Structure and Tactics of the Tobacco, Alcohol, and Sugary Beverage Industries

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Noncommunicable diseases (NCDs) are the leading cause of death globally, accounting for over 70% of deaths worldwide. The burden of the epidemic is strikingly inequitable; more than three quarters of all NCD deaths occur in low- and middle-income countries (WHO 2014a, 2015a).

Tobacco, alcohol and unhealthy foods are three leading risk factors for the global burden of disease (Lim et al 2012). This has led to a growing recognition that, alongside other social determinants of ill health including rapid urbanization, growing income inequalities and ageing populations, the burden is driven by "the impact of the globalization of marketing and trade of products deleterious to health (leading to tobacco use, harmful use of alcohol and unhealthy diets)" (WHO 2017).

Multi-national firms are a defining feature of modern economies. Competitive pressures and technological innovation allow firms to integrate their production and supply chains, invent new products, and influence consumer choice on a global scale. However, economists and public health experts have pointed to important ways in which the structure and organization of some industries can lead to non-optimal outcomes. In the case of tobacco, sugary drinks and unhealthy foods and alcohol -- products increasingly produced and aggressively promoted at an unprecedented scale by large international firms -- increased use is imposing staggering health and economic costs.

Governments use regulation and fiscal policy tools as incentives to align commercial practices with social welfare, including informing consumers and reversing the negative externalities arising in consumer markets. Fiscal policy measures, in particular excise taxes, are distinct from many forms of regulation in the way in which they directly and immediately affect the price of products. Tensions between commercial interests and health goals are heightened in the context of fiscal policy measures for two reasons – one, the pricing decision is central to companies' bottom lines in the short and long term, and two, higher prices are highly effective at reducing demand and have value as public health interventions.

In any industry, the presence of large, and often multi-national, firms and systematic marketing campaigns and lobbying efforts can threaten the autonomy of governments in setting regulatory policy, and can dilute the impact of fiscal policies. Understanding the global scope of tobacco, alcohol and unhealthy food industries and the strategies and tactics deployed to oppose national and international innovation in health policy is critical for efforts to implement effective fiscal policies for health. The paper provides a brief overview of the structure of the tobacco, alcohol and unhealthy food industries and describes key strategies these industries use to oppose and undermine policies to reduce harmful use.

I. INDUSTRY STRUCTURE: CONSOLIDATION AND GLOBALIZATION

The Tobacco Industry

Recent decades have seen a high degree of consolidation in the global tobacco industry. Investments in mergers and acquisitions have been the main driver of growth for multi-national tobacco companies (Euromonitor International 2017a). Key developments in driving such dominance have included the 1999 merger of British American Tobacco (BAT) and Rothmans, acquisitions in 2002 and 2007 of Reemtsma and Altadis by Imperial Tobacco, and Japan Tobacco International's 2007 purchase of Gallaher.

The industry's desire to manage exposure to litigation within the United States has also been a driver of structural change. In 2003, RJ Reynolds and BAT subsidiary Brown & Williamson combined their US assets to create Reynolds American, with BAT completing a full buy out in 2017. In 2008, parent company Altria spun off Philip Morris International (PMI) as a separate legal entity to free the latter's international growth from domestic legal pressures (Bialous and Peeters 2012; Bary 2008).

Globally, five firms account for nearly 80% of cigarettes sold. The China National Tobacco Corporation (CNTC) accounts for half of that share with 41.5% of the global market in 2016 (Euromonitor International 2017a). While the vast majority of cigarettes currently produced by CNTC are sold domestically within China, the company is engaged in ongoing efforts to transform itself via significant expansion into international markets (Fang et al 2017).

PMI is the longstanding leader among international tobacco companies. PMI's future growth prospects are driven by cigarette sales in Asia and new markets for its heat-not-burn product IQOS. BAT's share is approaching that of PMI after its 2017 takeover of Reynolds American; followed by JTI, driven by the company's growth in emerging markets including Brazil, Egypt, Korea, Myanmar, and Philippines. Imperial Tobacco has recently re-labelled itself Imperial Brands and holds the number five spot. Its strengths are more concentrated on mature markets in western Europe and Australasia, although it is also expanding in North America via the purchase of Reynolds American's Winston Salem, Kool and Maverick brands and is a global market leader in products such as premium cigars, fine cut tobacco, and rolling papers (Euromonitor International 2017a,2017d).

Leading Cigarette Companies: Global Market Shares in Volumes of Cigarettes Sold, 2016

	Global Market Share 2016 (%)	Leading Brand	Headquarters
CNTC	41.5	Yun Yan	China
PMI	14.4	Marlboro	USA
BAT	11.4	Pall Mall	United Kingdom
Japan Tobacco	8.4	Winston	Japan
Imperial	3.9	Davidoff	United Kingdom
Altria	2.2	Marlboro	USA
Reynolds	1.6	Newport	USA

Gudang Garam	1.3	Gudang Garam	Indonesia
Eastern	1.3	Cleopatra	Egypt
KT&G	1.2	Esse	South Korea

Source: Adapted from Euromonitor International 2017a

From a global health perspective, a striking feature of such market shifts is the degree of the industry's reliance on low- and middle-income countries (LMICs) for its future growth. Traditional markets such as the United States remain hugely lucrative, and Japan offers a key market for uptake in heated tobacco products, but growth markets are dominated by countries in Asia Pacific, the Middle East and Africa.

