

THE ECONOMIC COST OF BAD ACTORS ON THE INTERNET

FAKE NEWS | 2019



INTRODUCTION TO THE ECONOMIC COST OF BAD ACTORS ON THE INTERNET

The internet has heralded an economic revolution. The internet economy of the G20 countries alone is worth more than \$4.2 trillion representing 5.3% of their total GDP. However, as Tim Berners Lee, the father of the internet has put it: "While the web has created opportunity, given marginalized groups a voice, and made our daily lives easier, it has also created opportunity for scammers, given a voice to those who spread hatred, and made all kinds of crime easier to commit."

In a series of reports, we reveal the monetary cost caused by bad actors on the internet. CHEQ has commissioned economist, Professor Roberto Cavazos at the University of Baltimore, to undertake the first ever in-depth economic analysis of the full scale of internet harm. For the first time, using economic analysis, alongside statistical and data analysis, we measure the global economic price paid by businesses and society due to problems including ad fraud, online bullying, and fake news.

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THE COST OF FAKE NEWS: A \$78 BILLION PROBLEM

The World Economic Forum ranks the spread of misinformation and fake news, as among the world's top global risks.¹ In line with other reports, the forum finds that fake news outlets and operations are seeing unprecedented traffic and engagement.

In this report we analyze the economic damage of the fake news crisis globally, affecting everything from stock markets to media, reputation management, election campaigns, financial information and healthcare. We discover the price paid in the form of both direct and indirect costs which collectively undermine the cardinal principle of trust that underpins free market economies.

FAKE NEWS DEFINED

One of the many investigations to have been carried out around the world into fake news defined the phenomenon as follows: **"The deliberate creation and sharing of false and/or manipulated information that is intended to deceive and mislead audiences, either for the purposes of causing harm, or for political, personal or financial gain"**²

Fake news can be misinformation, where information is missing, and done in error. However more seriously, fake news entails deliberate disinformation where false and misleading information is sowed to mislead, manipulate or harm for which there is invariably a large economic price tag attached.

¹ WEF: The Global Risks Report 2018 http://www3.weforum.org/docs/WEF_GRR18_Report.pdf

² House of Commons Digital, Culture, Media and Sport Committee Disinformation and 'fake news': Final Report <https://publications.parliament.uk/pa/cm201719/cmselect/cmcmds/1791/1791.pdf>

THE BOOMING MARKET FOR FAKE NEWS

The creation and dissemination of fake news encompasses state-sponsored bad actors, motivated by ideology, or simply plain profit. The level and costs of fake news operations are significant. Andrus Ansip, former vice-president of the European Commission has claimed Russia spends at least €1.1bn (\$1.2 billion) a year on pro-Kremlin media to create disinformation. In addition, significant spending on pumping out misinformation have been detected during elections in at least 18 countries³. Most famously, in the United States, the Mueller Report found that during the 2016 Presidential election, the Internet Research Agency (IRA) in a bid to “provoke and amplify political and social discord in the United States” purchased over 3,500 advertisements, totaling \$100,000, which were “falsely claimed to be controlled by U.S. activists”.

In a similar vein, the UK Parliament heard in its deliberations on fake news, that pro-Brexit website “Mainstream Network” described as “highly misleading” and lacking in transparency, spent £257,000 (\$336,000) in just over 10 months during 2018 reaching 10.9 million users. We see extremely low barriers to entry. In its report, Trend Micro finds that \$2,600 can buy a social media account with more than 300,000 followers; \$55,000 is enough to fund a Twitter attack that successfully discredits a journalist; and \$400,000 to influence policy changes on trade agreements, impact elections, or change the course of a referendum⁴. Income can be steady: seven false Canadian outlets alone for instance claimed to generate roughly \$1300 a month (\$980 USD) in income.⁵

FAST-GROWING TECH CHALLENGES

In a related and fast-growing threat, “deep fakes” combine and superimpose existing images and videos onto source images or videos. Security firm, Symantec, has reported three cases of [deepfaked audio](#) of chief executives designed to trick senior financial controllers into transferring cash.

In one case alone, a deepfake voice attack used the voice of a CEO of an unnamed UK-based energy company to force the wiring of [\\$243,000](#) to a Hungarian supplier. This emerging technology alongside highly accurate fake news generation can wreak economic disruption and confusion on business and societies, as we shall explore.

