal structures, notably limited liability, which makes it difficult to hold them to account.[3,58] But it also reflects the fact that transnational corporations have so successfully reshaped norms that such conduct is now considered inevitable, if not beneficial.

Shaping norms

Norms are social expectations, often unwritten, about how individuals, communities, and organisations should behave.[146] Although commercial actors respond to existing norms, above all they assiduously seek to shape norms, ideas, beliefs, and values in their own interest using the practices outlined above.

The ability to shape norms in this way requires substantial resources and is the most hidden form of power (panel 1).[10] In addition to their extensive use of public-relations firms, transnational corporations fund and even create third-party organisations including dark money think tanks and astroturf organisations (fake grass-roots organisations like patient support or smokers' rights groups) to convey their messaging, recognising that the apparent independence of the source gives their framings greater credibility.[75,147]

The media, ownership of which has become concentrated among a wealthy elite, has been shown to increasingly serve that elite, including global corporate interests.[148] Herman and Chomsky describe how "money and power are able to filter out the news fit to print, marginalize dissent and allow the government and dominant private interests to get their messages across to the public".[38] Consequently, the role of commercial actors in norm shaping is often overlooked. Few realise the term litter bug was coined by the plastics industry[149] and carbon footprint by British Petroleum,[150] both to detract from corporate harm by pointing the finger of blame at individuals via well-funded public relations campaigns.

These norms exert their influence through all levels of the model and have played a key but often hidden role in driving commercial harm. For example, major corporations and very wealthy individuals played a substantial role in promoting and shaping neoliberalism as the dominant political and economic norm, funding a diverse set of think tanks, business schools, and other organisations through which they could secure influence (panel 3).[4,9,17,43] The same actors promote deregulatory policy norms with a focus on self-regulatory and coregulatory (partnership or multi-stakeholder) approaches to policy making.[151] Such approaches, which allow commercial actors to decide which of their practices need restricting and how, are of little effectiveness and are exploited by commercial actors to prevent more effective statutory regulation.[119,152,153] Industries then use partnerships with governments in one arena to create the expectation of participation in others (eg, academia).[151] These organisational norms of partnership have been so successfully established that many institutions, including UN bodies and governments, have shifted towards working in partnership with commercial actors even within the health arena,[124,154] and the norm that unhealthy commodity industries are credible partners persists despite both fundamental conflicts of interest and evidence that partnership approaches are ineffective.[151,153] Moreover, these partnership approaches, in both delivery and policy making, reinforce commercial actors as part of the solution to the problems they have created,[119,124,125,151] thus serving primarily as corporate reputation management initiatives (table).

Commercial actors and their allies use these broader norms to frame public health problems, possible solutions, and their role within these solutions, leading to outcomes that favour commercial and shareholder interests but are detrimental to public health (figure 2). Problems such as climate change, obesity, drinking, smoking, gambling, and abuse of pharmaceutical opioids are overwhelmingly framed as poor individual choices: the problem gambler; irresponsible drinker; Facebook's passive user more likely to be harmed by social media overuse, and so on.[155–157] This framing, reinforced by transnational corporations' influence on science[65] and an increasingly supportive mass media,[38] helps absolve corporations, and indeed governments, of

blame and narrows the range of possible solutions to downstream individual-focused interventions, notably education to correct market failure, ostensibly by helping consumers make supposedly better choices. These individual-focused solutions are less effective than upstream population-level solutions.[18,21] Consumers do not have the capacity (time or resources) to make the right choice, however much education is done.[4] Worse, transnational corporations have been shown to withhold or deliberately confuse the information consumers need.[16,136]

Simultaneously, marketing reshapes cultural norms to further drive sales. Marketing has been used, among other things, to create a broad consumption ideology, which drives overconsumption,[152] and to combat norms that restrict consumption—eg, reinterpreting the Qu'ran to undermine the status of smoking as *haram* (ie, prohibited).[158]

The routes to ill health and health inequity

The commercial sector practices and norms detailed previously influence health in direct and indirect ways, which can be understood by exploring their effects on health through each level of the determinants of health model (figure 1). This section explores how this happens and panel 4 provides an overview of the whole model using a case study of how the sugar-sweetened beverage industry contributed to obesity and NCDs in South Africa.