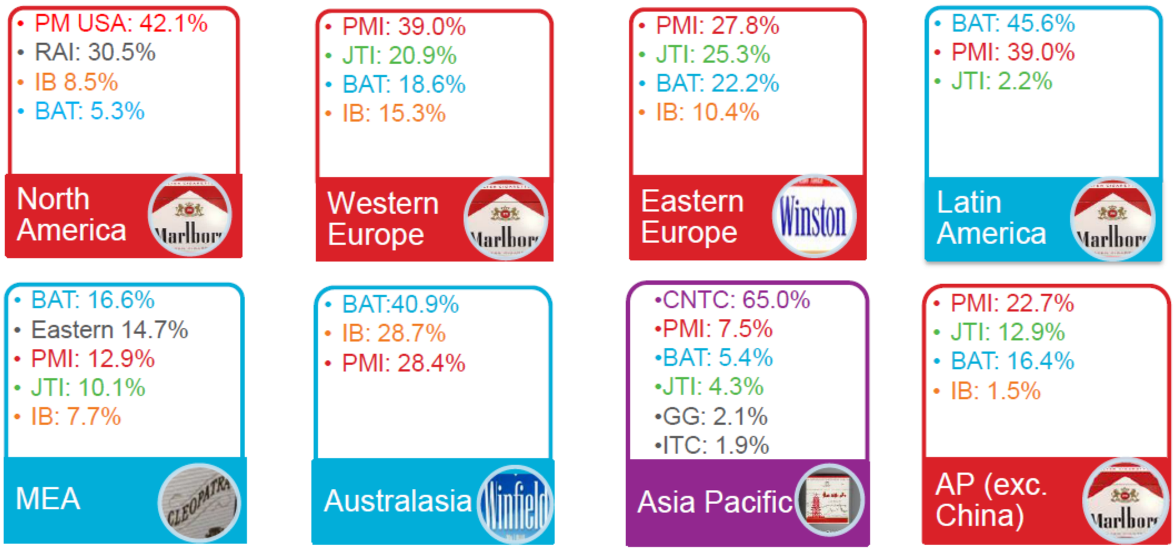
Multi-national tobacco companies have used various investment strategies to expand their presence in emerging markets. Growth in the former Soviet Union and eastern Europe in the 1990s was driven by purchase of state owned monopoly producers amid a wave of privatizations of state-owned monopolies (Gilmore et al 2011).

More recent investments in key growth markets in Asia and Africa include mergers and joint ventures between multi-national and domestic companies, combining the marketing strengths and resources of multi-national companies with the distribution networks and political strengths of domestic actors.

- PMI's position in Indonesia was established via its 2005 acquisition of Sampoerna, one of the leading domestic producers of kreteks. With this merger, it has both outperformed competitors in the Indonesian domestic market and launched kretek versions of international brands including Marlboro across multiple markets (Euromonitor International 2017b).
- In the Philippines, PMI established a joint venture with Fortune Tobacco in 2010. Philip Morris Fortune Tobacco Corporation (PMFTC) created a dominant position for PMI in the local market, enabling PMI to benefit from a tax structure that favored local producers prior to the country's 2012 tax reform (Chavez et al 2014).
- Recent investments by Japan Tobacco International (JTI) have included the US$1 billion acquisition of Mighty Corporation in the Philippines in 2017, with its share of the market expected to rise from 6% to 26%, gaining access to a national distribution network as well as acquiring key local brands (Euromonitor International 2017c).
- JTI has also made a key investment in Ethiopia, which has become the world's most rapidly growing cigarette market, more than doubling in size between 2011 and 2016 amidst rapid economic growth (Euromonitor International 2017a). Successive investments in Ethiopia's National Tobacco Enterprise Share Company gave JTI 70% ownership in January 2018 (Japan Tobacco 2018).

At a regional level, multi-national tobacco companies are now the dominant actors in cigarette markets in all regions except for Asia Pacific, in which CNTC leads. PMI and BAT have broad strengths across all regions, with particular significance attached to PMI's strength in Asia Pacific (outside of China) and BAT's leadership position in the Middle East and Africa (Euromonitor International 2017b).

Competitive Positioning of Multi-national Tobacco Companies by Region: regional share comparisons in 2016



Source: Euromonitor International 2017b

State owned tobacco companies, most notably CNTC, continue to account for a major segment of the world's tobacco production. State-owned production is often in the form of a tobacco monopoly that is wholly owned and operated by the government, as in China, Thailand, and Vietnam. Elsewhere governments have maintained or acquired interests in the industry. For example, the Japanese government holds 30% of shares in Japan Tobacco, while several of the leading shareholders in the ITC Limited, the dominant cigarette manufacturer in India, are government-owned insurance companies (Hogg et al 2015).

Strategic product differentiation and competition in products and pricing strategies can be significant in debates around taxation. Studies of industry efforts to influence excise tax structures found that "different companies favored different structures in different contexts," with Philip Morris' primary focus on Marlboro reflected in promotion of specific taxes and BAT's more diverse portfolio associated with advancing mixed excise regimes (Smith 2013).

Ninety-three percent (93%) of the global tobacco market is in cigarettes, including kreteks (clove-based cigarettes that dominate consumption in Indonesia, the world's second largest market). This excludes non-machine manufactured products such as bidi in India and papirosy in Russia (Euromonitor International 2017a). It also does not capture the dynamics of complex smokeless tobacco markets (South Asia alone accounts for nearly 80% of the world's smokeless tobacco users, WHO 2015b) or the rise of water pipe in many regions (Eriksen et al 2015), all of which are important in understanding the region-specific public health burden from tobacco.

