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"The Internet: to Regulate or Not to Regulate?"

Executive Summary (Key Points)

This submission focused on the following two questions posed by the inquiry: (#7) In what ways should online platforms be more transparent about their business practices – for example in their use of algorithms? (#8) What is the impact of the dominance of a small number of online platforms in certain online markets?

- Facebook is built on the idea that gathering and storing as much data about users is good for its profits. The Cambridge Analytica Scandal has shown the problematic implications of the targeted advertising business model and the danger it poses to democracy.
- Research in the projects "Social Networking Sites in the Surveillance Society" and "netCommons: Network Infrastructure as Commons" shows that users have very high concerns about how online platforms use personal data for commercial purposes.
- Given users' high concerns about online corporations' privacy violations and business practices and their strong opposition to online advertising, making online corporations' use of data and algorithms more transparent is not enough. If these processes are made transparent, then users would know more about how online corporations work, but the data collection and processing for the purpose of profit-making and targeted advertising that so many users oppose would simply continue.
- A viable solution to the threats that online corporations' data practices pose for privacy and democracy is to foster alternative, non-profit online platforms. Two options for achieving this goal are public service Internet platforms and platform co-operatives. For achieving a sustainable Internet, policy makers need to advance legislation that enables the creation and financial support of alternative Internet platforms
- Public service Internet platforms would be a counterforce to the monopolies of Facebook, Google & Co. and could open up new spaces and possibilities for content creation, creativity, political online debate, and content distribution beyond the advertising logic of Google and Facebook.
- Introducing an online advertising tax on all ads targeted at users accessing the Internet in the UK would provide a resource base for funding public service and alternative Internet platforms that foster a new online culture.
- Google and Facebook are not just communication and Internet companies; they are the world's largest transnational advertising corporations. Google and Facebook enjoy a duopoly in the field of online advertising: Google is estimated to have controlled 55.2% of global advertising revenue in 2016, and Facebook 12.3%. Google's dominance among search engines and Facebook's among social networks means that there is a trend towards monopolisation. The online advertising duopoly gives Google and Facebook tremendous economic power. In addition, these two corporations have avoided paying taxes.

• Monopolisation is a problem that affects the whole range of digital industries. It is very evident in the realms of online platforms and targeted online advertising dominated by Google and Facebook, but also extends into other areas such as software, telecommunications and Internet service provision. Effective anti-monopolistic policies should involve the legal enablement and financial support of alternative Internet platforms, alternative Internet infrastructure providers, and alternative digital companies that do not follow for-profit logic.

1. Background

- (§1.1) I am a professor of media and communication studies at the University of Westminster, where I am directing the Communication and Media Research Institute and the Westminster Institute for Advanced Studies. I have over almost twenty years conducted research about how digital media and the Internet impact society in research projects and in activities that have resulted in more than 300 academic publications.
- (§1.2) In this submission, I provide evidence relevant by two questions raised by the inquiry:
- (#7) In what ways should online platforms be more transparent about their business practices for example in their use of algorithms?
- (#8) What is the impact of the dominance of a small number of online platforms in certain online markets?

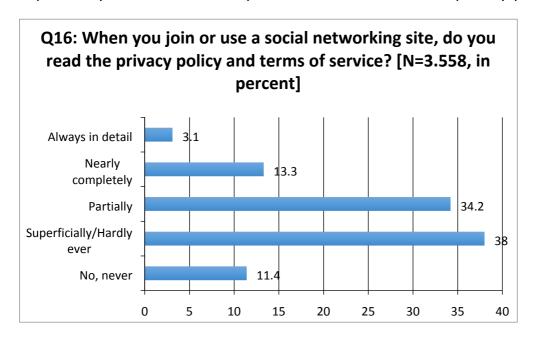
2. In what ways should online platforms be more transparent about their business practices – for example in their use of algorithms?