Level 1: the political and economic system

The increasingly globalised economy of the 20th century weakened states to transnational private actors, and some post-World-War-2 institutions that were engaged in global governance exacerbated this problem. This shift towards transnational governance also created the institutional conditions for neoliberalism, which major commercial actors had concertedly promoted (panel 3), to flourish. The health effects of specific features of neoliberalism are briefly outlined later. Further details, including growing evidence that neoliberalism has been damaging to health and equity, are available elsewhere and suggest that outcomes, other than for a small wealthy and corporate elite, have largely been detrimental.[8,9,17,181,182] The effects, however, vary somewhat between jurisdictions, according to the extent to which they adopted (or were required to adopt) neoliberal approaches, or cushioned their effects through welfare policies.[9,17]

Neoliberalism's almost exclusive focus on encouraging economic growth as measured through gross domestic product (GDP) encouraged unsustainable growth with negative effects on health and the environment,[183] ignoring that both are prerequisites to economic development.[36]

Although deregulation can enable entrepreneurship, it has also led to the removal or weakening of regulation across many spheres and made it harder to pass new legislation that would protect human and environmental

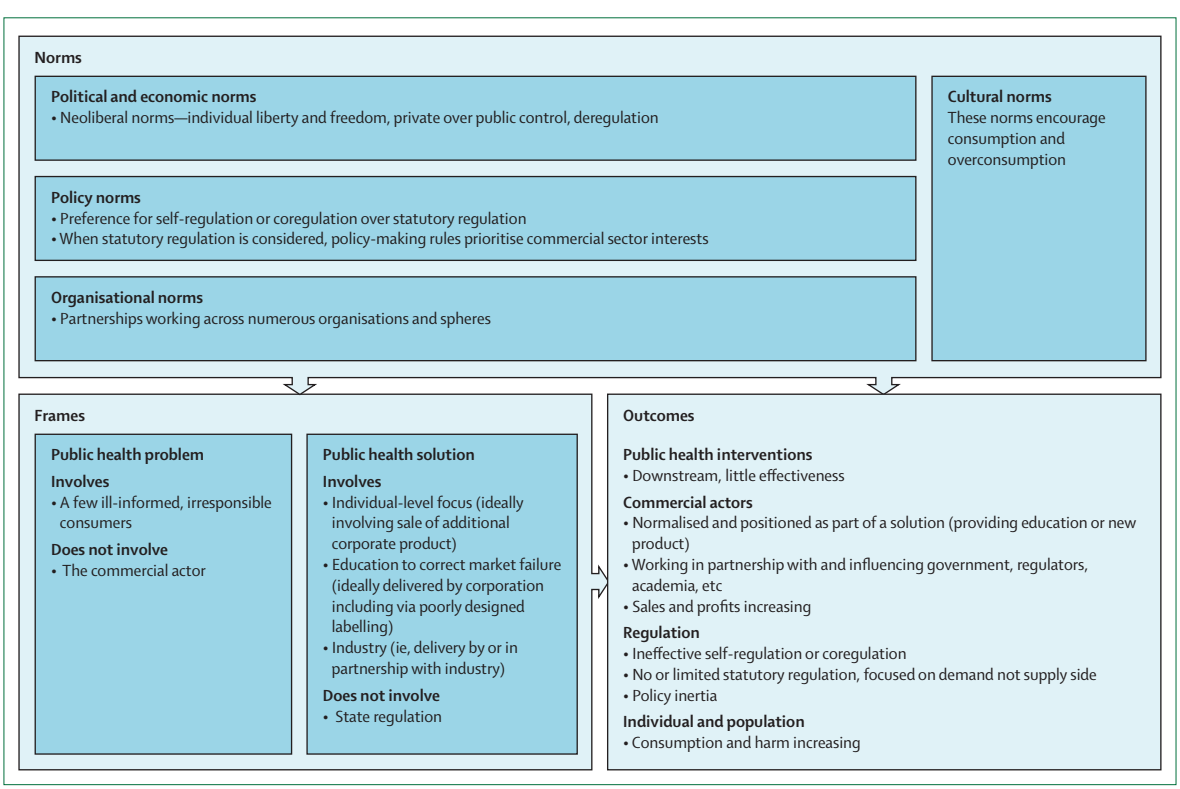

Figure 2: **Industry norms, frames, and their outcomes**

***Panel 4*: An illustration of the commercial determinants of health model through the case of sugar-sweetened beverage (SSB) consumption in South Africa, including relevant commercial sector practices**

Level 6

In South Africa, 39·6% of female adults and 15·4% of male adults (ie, aged ≥18 years) are obese[159] and type 2 diabetes, cancer, dental caries, and cardiovascular disease are all increasing[160] and inequalities in these disease patterns are marked, with rates of disease higher for Black South Africans.[161]

Level 5

Although the causes of these health problems are, of course, complex and multifactorial, high SSB consumption[162] is a key modifiable risk factor,[163] as is the consumption of other highly processed food products. School-aged children consume 2·3 servings daily (1 serving=340ml)[164] and South Africa is one of the top ten global consumers of Coca-Cola products.[162]

Level 4