The uniqueness of particular groups of tobacco products can shape the politics of tobacco taxation. For example, in the absence of foreign direct investment in India, the cigarette sector is dominated by ITC, which accounts for 79% of the cigarette market (Euromonitor International 2017a). Howevernearly twice as many adults smoke bidis and 5 times as many adults use smokeless tobacco as compared to cigarettes (TISS 2017). Though the bidi industry is highly fragmented, with some 300 major brands and no single company accounting for more than 5% of the bidi market (Nandi et al 2015), the industry has maintained an influential voice within taxation debates. This influence has had a direct impact on policy—bidis remain cheap (pack prices between 0.05 and 0.83 US$) and are taxed low (less than 9% of price), with some products wholly exempt from excise taxes (TPackSS 2017).

The Alcohol Industry

Rapid global expansion and accelerated consolidation has also occurred in the alcohol industry. The alcohol industry remains significantly more stratified and complex than tobacco, given its divisions across product categories and the substantial variation in market structure across the beer, spirits and wine sectors (Hawkins et al 2018).

Globally, beer dominates the alcohol market by volume, placing the world's leading brewers at the forefront of the industry, and reflecting the enormity of mergers and acquisitions in this sector.

Global Alcoholic Drinks – Top 10 Companies by Market Volume Share, 2015/16

Rank	Company	2015 % volume share	2016 % volume share
1	Anheuser-Busch InBev	16.6	20.4
2	Heineken	7.6	7.8
3	Carlsberg	4.7	4.7
4	China Resources	4.7	4.7
5	Molson Coors	2.4	3.8
6	Tsingtao	3.4	3.2
7	Asahi Group	1.0	2.7
8	Kirin	1.9	1.8
9	Diageo	1.8	1.8
10	Beijing Yanjing	1.9	1.7

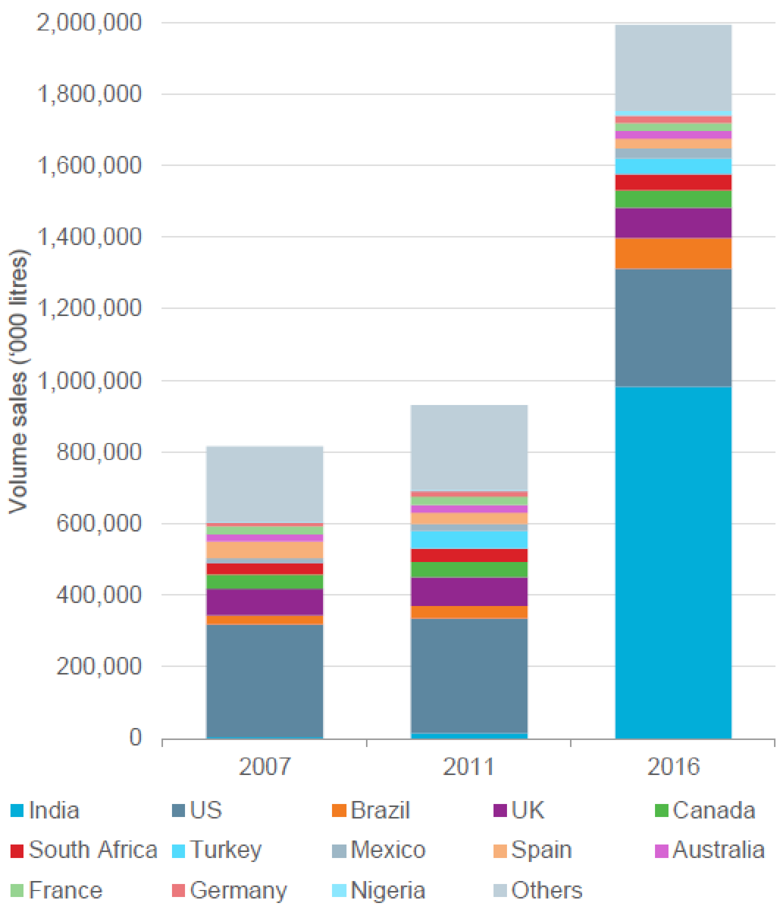
Source: Euromonitor International 2017e

Among global brewers, the top five companies achieved a 7% increase in market share from 2011 to 2016 to reach over 40% of the global market, a process driven by key deals such as SABMiller's 2011 purchase of Australia's Foster's Group and AB InBev's 2013 acquisition of Grupo Modelo in Mexico (Euromonitor International 2017e). Such developments were subsequently dwarfed by the merger between the world's two leading beer producers, AB InBev and SAB Miller, in 2016. At an estimated US$106billion, this was the third largest merger in corporate history, establishing a dominant market position at an estimated one-third of all beer sold worldwide and set to be market leader in 24 of the world's 30 largest beer markets (Collin et al 2015). The business case for this merger was unambiguously based on exploiting complementary geographical strengths of the two companies in "key emerging regions with strong growth prospects, including Africa, Asia and Central and South America," with a particular emphasis on Africa as "a critical driver of growth for the combined company" (AB InBev 2015). This reflects SAB Miller's South African heritage and regional strengths (Collin et al 2015).

While consolidation is less marked in the spirits sector, one company, Diageo, has obtained a leading position in the last decade, doubling its volume share of the global spirits market to 9% (Euromonitor International 2017f).