- (§2.1) Cambridge Analytica paid Global Science Research (GSR) for conducting fake online personality tests on Facebook via the Facebook Developer Platform in order to obtain personal Facebook data of almost 90 million US-users, including likes and friendships. The data was used for targeting political advertisements in elections.
- (§2.2) This data breach has caused concerns about social media corporations' business model of targeted advertising and its dangers to democracy. The Cambridge Analytica Scandal was possible because the regulation of data processing for corporate purposes is lax and based on the idea of corporate self-regulation, which invites Facebook, Google, and other digital companies to gather massive amounts of user data and use it for achieving profits. Facebook is built on the idea that gathering and storing as much data about users is good for its profits. Personal data as big data commodity that is used for selling and targeting personalised online advertisements is the underlying business principle of corporate social media, including Facebook, Google and Twitter.
- (§2.3) In 2017, Facebook made profits of US\$ 15.9 billion almost exclusively from advertising¹. In the first three months of 2018, Facebook's increased its profits in comparison to 2017 from US\$ 3,1 billion (2017) to US\$ 5.0 billion (2018)². In the Forbes 2000 ranking of the world's largest corporations, Facebook was in 2017 ranked on position #119 and Alphabet/Google with annual profits of US\$ 19.5 billion on position #24. These companies' profitability is based on the digital labour of users who create these businesses' profits through online activities that result in data and meta-data that is used for targeting advertisements (Fuchs 2017b).

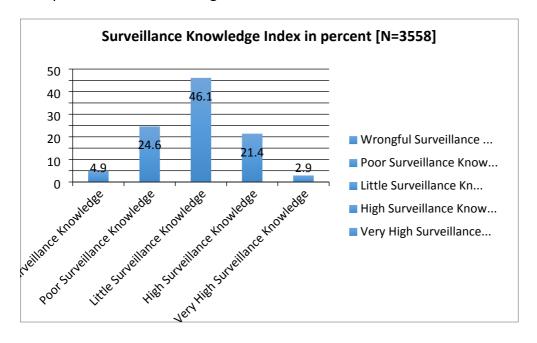
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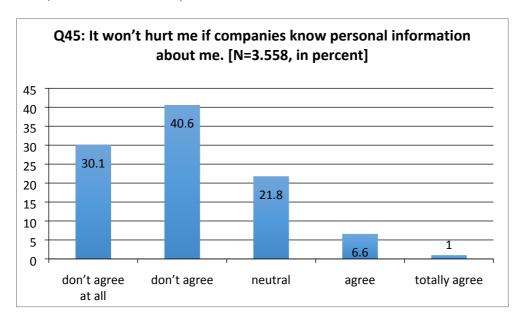
- (§2.4) Research that was conducted in projects that I have led has shown that users have little knowledge and large concerns over the commodification of personal data.
- (§2.5) In the research project "Social Networking Sites in the Surveillance Society" (SNS3, funded by the Austrian Science Fund, 2010-2014), whose principal investigator I was, we conducted a survey among more than 3,000 social media users (see Kreilinger 2014 for a report summarizing the main survey results):
- (§2.6) 49.4% of the respondents said that they either never or only superficially read social media platforms' terms of use and privacy policies:



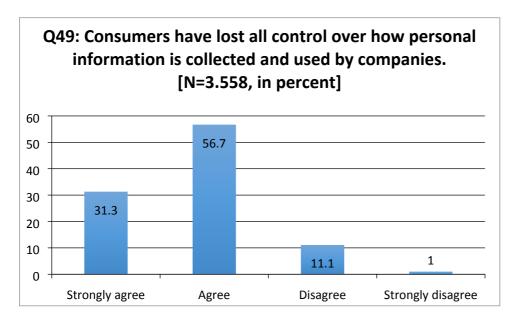
(§2.7) The project measured users knowledge about privacy and surveillance in the context of the Internet and found that 70.7 percent of the respondents had poor or little knowledge about online surveillance:



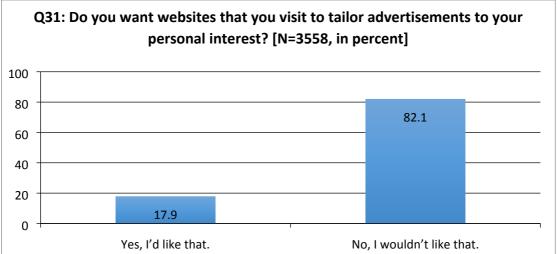
(§2.8) The research also showed that users have large concerns over privacy violations on online platforms. 70.7 percent of the respondents disagreed that companies' control of personal data did not harm them:



(§2.9) 88.0 percent of the respondents agreed or strongly agreed that consumers have lost control over the personal data that companies collect:



(§2.10) 82.1 percent of the respondents said they oppose the use of targeted advertising:



(§2.11) "netCommons: Network Infrastructure as Commons" (http://netcommons.eu) is a three-year EU Horizon 2020 research project (2016-2018), in which the University of Westminster is involved as participating research team under my leadership. The University of Westminster-team (Dr Dimitris Boucas, Dr Maria Michalis, Prof Christian Fuchs) conducted a survey about concerns Internet users have. The netCommons-survey confirmed the result of the SNS3-survey that users are highly concerned about how online corporations use personal data (Boucas, Michalis and Fuchs 2018). 909 out of 1,000 respondents agreed or strongly agreed to the statement "Users do not have control over how personal information is collected and used by online companies". 601 out of 1,000 respondents felt concerned or very concerned in respect to the question "How do you feel about the fact that search engines and social networking sites like Google, YouTube and Facebook use your personal data for profit-making purposes?".

(§2.12) Given users' high concerns about online corporations' privacy violations and business practices and their strong opposition to online advertising, making online corporations' use of data and algorithms more transparent is not enough. If these processes are made transparent, then users would know more about how online corporations work, but the data collection and processing for the purpose of profit-making and targeted advertising that so many users oppose would simply continue. A viable solution to the threats that online corporations' data practices pose for privacy and democracy is to foster alternative, non-profit online platforms. Two options for achieving this goal are public service Internet platforms and platform co-operatives. I have outlined these alternatives in a forthcoming publication (Fuchs 2018):

Public Service Internet

(§2.13) Public service Internet platforms are online platforms run by public service media organisations. They do not have a for-profit imperative, which constitutes a major difference to Google, Facebook, Twitter and other corporate platforms that use targeted advertising. One of the reasons why no alternatives to Californian Internet companies' dominance have been able to establish

themselves is that public service media's Internet potential is underdeveloped.

- (§2.14) There is a range of conceivable public service Internet platforms whose creation could be financed through an online advertising tax. In the UK, one possibility would be to create a public service emulating YouTube (BBCTube), on which all of the BBC's legally available archive of programmes could be made available to users for reuse with creative commons licences. Users could also upload their own videos to this platform and would have the additional option of remixing and reusing BBC-archive material. Public service broadcasting's educational mandate could thus be realised in the Internet in the form of "digital creativity". This concept could conceivably apply not just to video, but also to audio and radio archive material. There are dozens of public service media institutions in Europe. If all or some of them were to pursue similar projects, then there would be the option of creating a network of these platforms or setting them up as a joint platform, which could establish a popular European public service online media platform able to compete with YouTube, Google and Facebook in terms of popularity and reach. The users would be given ample space to develop their own digital creativity.
- (§2.15) Public service Internet platforms would be a counterforce to the monopolies of Facebook, Google & Co. and could open up new spaces and possibilities for content creation, creativity, political online debate, and content distribution beyond the advertising logic of Google and Facebook.
- (§2.16) In the UK and Europe, there is a long tradition of public service media. There is no UK or European equivalent of Twitter, YouTube and Facebook because in the UK and Europe there are different media traditions that are to a significant degree based on public service media. Regulatory changes that allow public service broadcasters to offer online formats and social media platforms (such as Club 2.0 and other formats, see Fuchs 2017c) aimed at advancing political communication and slow media that are advertising-free and adequately funding such activities form a good way of establishing an alternative culture of political communication that weakens fake news culture. Advancing public service Internet platforms is also a step towards overcoming fake news culture.
- (§2.17) In the UK, the BBC can play an important role in advancing public service Internet platforms that foster advertising-free political debate that challenges problems such as fake news, fake online attention, a flourishing of hate speech and discrimination online, algorithms that replace human online activities, etc.