In the context of South Africa's weak regulatory environment, widespread marketing practices that particularly target poor, mostly Black South Africans[165] and the extensive availability of SSBs in supermarkets, convenience stores, and street vendors in densely populated urban areas and remote rural villages has created physical and cultural environments (level 4) that are persuasive of consumption (level 5). SSB branding is prolific: school and shop signs,[166] billboards, and TV channels[167] increasingly expose children to SSBs and public health messaging on nutrition and the harmful effects of SSB consumption is almost non-existent. Marketing has also reshaped cultural norms by emotively linking SSBs with local music, popular sports, and traditional clothing so that SSBs are now perceived as symbols of wealth within South Africa's value system.[168]

Level 3

The South African Government could have regulated to restrict marketing practices, but the post-apartheid Government had quickly embraced neoliberalism[8] and its emphasis on deregulation. This situation made it easier for SSB multinational corporations to use their scientific and political practices to delay progress. These corporations distorted the scientific evidence linking SSBs to obesity,[169] promoted ineffective voluntary actions,[166] positioned themselves as delivering key services that the Government had failed to implement, and used the resultant public–private partnerships (ie, reputation management) as leverage. In these ways, SSB corporations weakened and delayed evidence-based regulations, including the sugar tax and front-of-pack nutritional labelling.[169,170] Although health policies have therefore failed to reduce SSB consumption, other sectoral policies—also influenced by industry—have worked to increase it.[171,172]

Levels 1 and 2 and norms

This policy incoherence and difficulty passing public health legislation is the legacy of the upstream policy-making systems (level 2) and the neoliberal paradigm (level 1) and policy norms that emerged post-democracy. The same norms eased and promoted the entry of SSB multinational corporations to South Africa, with new bilateral, and multilateral, trade and investment arrangements and the deregulation of local industries making sugar (and thus SSBs) more affordable and available,[173] leading to increased consumption.[174] These altered political and economic norms served to entrench corporate influence. New formal requirements to conduct extensive public hearings for, and economic impact assessments of, proposed policies mirrored the requirements corporations had pushed for elsewhere[175] and gave greater credence to the negative effects on business than the potential health benefits, which made it harder to regulate in the public interest. The embedding of SSB transnational corporations within key policy forums enabled their direct input on policies despite the clear conflict of interest.[176,171]