Diageo's sales in "new high growth markets" across Russia and Eastern Europe, Africa, Turkey, Latin America and Caribbean, and Asia Pacific grew by 38% between 2011 and 2013 as it made a series of major investments. These culminated in the 2014 purchase of United Spirits, the world's second largest distiller and a key actor in India, the world's largest whisky market (Collin et al 2014). This has radically transformed the company's geographical profile.

Diageo's Changing Geographic Spread 2007-2011-2016



Source: Euromonitor International 2017f

Key alcohol markets for expansion and investment are in Latin America, Asia-Pacific, the Middle East, and – increasingly – Africa, while growth in mature markets across Western Europe, North America, Australasia, and Eastern Europe has plateaued (Collin et al 2014).

The Middle East and Africa regional market saw the most significant rate of growth between 2011 and 2016, with industry analyst Euromonitor projecting this will continue over the next five years (Euromonitor International 2017g). Shifting regional trends are increasingly evident at the company level; in 2017, AB InBev saw revenue growth across its three regional Latin America markets (West 7.5%, North 6.1%, and South 26.1%), its composite Europe Middle East and Africa markets (6.3%), and in Asia Pacific (7.5%), while revenue for its traditional stronghold in North American declined by 1.8% (AB InBev 2017).

Within the spirits sector, the Asia Pacific region has been key to market expansion, with the massive Chinese and Indian markets principal drivers of growth. In 2016, Asia Pacific accounted for around 60% of volume growth for global spirits; only the much smaller Middle East and Africa region expanded more in relative terms (Euromonitor International 2017h).

Contextual factors specific to the local structure of the alcohol industry and approaches to regulation can have important implications for public health. As an example, alcohol retail monopolies operating in Nordic countries have traditionally been required to address individual and social harms from alcohol consumption (Holder et al 1998). While their structure and function has changed amid increasing marketisation, Finland, Iceland, Norway and Sweden still have the strongest alcohol policy regimes in Europe (Hogg et al 2016).

A different example suggests that a greater diversity of actors within the alcohol market can increase the scope for potentially significant de facto alliances in policy debates. For example, the Scotch Whisky Association aligned itself with multi-national alcohol companies by opposing the introduction of minimum unit prices as a "restriction on trade", even though minimum prices were supported by significant actors within Scotland's licensed trade (Holden and Hawkins 2013, Collin and Hill 2016).

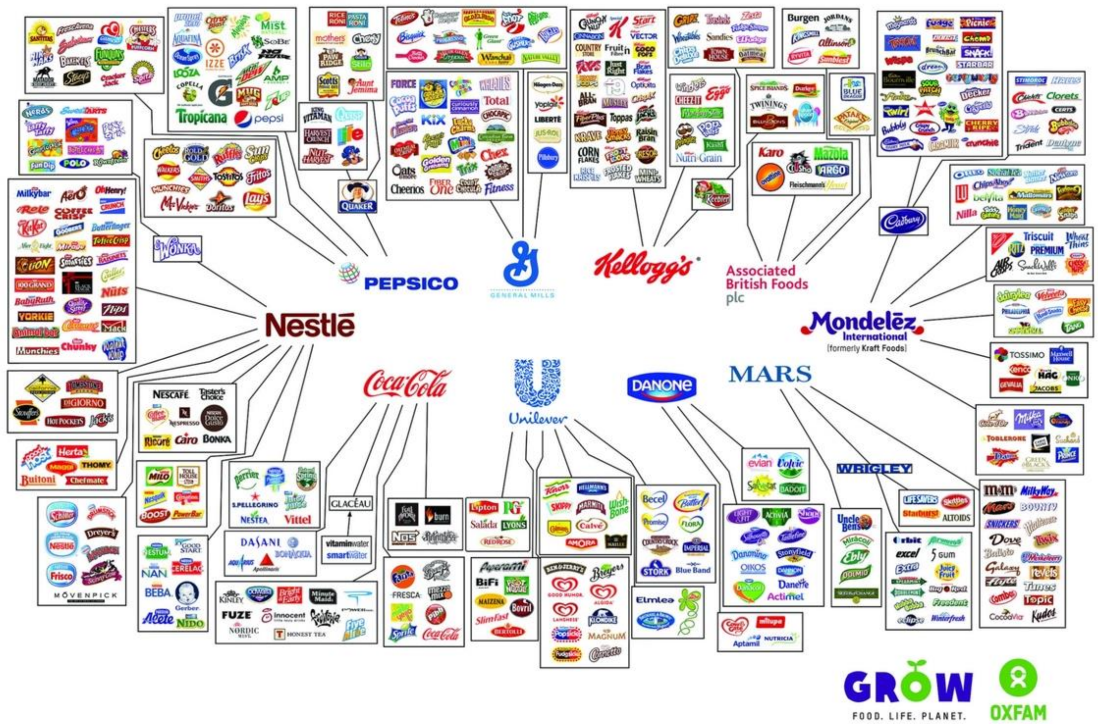
The Food and Beverage Industry

The range of actors and products associated with the food and beverage industry is many times more diverse than for either tobacco or alcohol, and this clearly has implications for public health approaches. Key elements within the food industry have made important contributions in combating hunger and ensuring safer, more reliable access to nutrition in a world where food security continues to be a problem for countries and populations (IFPRI, 2015). At the same time, there is increasing recognition of the extent to which the global expansion of leading food and beverage manufacturers poses a threat to global health (Williams and Nestle 2015). Reducing excess consumption of added sugar, saturated fats and high sodium foods is integral to countries' efforts to combat the growing burden of noncommunicable diseases, and this pits public health concerns against industry expansion strategies. This has stimulated a global focus on how to manage conflict of interest in nutrition policy, evident in the development by WHO of new guidance and tools for member states (WHO 2016).