Platform Co-Operatives

(§2.18) Platform co-operatives are initiatives that apply the idea of self-managed co-operatives to digital media platforms. The users are empowered to own and control online platforms and to govern these platforms democratically. Platform co-ops are non-profit and commons-based and are run by civil society³.

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See for example: https://platform.coop

- (§2.19) One does not have to make a choice between advancing either public service Internet platforms or platform co-ops. Both constitute viable and important alternatives to the corporate Internet.
- (§2.20) Advancing alternatives to the dominant logic of online platforms such as Google and Facebook requires funding. Given how critical users are of for-profit online platforms, an alternative logic should therefore be non-profit and advertising-free. Introducing an online advertising tax on all ads targeted at users accessing the Internet in the UK would provide a resource base for funding public service and alternative Internet platforms that foster a new online culture.
- (§2.21) Were an online advertising tax to be introduced, there would be the option of using the income thus generated to create public service Internet platforms, launch a public service Internet offensive, and provide funding to platform co-ops (for example through mechanisms of participatory budgeting).
- (§2.21) Is there interest of users in alternative platforms and a new (public service and commons-based) logic of social media and online platforms? In the netCommons-survey, a total of 897 out of 1,000 respondents argued that they would definitely use alternative platforms or that they are interested in such alternatives, when being asked "Would you consider using alternative platforms instead of Facebook, Twitter, YouTube or Google, if this choice would provide better control of your data and privacy?" (Boucas, Michalis and Fuchs 2018).
- (§2.22) Creating a sustainable Internet that serves the needs of the users, protects their privacy and interests and overcomes problems such as fake news, the culture of online hate and the lack of digital democracy will not be achieved by fostering transparency of corporate online platforms' unethical practices that users are highly critical of. For achieving a sustainable Internet, policy makers need to advance legislation that enables the creation and financial support of alternative Internet platforms, i.e. both public service Internet platforms and platform co-operatives.

3. What is the impact of the dominance of a small number of online platforms in certain online markets?

- (§3.1) In a forthcoming publication that is based on the results of a study of the dominance of Facebook and Google and prospects for taxing online advertising, I have analysed the dangers of monopolies in the online and digital industries (Fuchs 2018):
- (§3.2) In economic terms, it is inaccurate to refer to Google and Facebook as communications companies. Rather, they are two of the world's largest advertising businesses. Google and Facebook's profitability is linked to profound changes within the advertising industry. The most significant trend is the marked increase of online advertising and sharp decline in newspaper advertising: newspaper advertising's share of global advertising turnover decreased from 18.3% in 2011 to 12.2% in 2015 (table 1). At the same time, online advertising rose from 20.7% in 2011 to 33.1% in 2015 (table 1).