³ Freedom on the net 2017 report, Freedom house, <https://freedomhouse.org/report/freedom-net/freedom-net-2017>

⁴ Lion Gu, Vladimir Kropotov & Fyodor Yarochkin, Fake News and Cyber Propaganda: The Use And Abuse of Social Media, TREND MICRO (June 13, 2017), <https://www.trendmicro.com/vinfo/us/security/news/cybercrime-and-digital-threats/fake-news-cyber-propaganda-the-abuse-of-social-media>.

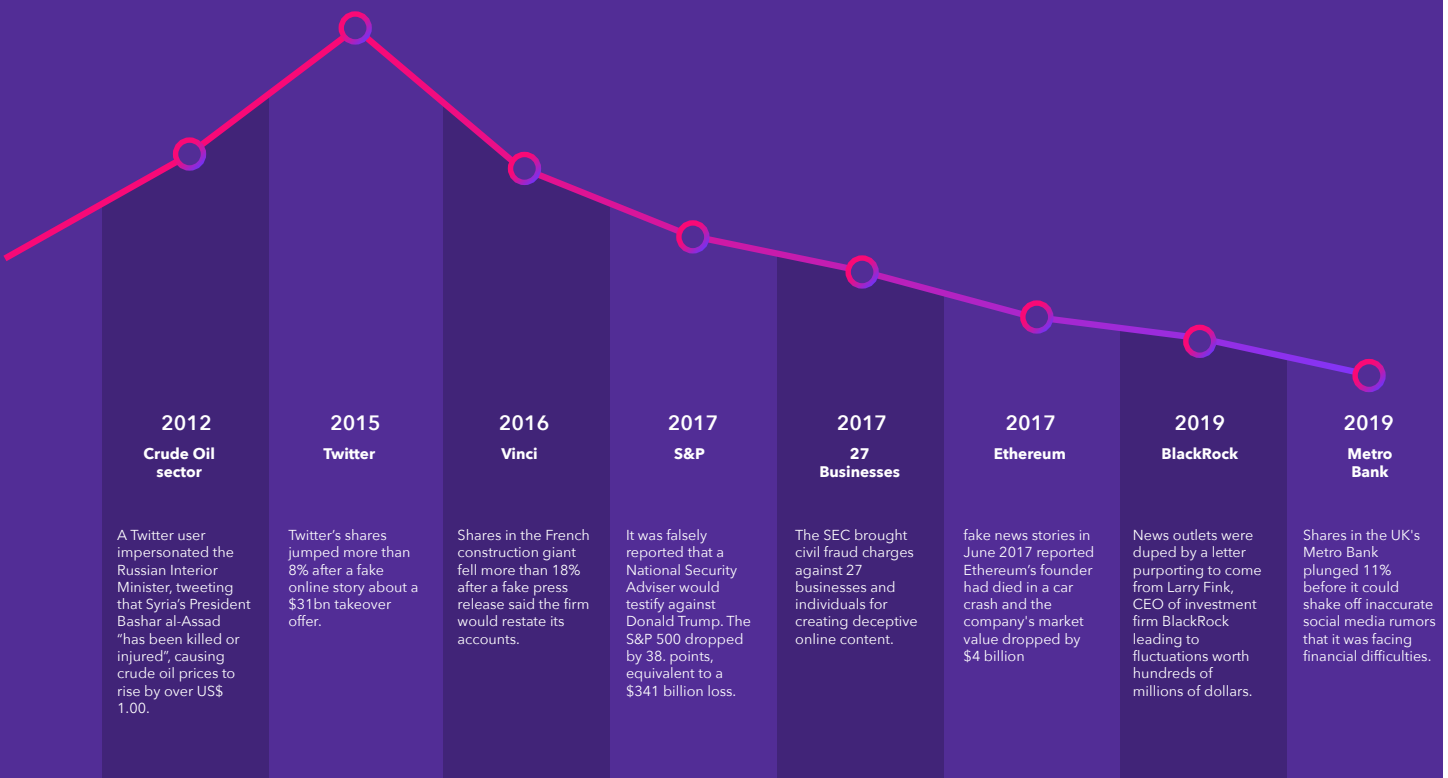
⁵ <https://www.cbc.ca/radio/checkup/fake-news-how-do-you-ensure-the-news-you-get-is-trustworthy-1.4450145/community-now-living-in-fear-after-reporter-gets-it-wrong-checkup-caller-1.4454463>

THE COSTS OF FAKE NEWS EXPLORED

In the following section we look at diverse sections of the economy facing very real costs from the growing multitude of bad actors propagating fake news.