Of particular concern for public health is the dominance of ultra-processed food products. Ultra-processed food are products "created from substances extracted from whole foods such as the cheap parts or remnants of animals, inexpensive ingredients such as ''refined'' starches, sugars, fats and oils, preservatives, and other additives … [that are] formulated to be intensely palatable and to fool the body's appetite control mechanisms" (Monteiro and Cannon 2012). Such foods tend to be shelf-stable, require investments in product development and packaging, and are often aspirational products in the emerging markets in LMICs. For food companies in these markets, ultra-processed foods have been key to growth, accelerating a nutrition transition in developing regions from traditional diets to processed foods (Stuckler et al 2012).

Ten (10) food companies control the majority of the world's leading food and beverage brands, and collectively generate over a billion dollars of revenue a day in an industry valued at over $7 trillion dollars in 2013 (Oxfam 2013). The Oxfam campaign 'Behind the brands' infographic highlights the extensive brand reach of these ten companies, Nestlé, PepsiCo, Coca-Cola, Unilever, Danone, General Mills, Kellogg's, Mars, Associated British Foods, and Mondelez (Oxfam 2013).

Brands owned by the world's ten leading food companies



Source: Kramer 2014

Among unhealthy food products, the global market in soft drinks has perhaps the strongest growth prospects of any consumer packaged good: the annual growth rate for the soft drinks industry exceeded 5% over the period 2012-2017. The Asia Pacific region is projected to account for almost half (47%) of global volume growth in the next five years with India expected to be the most rapidly growing market (Euromonitor International 2018).

The significance of such projections to the market leader, Coca Cola, is reflected by their investment of $4 billion in China over the last two years and commitment to invest $5 billion in India by 2020 (Williams 2015). Coca Cola, with 23.3% value share of the market, is seen as best placed to respond to global shifts in the industry and declining sales in North America. Its global reach is well balanced geographically across its regional operations, with Europe, Middle East and Africa accounting for 29% of sales by volume in 2016, followed by Latin America at 28%, Asia Pacific at 23% and North America at 20% (Coca Cola 2017).

World's Top Soft Drinks Companies by Retail Value 2016

Top 10 Company Ranking	Retail value (US$ million)	% value share	Headquarters
1. The Coca Cola Co	114,740.3	23.3	USA
2. PepsiCo Inc	50,729.8	10.3	USA
3. Nestlé	14,409.7	2.9	Switzerland
4. Suntory Holdings Ltd	12,236.6	2.5	Japan
5. Dr Pepper Snapple Group Inc	11,179.2	2.3	USA
6. Groupe Danone	10,169.2	2.1	France
7. Red Bull Gmbh	9,081.1	1.8	Austria
8. Monster Beverage Corp	7,202.0	1.5	USA
9. Asahi Group Holdings Ltd	6,198.1	1.3	Japan
10. Kirin Holdings Co Ltd	5,716.9	1.2	South Korea

Source: Euromonitor International 2017i

Structural Links Across Industries

Industry and investment analysts often cover the "food, beverage and tobacco" sector as a group given similarities in the ways that they are marketed and purchased (relatively small value products bought at a high frequency and in a broadly universal manner by households). Indeed the linkages across such producers are often deep, strategically aligned, and manifest in political influence.

This are particularly clear in links across the alcohol and food and drinks industries. Of the top ten soft drinks companies, three (Suntory, Asahi Group and Kirin) are also significant manufacturers of alcohol products in the Asia Pacific region. In March 2018, Coca-Cola announced it will be launching its first alcoholic product, a canned sparkling drink in Japan that includes the spirit shochu, amid speculation of a broader move into alcohol (BBC 2018).

Broader links are generated by integrated bottling operations and distributions chains. One of the potential barriers to the completion of the AB InBev - SAB Miller merger was the rival distribution relationships of the two brewers with Pepsi and Coca Cola respectively (Collin et al 2015). SAB Miller and Coca Cola had combined to create Coca-Cola Beverages Africa (CCBA) in 2014, integrating bottling operations for non-alcoholic drinks in Southern and East Africa. The key actors behind the merger were a group of Brazilian venture capitalists, 3G, who had previously led the merger between Kraft and Heinz as well as heading deals for Burger King and Tim Hortons (Collin et al 2015). Following the 'megabrew' merger, Coca- Cola completed a buy-out of SAB Miller's stake in

CCBA, a move that has been partially attributed to persistent rumours that AB InBev may be planning a buy-out of Coca-Cola (Nurin 2016; Euromonitor International 2017e).

There are also significant links between the tobacco and alcohol industries. Altria had previously owned SAB Miller and retained 27% of its shares as well as nominating three directors to its board at the time of the merger, for which it was a key supporter (Collin et al 2015). Altria now has two employees on the board of AB InBev, while the current BAT chairman spent most of his career in the alcohol industry and the Imperial Brands director was previously chief financial officer at SAB Miller (Collin 2018). Historically there have also been close links between the tobacco and food industries, most notably Philip Morris' prior ownership of both Kraft and General Foods (Kluger 2010). While such relationships are no longer as evident at the global level, they can remain significant in some national and regional contexts. The board of BAT's Brazil subsidiary Souza Cruz, for example, includes directors of regional operating companies for Coca-Cola, Unilever and Hershey (Collin 2018).