Other issues

SSB transnational corporations are making record profits in South Africa,[177] which in part reflects their ability to externalise their costs, likely enabled by South Africa's permissive approach to corporate taxation—another feature of its neoliberal approach.[178] Meanwhile the Government has to bear the exponentially growing health-care costs associated with SSB consumption. With transnational corporations now dominating most nodes in the South African food and beverage value chain,[179] and South Africa as their entry point to the African market,[180] the problems detailed here could be replicated elsewhere in the region.

wellbeing (table). Within a globalised economy deregulation encourages what is known as a race to the bottom in regulatory standards.[27,109]

Deregulation of the financial sector played a key role in the emergence of financialisation (panel 1), which has harmed health[17,184] and (above all) equity, largely by increasing economic volatility (precipitating repeat banking crises) and debt and stifling economic growth.[185] Indeed, despite neoliberalism's single-minded focus on growth, it has generated much lower growth than did the more regulated capitalism of the early post-World-War-2 era. This lower growth occurs because many neoliberal policies, contrary to what its supporters say, have dampening effects on economic growth in the long run.[4,11,43] In particular, financialisation has reduced investments by increasing instability in the economy (which shrinks the investor's time horizon) and by increasing the pressure on corporations to maximise short-term profits by cutting back on spending on investments (eg, in equipment, research and development, and worker training).[4] Among the financial practices most damaging to health are the speculative trading in basic necessities, such as food, leading to large fluctuations in food prices and resulting hunger;[186]

and securitisation of home mortgages that prompted the banking crisis, individual indebtedness, evictions, and homelessness (table).[187]

Trade and investment liberalisation can stimulate economic growth and employment and, by reducing barriers to trade and investment, increase the availability and reduce the price of products. However, when the product is damaging to health, this almost inevitably increases harm.[12,188,189] The many examples include the rise in sugar-sweetened beverage consumption in the Philippines[189] and South Africa (panel 2), and the substantial increase in smoking in the former Soviet Union after the lifting of restrictions on foreign direct investment.[190] These policies have played a key role in globalising the tobacco, obesity, and NCD epidemics while also constraining access to NCD medicines.[189,191] Additional harm occurs because globalised supply chains cause climate change and biodiversity loss, with international trade now a major driver of global carbon emissions.[132]

Privatisation has led to commercial actors becoming actively engaged in the provision of education, health care, social care, housing and water, and other services essential to health.[39,42] Although privatisation can improve efficiency in some sectors when the process is well managed, overall there is little evidence that privatising public services improves quality or lowers cost.[11,192] Instead, privatisation often leads to price increases and restricted access to services essential to health, such as water or heath care, particularly for the least well-off individuals.[181,192,193] The World Bank has noted the difficulties the public sector is likely to face in governing public–private partnerships, with equity effects proving particularly difficult to monitor.[192] Nevertheless, the 1980s onwards has seen increasing privatisation of health care with negative outcomes.[194,195]

Although the International Monetary Fund and the World Bank promoted and even required the previously mentioned policies as a part of loan conditionality[196] (in the case of the International Monetary Fund, doing so even for unhealthy commodity industries when negative health outcomes were predictable[197]), major corporations pushed for and benefitted from these changes. Corporate misconduct also exacerbated the harms.[17,44] For example, by aggressively advertising their products, ignoring or overturning existing regulation, lobbying against any further restrictions on their practices, and even directly drafting policies in their own interest, major corporations drove particularly large increases in unhealthy commodity consumption after liberalisation and privatisation.[44]

Level 2: regulatory approaches and upstream policies

The preference for self-regulation or coregulation over mandatory regulation across all levels of governance, despite the substantial limitations to this type of regulation, has already been established. Yet even once mandatory regulation is considered, deregulatory norms have been further operationalised through a suite of policy-making rules that have largely remained hidden yet have far reaching implications for public-interest policy making. We refer to these as upstream policies as they restrict the options for, make it harder to pass, and make it easier for commercial actors to challenge downstream public policies (level 3). There is growing evidence that diverse corporations have played a key role in establishing these rules that work to systematically advantage their interests.[56] Some of these approaches to policy making have been labelled a threat to democracy because they bring policy making under an unprecedented amount of corporate control.[198] These approaches take three main forms.