STOCK MARKETS AND FAKE NEWS LOSSES

Stock market rises and falls from fake news



Fake news caused stock market losses of \$300 billion in a single incident. This occurred in December 2017, when ABC reported that “National Security Adviser Lieutenant General Michael Flynn, would testify that Donald Trump had instructed him to contact Russian government officials during the 2016 election campaign. This would have opened the door to impeachment, and a crisis of government in the world’s largest economy. Following the story, from 11:06 to 11:34 a.m. the S&P 500 (the weighted index of the 500 largest U.S. publicly traded companies) dropped by 38. points⁶. Multiplied by the S&P’s number of equivalent shares this was a loss of \$341 billion. It turned out that this “bombshell report” from ABC was false. ABC did not retract the news until after the trading day, at which point the loss was lessened to \$51 Billion.

Even set within a \$78 trillion capitalization for global stock markets, a single stock market effect totaling \$341 billion shows the economic damage from a case, or handful of instances of misinformation. While financial markets have been dealing with hoaxes, frauds and fake news for decades, technology advances in technology and the ubiquity of access to web-based information heightens the risks and costs of fake news by orders of magnitude⁷.

Mike Paul, president of Reputation Doctor says: “Fake news today is like a modern-day tech suicide bomber in the worlds of communication, reputation and branding. It only takes one well-planned success to hurt a lot of people or an organization.”⁸

The impact is likely to have a wider issue for smaller firms, research has revealed. Yale School of Management found deceptive articles on investment websites appear to temporarily [boost stock prices, noting a particular effect for small firms](#)

In his outlook for 2019, Marko Kolanovic global head of macro quantitative and derivatives research, at JPMorgan Chase, singled out the [dangers of fake news](#). “There are specialized websites that mass produce a mix of real and fake news. Often these outlets will present somewhat credible but distorted coverage of sell-side financial research, mixed with geopolitical news, while tolerating hate speech in their website commentary section. If we add to this an increased number of algorithms that trade based on posts and headlines, the impact on price action and investor psychology can be significant.”⁹

From a risk management perspective, based on an analysis of past cases involving fake news inflicting damage on global stock markets, we find a potential loss of up to 0.05% of stock market value is at risk due to fake news. This amounts to \$39 billion annual loss as a direct result of fake news.

⁶ Cost of Fake News for the S&P 500. Seeking Alpha, December 4, 2017. <https://seekingalpha.com/article/4129355-cost-fake-news-s-and-p-500>

⁷ James Warren, December 2016, When Fake News Costs Real Money, Vanity Fair. <https://www.vanityfair.com/news/2016/12/when-fake-news-costs-real-money>

⁸ Clair Atkinson, April 25, 2019, Fake news can cause ‘irreversible damage’ to companies — and sink their stock price. NBC News, <https://www.nbcnews.com/business/business-news/fake-news-can-cause-irreversible-damage-companies-sink-their-stock-n995436>

⁹ Fortune: Fake News and Bad News are Depressing the Market, December 2018

FINANCIAL MISINFORMATION

In a related area, the impact of misinformation is another major cause of economic loss. In one sector and one country alone, fakery and financial misinformation is hurting consumers to tune of \$17 billion per year in the US retirement savings sector. According to Forbes and research from the Economic Policy Institute, financial advisors supplying false and misleading information is costing at least \$17 billion in the US¹⁰. This tallies with research showing that three in five Americans (63 percent) say that the spread of fake news has made it more difficult to make critical financial decisions, according to the [American Institute of CPAs](#). This widespread financial misinformation is particularly concerning when we consider studies showing that [people older than 65](#), with significant financial decisions to make, are the demographic which shares the most fake news.

FAKE NEWS AND PUBLIC HEALTH COSTS

Cost of health epidemics spread by fake news increase our projection of fake news costs further and across a wider geography. Science journal, Nature, analyzing 14 million tweets found fake accounts responsible for “a disproportionate role in spreading articles from low-credibility sources”. They [conclude](#) that “around the world, digital health misinformation is having increasingly catastrophic impacts on physical health” both in developing countries and the G20. For instance, Simon Stevens, the head of the NHS in the UK, has said fake news by anti-vaxxers on social media “has fueled a [tripling in measles cases](#) in the country”.

While, of course, the economic costs are decidedly secondary to the health risks from such crises, news sources spreading fake stories exacerbate both. Vaccine-preventable diseases among adults, like measles, costs the U.S alone [nearly \\$9 billion](#) per year, showing the damage caused by misinformation. Unvaccinated individuals, in particular, drive most of that cost. No country is immune from fake medical news which quickly spirals out of control.

In the [Democratic Republic of Congo](#) a study published in The Lancet found that “nearly half of respondents believed that Ebola didn’t exist or was invented to destabilize the region or to make money”.