Year	Total	Newspapers	Magazines	Television	Radio	Cinema	Outdoor advertising	Online	Mobile phones
2005	388,560.1	119,302.7	46,379.5	142,068.0	33,443.4	1,732.3	23,207.9	22,426.3	261.3
2006	415,576.5	121,333.1	48,152.8	150,625.9	34,338.1	1,829.0	24,779.3	34,518.3	336.1
2007	457,407.2	125,263.3	51,493.6	166,606.4	36,238.3	2,184.4	27,856.5	47,764.6	530.7
2008	470,382.8	118,981.9	51,025.0	175,739.6	35,315.2	2,181.7	29,696.7	57,442.6	889.6
2009	409,496.4	95,173.2	38,677.9	159,807.1	30,173.0	2,043.5	25,991.7	57,630.0	1,109.1
2010	453,867.9	96,596.6	39,078.7	185,346.5	32,557.6	2,304.4	27,672.9	70,311.1	1,394.3
2011	493,427.8	98,032.5	39,622.4	201,078.7	33,855.3	2,464.9	29,983.6	88,390.4	3,705.7
2012	502,152.8	90,327.7	35,782.1	207,035.4	34,160.9	2,527.1	30,544.4	101,775.2	7,328.2
2013	511,383.5	83,692.9	33,307.5	209,100.1	34,314.3	2,422.3	30,314.1	118,232.2	14,781.1
2014	524,478.5	75,538.5	29,993.1	212,897.1	34,217.2	2,342.5	30,537.9	138,952.2	27,847.7
2015	499,692.0	62,872.7	24,885.7	194,730.7	31,892.2	2,445.8	28,135.9	154,728.8	47,501.8
Year	Total	Newspapers	Magazines	Television	Radio	Cinema	Outdoor advertising	Online	Mobile phones
2005	100%	30.7	11.9	36.6	8.6	0.4	6.0	5.8	0.1
2006	100%	29.2	11.6	36.2	8.3	0.4	6.0	8.3	0.1
2007	100%	27.4	11.3	36.4	7.9	0.5	6.1	10.4	0.1
2008	100%	25.3	10.8	37.4	7.5	0.5	6.3	12.2	0.2
2009	100%	23.2	9.4	39.0	7.4	0.5	6.3	14.1	0.3
2010	100%	21.3	8.6	40.8	7.2	0.5	6.1	15.5	0.3
2011	100%	19.9	8.0	40.8	6.9	0.5	6.1	17.9	0.8
2012	100%	18.0	7.1	41.2	6.8	0.5	6.1	20.3	1.5
2013	100%	16.4	6.5	40.9	6.7	0.5	5.9	23.1	2.9
2014	100%	14.4	5.7	40.6	6.5	0.4	5.8	26.5	5.3
2015	100%	12.6	5.0	39.0	6.4	0.5	5.6	31.0	9.5

Table 1: Global advertising revenue and various advertising forms' share thereof according to WARC (World Advertising Research Center)-data (data source: https://www.warc.com/), in millions of US dollars and %

(§3.3) If these trends continue, online advertising will soon also at the global level constitute the economically dominant form of advertising. Google and Facebook enjoy a duopoly in the field of online advertising: Google is estimated to have controlled 55.2% of global advertising revenue in 2016, and Facebook 12.3%.4 Google, which gave itself the new company name Alphabet in 2015, had

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⁴ https://www.emarketer.com/Article/Google-Still-Dominates-World-Search-Ad-

a turnover of 74.989 billion and a profit of 16.348 billion US dollars in the 2015 financial year⁵. Facebook's 2015 turnover was 17.928 billion US dollars, its profit 3.688 billion US dollars. According to the World Advertising Research Center (WARC), advertising turnover worldwide was 499.692 billion US dollars and global online advertising turnover 154.7288 billion US dollars in 2015 (see table 1). According to these data, Facebook and Google's joint 2015 turnover (91.337 billion US dollars) made up 59.9% of global online advertising turnover and 18.3% of global advertising turnover.

(§3.4) According to the Forbes list of the 2000 largest transnational corporations, the British advertising and public relations company WPP was the 301st largest company in the world and the largest advertising business with a profit of 1.8 billion US dollars in the 2015 financial year.⁶ In 2015, however, both Google's and Facebook's profits were larger than WPP's: Google's was nine times higher, Facebook's twice as high. This illustrates the fact that Google and Facebook are the world's most important advertising companies, not traditional advertising corporations. Google and Facebook are not just communication and Internet companies; they are the world's largest transnational advertising corporations.

Tables 2 and 3 show that Google is the world's dominant search engine and Facebook the dominant social network.

Google	70.85%	
Bing	11.61%	
Baidu	8.14%	
Yahoo	7.48%	
Ask	0.24%	
AOL	0.13%	
Excite	0.01%	
Other	1.54%	

Table 2: Share of the world's online searches carried out on desktop computers in 2016 (data source: NetMarketShare: Market Share Statistics for Internet Technologies, http://www.netmarketshare.com, last accessed 31 December 2016)

Market/1014258

Data source: Alphabet SEC Filings: Form 10-K (2015), https://abc.xyz/investor/

Data source: http://www.forbes.com/global2000/list/#industry:Advertising, last accessed 8 January 2016.