II. INDUSTRY INTERFERENCE IN TAX POLICY

Effective taxation constitutes a direct challenge to the interests of tobacco companies. This is reflected in the scale of tobacco industry efforts to prevent the adoption of best practices in national tax policy (WHO 2011).

The strategies and tactics of the tobacco industry to prevent or dilute effective tobacco control policies at the international and country level have been well documented (WHO 2009, 2014b). One systematic review of tobacco industry efforts to influence taxation policies identified twenty-one different tactics employed to counter tax increases and to oppose earmarking (Smith et al 2013).

Such techniques are often used to advance misleading claims about the purported effects of tobacco taxes that have been rolled out across diverse country contexts. These include assertions that increased tobacco taxes will be economically damaging, reduce revenues, hurt the poor, punish smokers and lead to increased smuggling and heightened criminal activity.

The claim that raising tobacco taxes will serve to increase smuggling is a misleading but longstanding and often influential argument. It has persisted despite evidence that tobacco companies have been actively complicit in cigarette smuggling in order to maintain their market share in jurisdictions with high excise taxes (Smith et al, 2013; Gilmore et al, 2015). For example, in the early 1990s BAT, Imperial Tobacco and RJ Reynolds all promoted smuggling of their products into Canada via US Native American reservations in order to maintain their profits and boost the case for reducing excise taxes (Kelton & Givel, 2008). A variant on this strategy was used in Thailand around the same time to impose pressure on the government to reduce taxation (Collin et al 2004). An internal BAT document points to strategic coordination with other multi-national producers in setting high cigarette prices in the Thai market with the intention that this would discourage legal sales, maintain the illicit market and thus 'demonstrate' that taxes result in "revenue lost. The belief is that the Thai's [sic] will then reduce the Duty" (cited; Collin et al 2004). This sits alongside extensive evidence of tobacco companies seeking to direct and control illicit trade across Asia and Africa (Collin et al 2004; LeGresley et al 2008), inflating estimates of the extent of illicit trade (SEATCA 2014), and "hijacking" key elements of the Illicit Trade Protocol (Gilmore et al 2015).

Key activities by which the tobacco industry aims to shape tax policy include:

- Working via front groups and third party organizations to obscure its involvement and enhance the credibility of industry positons
- Distorting the evidence base to divert attention from health issues and invoke fears of negative impacts

- Presenting alternative policies
- Using the media to influence policy makers and the public
- Direct lobbying of policy makers and officials

Examples of tobacco industry tactics used to influence tobacco tax policy :

Working via front groups: A review identified over 20 different front groups acting on behalf of the tobacco industry to resist tobacco taxation in the US alone (Smith et al, 2013). More widely, the International Tax and Investment Center (ITIC) has played a particularly prominent role in tobacco industry efforts to influence tax policy across national and international levels. While it described itself as a "nonprofit research and educational organization", up until 2017 ITIC received funding from PMI, BAT, Japan Tobacco and Imperial Tobacco, had tobacco industry representatives on its board of directors, and consistently advanced tobacco industry interests and arguments on tax across multiple fora (Tobacco Control Research Group, 2017). Another industry-funded international group, the International Tobacco Growers Association, purports to represent the interests of tobacco farmers, particularly in low- and middle-income countries, while advocating against tobacco control measures (Mamudu et al, 2008).

Distorting the evidence base: Tobacco companies have commissioned a range of reports exaggerating the scale of illicit trade in order to support the case against tax increases (Stoklosa & Ross, 2014; Gilmore et al, 2014; Gilmore et al, 2015). For example, ITIC collaborated with Oxford Economics, a well-known global economic advisory company, to produce a series of reports that claimed to quantify the extent of illicit trade in Asian countries. A PMI-financed study published in 2013 presented data on illicit trade in 11 countries, exaggerating the scale of the problem and depicting it as driven by high levels of taxation (Tobacco Control Research Group 2017). Subsequent analysis of the report by leading academics highlighted methodological concerns about the study's reliability, accuracy, and data sources; for example, the report claimed that 35.9% of tobacco consumed in Hong Kong in 2012 was illicit, while an attempt to validate this analysis instead estimated illicit consumption as between 8.2% and 15.4% of the total (Chen et al 2015).

Presenting alternative policies: Tobacco companies commissioned a 'resource manual for tax reform' in the ASEAN region, which was launched at the Asia-Pacific Tax Forum in Delhi in 2015 and disseminated widely across the region. In its focus on tobacco tax, this resource for governments sidelined commitments made under Article 6 of the World Health Organization's Framework Convention on Tobacco Control (FCTC, WHO 2003), ignored the role of industry pricing in affordability, and misrepresented the industry's involvement as compliant with obligations under the FCTC Illicit Trade Protocol (Ross 2015). In eastern Europe, ITIC advised the Ukrainian Tax Committee in 2008 published a report urging that countries undergoing accession to the EU be given longer to implement tax increases to ensure that tobacco remained affordable (Tobacco Control Research Group 2017).

Using the media: In South Africa, the tobacco industry has consistently sought to link increases in excise tax with alleged rises in illicit trade in cigarettes (van Walbeek 2014). In 2010, BAT South Africa and the Tobacco Institute of South Africa (TISA), an industry body representing primarily large cigarette producers, ran an advertising campaign to link public perceptions of illicit cigarettes and organized crime. One billboard pictured an intimidating man with a gun and was captioned "Warning: The money you spend on illegal cigarettes, he uses to buy guns," while another warned of " selling drugs to your family" (van Walbeek and Shai 2015).