Risk-based approaches to policy making: transnational corporations (including tobacco and pesticide companies) have embedded industry-friendly scientific standards into decision making by promoting risk-based (instead of precautionary-based) approaches to decision making.[65] These approaches aim to prevent product regulation by setting a high regulatory standard (eg, that the relative risk of cancer from a product must be higher than 2 before it is regulated, regardless of the extent of exposure[199]). These approaches are often dressed up as being science-based or evidence-based and are promoted by benign-sounding industry third parties (eg, the American Association for the Advancement of Science)[68] to trick people genuinely interested in using science for the public good.[200] Yet although corporations push for impossibly high evidential standards to prevent and delay regulation,[65,199] the standards required for market approval are generally lower, in some instances resulting in substantial harm before regulations can be introduced, as occurred with glyphosate and rofecoxib (table).[201–203]

Regulatory approaches involving stakeholder consultation and business affect assessment: many jurisdictions now require stakeholder consultations and regulatory impact assessments for every policy that would appear to be good practice. However, evidence shows that tobacco, food, chemical, fossil fuel, and other companies collectively promoted such rules (known in the EU as Better Regulation) expressly to make it harder to pass public health and environmental policies.[68,204] These companies have since used such stakeholder consultations to that effect—to prevent, slow, weaken, and challenge policies by flooding consultations with responses from third-party organisations they have funded and with highly misleading evidence they have commissioned.[75,205,206] These approaches advantage powerful commercial actors: stakeholder consultations embed the companies' right to participate (even where a conflict of interest exists) and provide a route through which they can channel their (often highly misleading) evidence; impact assessments that take a cost–benefit approach prioritise effects on business over other areas, such as health or the environment.[175,204] These requirements are being expanded.

For example, a major tobacco company played a key role in promoting Zambian legislation requiring regulatory impact assessment just as the country was attempting to pass tobacco-control legislation.[207]

Trade and investment agreements that operationalise the liberalisation in trade and investment, detailed in level 1, have been used to globalise these policy-making rules.[208] Under the moniker of good regulatory practice, trade and investment agreements often require implementation of risk-based regulation, stakeholder participation in formal policy development,[209] or a focus on partnership and coproduction.[210] There is evidence that transnational corporations influence the content of these agreements[208,211] to ensure they include, for example, protection of intellectual property and international investors. Such protections make it easier for corporations to stifle and challenge public health regulation and they have used these protections for both purposes.[212,213]

Level 3: sectoral public policies

Consequently, it is increasingly difficult to get statutory regulation on the agenda and then to shape regulation in the public interest once there. Policy debates become drawn-out battles in which transnational corporations use their substantial power advantage to block, weaken, and delay policies, with evidence that this has occurred from local to supranational levels.[63,70,71,127] Even once enacted, transnational corporations work to undermine, circumvent, and overturn policies, through legal and other means.[63,69]

Influence extends to diverse policies, including agriculture, social, environmental, labour, trade, and fiscal policies that all affect health, often contributing to policy incoherence.[214] A particularly egregious example is how Coca-Cola and Ambev exploited a Brazilian Government tax policy to secure a subsidy of 5–10 US cents for every can of soft drink consumed in Brazil. Now in place for over 20 years,[137] this directly undermines the country's obesity, environmental, and even economic policies and means the Brazilian Government and each resident (the latter to the tune of US$10 a year) are paying Coca-Cola to cause health harm—26% of the population are obese and 60% overweight. Yet, repeat governments and extensive efforts by the judiciary have been unable to reverse this policy (which is making Brazil one of Coca-Cola's most lucrative markets) because of Coca-Cola's misconduct and the destructive links between powerful corporate and individual political interests.[137]