Facebook	1,590
WhatsApp	1,000
Facebook Messenger	900
QQ	853
WeChat	697
QZone	640
Tumblr	555
Instagram	400
Twitter	320
Baidu Tieba	300
Skype	300
Viber	249
Sina Weibo	222
LINE	215
Snapchat	200
Yy	122
VKontakte	100
Pinterest	100
BBM	100
LinkedIn	100
Telegram	100
	WhatsApp Facebook Messenger QQ WeChat QZone Tumblr Instagram Twitter Baidu Tieba Skype Viber Sina Weibo LINE Snapchat Yy VKontakte Pinterest BBM LinkedIn

Table 3: Number of globally active users (in millions) on social media in April 2016 (data source: SmartInsights,

http://www.smartinsights.com/social-media-marketing/social-media-strategy/new-global-social-media-research/, last accessed 31 December 2016)

(§3.5) The Herfindahl-Hirschman Index (HHI) is a mathematical, statistical method that can be used to calculate a market's concentration. The following formula is used for this (Noam 2009, 47):

$$HHI_j = \sum_{i=1}^f S_{ij}^2$$

f = number of companies in industry j

 S_{ii} = the market share of company i in industry j

Normalisation to 10,000 (that is, the maximum value is 10,000, standing for the greatest possible concentration: if the index equals 10,000, then there is only one company with a market share of 100%):

HHI < 1,000: low market concentration

1,000 < HHI < 1,800: medium market concentration

HHI > 1,800: high market concentration

(§3.6) The Herfindahl-Hirschman Index can be applied to the data represented in Tables 2 and 3 to approximate the degree of concentration in the global search engine and social network markets. To do so, the data need to be ordered by company. If a company owns several platforms, the respective shares of users from each platform need to be added. This is important in the case of Facebook, for example, as WhatsApp, Facebook Messenger and Instagram are all owned by this company. To calculate the degree of social network concentration, we can take the number of global active user profiles on

which data are available according to table 5 as our population. The results for search engine concentration and social network concentration are given in tables 4 and 5.

Rank	Company	Search engine(s)	Country	Share (a):	a²
1	Google	Google	USA	70.85%	5019.7
2	Microsoft	Bing	USA	11.61%	134.8
3	Baidu	Baidu	China	8.14%	66.3
4	Yahoo	Yahoo	USA	7.48%	56.0
5	IAC	Ask, Excite	USA	0.25%	0.1
6	AOL Inc.	AOL	USA	0.13%	0.0
		Other		1.54%	
				HHI:	> 5276.8

Table 4: Calculation of the search engine concentration index

Rank	Company	Number of accounts (in millions)	Platform(s)	Country	Proportion a	a²
1	Facebook	3890	Facebook, WhatsApp, FB Messenger, Instagram	USA	42.9%	1842.3
2	Tencent	2190	QQ, WeChat, Qzone	China	24.2%	583.9
3	Yahoo!	555	Tumblr	USA	6.1%	37.5
4	Microsoft	400	Skype, LinkedIn	USA	4.4%	19.5
5	Twitter	320	Twitter	USA	3.5%	12.5
6	Baidu	300	Baidu	China	3.3%	11.0
7	Rakuten	249	Viber	Japan	2.7%	7.5
8	Sina	222	Sina Weibo	China	2.4%	6.0
9	Naver	215	LINE	South Korea	2.4%	5.6
10	Snap Inc.	200	Snapchat	USA	2.2%	4.9
11	Yy	122	уу	China	1.3%	1.8
12	Mail.ru Group	100	Vkontakte	Russia	1.1%	1.2
13	Pinterest	100	Pinterest	USA	1.1%	1.2
14	BlackBerry	100	ВВМ	Canada	1.1%	1.2
15	Telegram Messenger LLP	100	Telegram		1.1%	1.2
	Total:	9,063			HHI:	<u>2536.1</u>

Table 5: Calculation of the social network concentration index, data source: www.statista.com, accessed on January 2, 2017

(§3.7) It is striking that the fields of search engines and social networks are both dominated by American companies. The Chinese corporation Tencent (QQ, WeChat, Qzone) also plays an important role in the social network field, as it controls three large social networks and thus contributes to the concentration of this global market. Chinese networks usually do not pursue a global strategy.