Lobbying of policy makers and officials: In Africa, the participation of industry-associated consultants in meetings of the Africa Tax Dialogue provided the industry with direct access to policy makers and government ministers. There is also evidence that tobacco companies have taken advantage of weak governance systems in some low- and middle-income countries to influence tobacco policy by pressuring or even bribing state officials (Saloojee and Dagli, 2000; Gilmore et al, 2006; Adeyeye, 2017).

In addition to efforts to prevent passage of effective tax policies, the tobacco industry employs strategies to negate or minimize the full effects of tobacco tax increases once passed. Such strategies include stockpiling before a tax increase, changing product attributes or production processes to qualify for lower tax tiers, lowering prices to reduce the impact of a tax increase on use, both over-shifting and under-shifting prices depending on the market and engaging in price discrimination and/or offering promotions. Such strategies reduce the impact of tax increases on health, revenue and company profits (Ross et al 2017).

III. LEARNING FROM TOBACCO TACTICS ON TAXATION: STRATEGIC SIMILARITY IN ALCOHOL AND FOOD INDUSTRIES

Public health academics have consistently highlighted similarities between multi-national tobacco companies and the alcohol and food industries (Brownell and Warner 2009; Bond et al 2010; Moodie et al 2013; Granheim et al 2017).The evidence base of industry efforts to influence taxation policy is not as well developed for either alcohol or food as it is for tobacco. Yet available case studies of efforts by the alcohol industry to shape taxation levels and of the response of food companies to recent innovations in sugary beverage taxes carry clear echoes of international experiences in tobacco control, and there is a striking consistency in strategies deployed by these industries to shape their respective policy environments.

Influencing Alcohol Taxes

The limitations of the academic literature in analyzing the policy influence of the alcohol industry are particularly evident with respect to developing countries. The limited available analyses are, however, sufficient to illustrate the extent to which alcohol industry influence offers a key barrier to effective use of fiscal policy. Prominent examples of key techniques used by alcohol companies in seeking to shape debates include:

Working via front groups at national and international levels: The interests of multi-national alcohol producers have been advanced by funding high profile front groups intended to shape international policy, notably including the International Centre for Alcohol Policy (ICAP) and its successor the International Alliance for Responsible Drinking (IARD). ICAP and IARD have consistently sought to shift the policy agenda away from recognized 'best buy' interventions - including tax - and towards ineffective approaches emphasizing education and individual responsibility. At the national level, such positions have been advanced by a profusion of industry-affiliated organizations. For example, the Uganda Alcohol Industry Association has lobbied for lower tax rates on alcohol, while the Botswana Alcohol Industry Association (established in 2009 following the introduction of a new alcohol levy) has sought to focus attention on promoting stronger family values and parental role-modelling as alternatives to taxation.

Distorting the evidence base: ICAP has sought to present the scientific consensus regarding taxation as contested, describing it as a "blunt tool" and the evidence base for its effectiveness as "demonstrably precarious". A recent policy statement by ICAP's successor IARD presents high levels of taxation on alcohol products as regressive and liable to increase illicit trade and reduce government revenues.

Presenting alternative policies: In seeking to mitigate the impact of WHO's increased focus on alcohol a decade ago, SAB Miller and ICAP organized policy workshops in Africa. Subsequent draft national alcohol policy documents in four countries (Botswana, Lesotho, Malawi and Uganda) were found to have been authored by an SAB Miller official, advancing positions favourable to the industry and aiming to institutionalize partnership approaches to policy development. In Malawi, SAB Miller reportedly "intercepted" a proposal that would have raised alcohol taxes, with industry inputs to the policy process arguing that raising taxes would increase illicit sales. While the Botswana government initially advanced a policy drafted by SAB Miller, the country's president ultimately initiated a levy on alcohol products.

Using the Media: The spirits industry in Poland has been able to influence policy debates by alleging that a proposed increase in duties would lead to increased smuggling, illicit production, widespread harm to retailers, and potential loss of business to neighboring countries. An analysis of media coverage of a proposed tax increase in 2013 highlighted the dominance of positions favored by the spirits industry, with the potential impact of the tax on black and grey markets being the single most prominent theme.

Lobbying of policy makers and officials: During discussion of a proposed South African law that would have raised alcohol taxes as part of a package of interventions, representatives of the alcohol industry argued that such measures would stimulate sales of illicit alcohol. SAB Miller instead promoted education, self-regulation and 'responsibility', and committed to donating Rand 9 million to political parties ahead of the 2014 elections, almost doubling the scale of its contributions to the three preceding elections. Similar lobbying campaigns were undertaken by alcohol companies in response to proposed measures in Kenya and Botswana.

Sources: Bakke & Endal 2010; Babor et al 2015; McCambridge et al 2013; Pitso and Obot 2011; Scheck and Mickel 2016; Zatonski et al 2016; ICAP 2006; Grant and Martinic 2012; IARD 2017a

Comparable lobbying efforts are also evident in industry attempts to influence taxation debates in Asia. For example, industry efforts were identified as the principal driver of the 2007 decision by the Hong Kong Special Administrative Region (HKSAR) Government to halve duties on wine and beer and the 2008 removal of duties from alcohol products other than spirits. This followed an industry campaign with two principal strategies: building a coalition of allies, including related catering and trade industries, and opportunistically situating alcohol taxes within wider efforts to make Hong Kong a tax-free business-friendly environment (Yoon and Lam 2012).