Level 4: environments

Environments are the settings within which behaviours take place. We consider these under two levels. First, broad environments: physical, socioeconomic, digital, and so on. Second, the more specific settings through which those environments touch on our lives: for example, living, school, and work environments (figure 1). Commercial actors seek to influence both types of environments and inadvertently damage others. The natural environment, for example, is increasingly degraded from the "production and consumption of stuff".[215]

Corporations have altered diverse aspects of the physical environment in order to maximise sales such that the environments are becoming increasingly obesogenic[216] (with healthier food options harder to access) and alcogenic (when physical alterations to bars[84] and increased outlet and marketing density encourage consumption).[85] Less well known is how the automobile, tyre, and fossil companies influenced the built environment and dismantled electric public transport systems in the USA to increase dependence on, and thus sales of, their products.[152,217]

Often overlooked are how public health harms also proliferate through information or, increasingly, misinformation environments. Building on the scientific practices detailed previously but amplified through media and social media, think tanks, and public relations organisations that are funded and sometimes specifically established by industry,[65,147,218] an entire ecology of misinformation has developed, creating what has been described as post-truth or agnogenesis—the deliberate creation of ignorance.[136] In the case of climate change, it is now established that, over decades, ExxonMobil's public communications (notably advertorials) were even more misleading than its science and deliberately misled the public.[135] Social media, with its pay-per-click revenue model, plays a growing role in spreading misinformation.[136]

The increasingly unequal socioeconomic environments that follow the concentration of wealth lead to poor societal outcomes on a range of measures, including life expectancy.[181] Schools have become venues where harmful industries disseminate industry-friendly framings and misinformation[219,220] and working environments, also important determinants of health,[39] have become increasingly damaging to health.[17,221]

Level 5: final routes to the effects on health and equity

At the individual level the final routes to ill health occur largely, but not exclusively, through consumption and use of products damaging to health; reduced access to products and services beneficial to health (medicines, health care, healthy foods, and leisure and exercise facilities); injuries in the workplace and beyond; and exposure to pollutants, toxins, and allergens—many playing a role in the causes of cancer, which has long been hidden by corporate interests and their state supporters.[222] Finally, a low income, low job security, long working hours,[223] and stress (all characteristic of changes to labour practices driven by the commercial sector) have important effects on health.[17] The growing socioeconomic inequities detailed previously mean these outcomes are increasingly unequally distributed with people the least well off multiply disadvantaged with, for example, greater

illness and less access to health care, particularly in privatised systems.

Moving towards solutions

This Series paper advances understanding of the CDOH in three main ways. First, by bringing some consensus around the scale, scope, and complexity of the issue. Second, by identifying the importance of underpinning, systems-level problems, which explain why commercially driven harm to health is hard to address and continues to escalate. In addition to externalities and power, these problems include often-overlooked issues such as the ubiquity of corporate norm shaping enabled by a media that increasingly represents corporate interests[38] and that corporations have not only shaped downstream policies in their interests but established regulatory approaches that make it hard to pass policies that would protect human and planetary health. Third, by developing a model that provides a simple way of understanding the CDOH and can be used to guide solutions from system changes (eg, rethinking the way capitalism is organised including looking beyond GDP to other ways of measuring progress[11,224]), to specific interventions such as regulating harmful commercial practices. Rather than replacing existing models of the social and political determinants of health, which remain valid, our model draws on one of those models[39] to highlight how commercial entities interact with those determinants to shape health. Like those models, it highlights that public health is currently focused too far downstream (at the centre of our model on treating ill health and changing individual behaviours) to create sustainable health improvement. More sustainable, equitable, and cost-effective progress will only be achieved by moving outwards in our model.