They are instead restricted to services in the Chinese language that target users in China.

- (§3.8) In regard to public service media, the analysis of online monopolies shows that there is a very large and hitherto scarcely used potential to create public service Internet platforms to combat the dominance of Google, Facebook and similar Internet businesses in Europe.
- (§3.9) In the field of search engines, the Herfindahl-Hirschman Index is larger than 5276.8, and in the field of social networks it is 2536.1. This means that these two economic areas are very strongly concentrated. Google's dominance among search engines and Facebook's among social networks means that there is a trend towards monopolisation. Google and Facebook follow the same economic strategy, namely to use personalised advertising (cf. Fuchs 2017b, chapters 5 and 6). They operate different types of platforms and accordingly offer different information services, but use the same online advertising model, leading to a duopoly in the field of online advertising.
- (§3.10) The online advertising duopoly gives Google and Facebook tremendous economic power. In addition, these two corporations have avoided paying taxes, which is in most countries not illegal, but considered immoral by most members of the public. Global corporations amass huge profits and economic power that is further extended by tax avoidance.
- (§3.11) In another publication, I have as part of the netCommons-research project analysed information monopolies (Fuchs 2017a):
- (§3.12) In 2015, there were 241 information companies among the world's 2,000 largest transnational companies⁷. Together they had combined profits of US\$537.3 billion (Forbes, 2015). These profits exceeded the combined GDP of the world's 33 least developed countries (US\$474.0 billion) and the combined GDP of the world's 74 smallest economies (US\$536.2 billion) (United Nations, 2015 [GDP at market prices in current U.S. dollars]). Table 6 lists the world's 10 most profitable transnational information corporations in 2015.

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The following industries were for this purpose classified as information industries: advertising, broadcasting and cable, communications equipment, computer and electronics retail, computer hardware, computer services, computer storage devices, consumer electronics, electronics, Internet retail, printing and publishing, semiconductors, software and programming, and telecommunications.

	Forbes rank	Company	Industry	Profits 2015 (billion US\$)
1	40	Vodafone	Telecommunications	77.4
2	12	Apple	Computer hardware	44.5
3	18	Samsung Electronics	Semiconductors	21.9
4	25	Microsoft	Software and programming	20.7
5	20	China Mobile	Telecommunications	17.7
6	39	Google	Computer services	13.7
7	44	IBM	Computer services	12.0
8	67	Intel	Semiconductors	11.7
9	88	Oracle	Software and programming	10.8
10	22	Verizon	Telecommunications	9.6
				Total: 240.0

Table 6: The World's Most Profitable Transnational Information Corporations, 2015. Data source: Forbes (2015)

- (§3.13) The combined profits of the world's 10 largest transnational information corporations (US\$240.0 billion) are larger than the combined GDP of the world's 16 least developed countries (US\$229.2 billion) and larger than the combined GDP of the world's 54 smallest economies (US\$234.2 billion; United Nations, 2015 Data [GDP at market prices in current U.S. dollars]). Vodafone was, in 2015, the world's most profitable transnational information corporation. Its profits amounted to US\$77.4 billion. Vodafone's profits were larger than the individual economic performance of 114 of the world's countries (World Bank Data, GDP at market prices in current U.S. dollars for 2015), including populous countries such as Ethiopia (100 million inhabitants), the Democratic Republic of Congo (75 million), Tanzania (52 million), Kenya (45 million), and Uganda (38 million) (United Nations 2015).
- (§3.14) These data show the power of transnational information corporations. They are very profitable companies. Their individual economic power is often larger than that of entire countries. Their profitability is often enhanced by tax avoidance.
- (§3.15) Monopolisation is a problem that affects the whole range of digital industries. It is very evident in the realms of online platforms and targeted online advertising dominated by Google and Facebook, but also extends into other areas such as software, telecommunications and Internet service provision. Effective anti-monopolistic policies should involve the legal enablement and financial support of alternative Internet platforms, alternative Internet infrastructure providers, and alternative digital companies that do not follow for-profit logic.

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