In Thailand, a review of the politics of alcohol taxation has highlighted strategic divergence across leading alcohol companies, reflecting their respective positions in the Thai market. A taxation regime that favoured the largest company was retained largely as a result of the company's donations and access to key politicians, countering lobbying efforts by two competitors to restructure the tax regime (Sorpaisarn and Kaewmungkun 2014).

Combating Taxes On Sugary Beverages: The Mexico example

In 2013, Mexico passed a landmark tax on sugar-sweetened beverages, the first such tax of significance in Latin America. The adoption of this initiative is particularly remarkable given the public private partnerships that have characterized nutrition policy in Mexico, the exceptionally close links between the soft drink industry and the country's political elite, and the scale of industry opposition from the outset. In seeking to prevent the adoption of this initiative and subsequently to undermine its implementation and effectiveness, the soft drinks industry adopted a range of strategies comparable to those used by tobacco companies, including:

Working via front groups: Industry associations such as ANPRAC (National Association of SSB and Carbonated Water Producers) and ConMéxico (Mexican Council of the Industry of Consumer Products) were mobilized to oppose the tax, while the Center for Consumer Freedom placed advertisements on school buses depicting the initiative as a tax on "fatties." (This group that did not exist before the tax debate and has not been active since the tax was passed is presumed to have been industry funded.

Another civil society organization was established at that time to promotes healthy lifestyles — Movement for a Healthy Life (MOVISA) — led by the executive president of ConMéxico.

Distorting the evidence base: The industry in Mexico supported and disseminated multiple reports that minimized the impacts of the tax on sugary beverage consumption and presented it as having damaging economic and socially regressive effects. Coca-Cola Mexico established the *Institute of Beverages for Health and Wellbeing* which published a book on hydration directed at health professionals, depicting a wide range of beverages as making a contribution to hydration and encouraging 'choices' that reflect 'lifestyle' and 'needs'.

Using the media: Alongside extensive paid advertisements in national newspapers, the industry also advanced its positions via paid columns and editorials. Such content questioned the links between obesity and sugary beverages, and promoted positions highlighting individual responsibility and physical activity. A 'Let's Talk About Sugar' campaign funded by cane producers presented sugar as a small daily happiness.

Lobbying of policy makers and officials: Multiple industry associations — for example, the Chamber of Sugar and Alcohol Industry — met with members of both the legislature and executive branches. The scale of lobbying around Congress undertaken on behalf of Coca-Cola, PepsiCo and their local bottling companies Femsa and Cultibato was described as unprecedented by politicians involved.

Sources: Barquera et al 2018; Donaldson 2015; Ortun et al 2016; Economist 2013; Rosenberg 2015; Nestle 2012; Coca-Cola Mexico 2015

IV. UNDERMINING INTERNATIONAL EFFORTS TO USE TAX TO REDUCE THE GLOBAL BURDEN OF NCDs

The potential contribution of effective taxation policies to global health and sustainable development may also be compromised at the international level by opposition from across the tobacco, alcohol and processed food industries, opposition in which international front groups have played key roles. For example, the work of the International Tax and Investment Centre (ITIC) included a strong focus on seeking to influence sessions of the FCTC Conference of Parties (COP). In 2014, the COP6 agenda included adopting guidelines for effective implementation of Article 6 on tobacco taxation (FCTC COP 2014). The day before COP6 began, ITIC hosted a meeting for finance ministers intended to influence COP delegates and undermine Article 6 guidelines. The WHO FCTC Secretariat circulated a formal *note verbale* to Treaty Parties highlighting that ITIC was not to be considered a legitimate forum to promote implementation of the WHO FCTC and that its funding sources and activities were "in blatant conflict with the provisions that Parties have committed to under the treaty and guidelines."

Front groups for alcohol and processed food companies are similarly seeking to shift health and development agendas away from taxation. In October 2017, WHO and the government of Uruguay co-organized a global conference on NCDs in Montevideo, to culminate in the adoption of a 'Montevideo roadmap 2018-30' for action to combat NCDs. An online consultation ahead of the meeting invited comments on a draft roadmap that included taxation of tobacco, alcohol and sugary beverages among policy options. A submission from the International Alliance for Responsible Drinking (IARD) claimed that "fiscal measures are not useful tools for reducing harmful drinking patterns" and linked taxation of alcohol with unintended consequences including lost revenue and increased illicit trade (IARD 2017b). The International Food and Beverage Alliance (IFBA), an umbrella group representing twelve leading multi-national food and drink producers, similarly depicted taxation as among the least effective of available measures to reduce obesity (IFBA 2017). While the final Montevideo roadmap retained reference to tobacco taxation, references to taxation of alcohol and sugary beverage were deleted. An analysis authored by officials at the UN Development Programme highlights that this omission corresponded with industry interests, with private sector entities the only ones to offer critiques of taxes on sugary beverages and alcohol (Whitaker et al 2018).

V. CONCLUSION

The tobacco, alcohol and sugary beverage industries have gone through significant consolidations, reflecting and driving expansion into emerging markets. Currently, large multi-national companies dominate the markets for all three product categories and in all regions of the world. These large corporations utilize an array of tactics to dilute or stop effective health policies targeted at reducing consumption of harmful products. Their particular interest in tax policy reflects recognition of its potential efficacy in promoting such change. Efforts to implement tax policies must take into account the strong industry opposition that can be expected to counter effective policy innovation.

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