Reshaping the model in the public interest (appendix p 6) will therefore require the political and economic changes that are increasingly being called for.[11,224] Commercial entities will need to meet the true costs of the harm they cause; governments will need to exercise their power in holding commercial entities to account; and norms need to be reshaped in the public interest, drawing attention to the right to health and governmental obligation to protect health and not just corporate freedoms. This paper makes clear that such change is urgently needed and, until it occurs, health and equity continue to be threatened, causing substantial economic and social damage.[36]

Contributors

ABG conceptualised the overall paper, with input from AF, FB, AB, NF, SF, KJH, PJ, JL-N, CMPC, RM, MP, LR, VT, and AMT. The original model was conceptualised by ABG and further model development was done by ABG, AF, AB, MP, FB, VT, and AMT. ABG, KB, AF, and AB conceptualised the commercial practices. All authors acquired, analysed, and interpreted data and literature. ABG, AF, FB, AB, KB, SD, AE, NF, SF, KJH, PJ, CMPC, RM, MM, MP, LR, VT, and AMT wrote the original draft and all authors reviewed and edited the manuscript. ABG supervised the project, with administration from AF, AB, and ABG and funding acquired by ABG for ABG and AF. All authors gave final approval to publish this manuscript.

Declaration of interests

ABG reports grants from Bloomberg Philanthropies (Stopping Tobacco Products and Organizations), WHO Europe, UK National Institute for Health and Care Research, Cancer Research UK, UK Research and Innovation, Global Challenges Research Fund, and UK Medical Research Council; consulting fees from World Bank; support for attending meetings or travel from WHO, Prince Mahidol Award Conference, and European Health Forum Gastein; and is European Editor of Tobacco Control and is an unpaid member of the Royal College of Physicians Tobacco Advisory Group, Council of ASH, WHO International Expert Group on the Commercial Determinants of Health, WHO International Expert Group on Smoking and COVID-19, European Respiratory Society's Executive Committee, and Framework Conventional Alliance strategy development working group. FB reports royalties from her books published with Oxford University Press; support for travel from the organisers of the Prince Mahidol Award Conference annual meeting in 2019 and 2020; and is Chair of the Global Steering Council of the People's Health Movement and Board Member of Cancer Council of South Australia. LR reports grants from Bloomberg Philanthropies (Stopping Tobacco Products and Organizations), New Zealand Heart Foundation, Royal Society of New Zealand (Marsden), and Otago Medical Foundation Trust; and support for attending meetings or travel from Bloomberg Philanthropies. MP is a coinvestigator in the SPECTRUM consortium, which is funded by the UK Prevention Research Partnership. All remaining authors declare no competing interests.

Acknowledgments

We would like to thank David Fig and Petronell Kruger (University of Witwatersrand, Johannesburg, South Africa) for input on panel 2, Andrew Crane (University of Bath, Bath, UK) for discussions on the categorisation of commercial practices, and Sarah Dance (University of Bath) for assistance with literature retrieval, research, and administrative support. ABG and AF were supported by the SPECTRUM Consortium (MR/S037519/1), which is funded by the UK Prevention Research Partnership (UKPRP). UKPRP is an initiative funded by the British Heart Foundation, Cancer Research UK, Chief Scientist Office of the Scottish Government Health and Social Care Directorates, Engineering and Physical Sciences Research Council, Economic and Social Research Council, Health and Social Care Research and Development Division (Welsh Government), Medical Research Council, National Institute for Health Research, Natural Environment Research Council, Public Health Agency (Northern Ireland), The Health Foundation, and the Wellcome Trust. AE, KJH, and SAK were supported by the South African Medical Research Council/University of the Witwatersrand Centre for Health Economics and Decision Science (Grant number 23108). AB was supported by a PhD scholarship funded by University of Bath. JLN was supported by the Victorian Health Promotion Foundation. LR was supported by fellowships from the New Zealand Heart Foundation and a Royal Society Fast Start grant (UOO2028).

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