Alongside misleading medical advice and the anti-vaxxer movement, the second contender for most shared fake news stories globally, concerns climate change. Here the economic effects are similarly explosive. The Climate Literacy and Energy Awareness Network , funded by federal grants, reviewed more than 30,000 free online resources on climate change and found only 700 articles were broadly accurate, on the theme of climate change. Frank Niepold, a climate education coordinator at the National Oceanic and Atmospheric Administration says: “There’s a lot of information that’s out there that is broken, old, misleading, not scientifically sound, not sound technically.” Once again, the long term economic costs of disinformation is real even if the information is not – the [National Bureau of Economic Research](#) says failure to tackle climate change would yield a 7.2 percent cut to GDP per capita worldwide by 2100.

¹⁰ Ron Carson, Forbes October 2018, Retirement Savers are Losing \$17 Billion from Fake News and Conflicts of Interest. <https://www.forbes.com/sites/rcarson/2018/10/14/retirement-savers-are-losing-17-billion-a-year-from-fake-news-bad-advice-conflicts-of-interest/#5e635549bec74>

FAKE NEWS: ELECTIONS

THE U.S. TO SPEND \$200 MILLION ALONE ADVANCING FAKE NEWS

In the field of election spending, we find that at least \$200 million will be spent on fake news in the US alone in 2020. A [Princeton-led study](#) of fake news consumption during the 2016 US campaign, found that false articles made up 2.6 percent of all hard-news articles late in the 2016 campaign. If we assume that levels of fake news have reduced slightly to around 2% of all political news, and based on projected spending of [\\$10 billion](#) in the 2020 US Presidential election, we can conservatively assume that \$200 million will be spent promoting and spreading fake news in the next election cycle.

\$400 MILLION SPENT GLOBALLY ON FAKE POLITICAL NEWS

The global implications for fake political news extend far beyond the United States. The costs of elections in some countries have been noted in academic journals and news outlets. In many cases this suggests a much higher magnitude of the cost of fake news in elections than the Princeton study, and likely to be far higher than our 2% benchmark both in the US and other countries. [In Brazil](#), in a sample of 11,957 viral messages shared across 296 group chats on the instant-messaging platform in the campaign period, approximately 42% of rightwing items contained information found to be false by fact-checkers.

In France, Oxford University researchers found [up to a quarter](#) of the political links shared on one social network ahead of the 2017 French presidential elections were based on misinformation. In a [study on Africa](#), around 97% of Kenya, Nigerians, and South Africans report having come directly across at least some instances of fake news. Australia's Labor party identified several articles boosted on an online platform spreading fake news about the party, particularly on its immigration and education policies during the country's election in 2019. Taking some of these major countries together, and assuming at least 2% of political news is highly misleading or fake, political spend on advancing fake news hits at least \$400 million globally.

ELECTION COSTS AND FAKE NEWS

It should be noted these costs are conservative, reflecting only basic direct costs, and the true cost extends well beyond media expenditures. If we consider the indirect and secondary costs of fake news in the electoral sphere, the price paid is likely to be far higher. These costs can contribute to loss of faith in institutions, and costs required to correct misinformation. In some cases, fake news may even lead to violence, while the flow of misleading propaganda drives out positive and constructive news causing damage to political decision-making.

Country	Election spend for most recent campaign (estimated)	Spend on fake news
United States	\$10 billion	\$200 million
India	\$7 billion (Rs 50,000 crore)	\$140 million
Brazil	\$1.7 billion (R\$ 6.4 billion)	\$34 million
Kenya	\$1 billion	\$20 million
South Africa	\$133 m (R2 billion)	2.7 million
United Kingdom	\$54 million (£41.6m)	\$1m (£832,000)
Australia	\$41.4 m (A\$60m)	\$828,000 (A\$1.2m)
France	\$32.7 million (€29.3 million)	\$654,000 (€586,000)
Mexico	\$32.1 million (634 million pesos)	\$642,000 (12.2 million pesos)
		Total: \$400 million

BRANDS AND FAKE NEWS

Those behind websites propagating information may not only be ideologically motivated, as previously mentioned, but enjoy the profit on offer through siphoning advertising dollars. Big brands have suffered as their brand name is being displayed alongside inflammatory and fake content they do not endorse. [The Global Disinformation Index](#) has found that at least \$235 million in revenue is generated annually from ads running on extremist and disinformation websites, fueled in part by well-known companies across all sectors. [In other cases](#), big brands have advertised next to fake cancer cures, damaging their reputation.

Most brands would be horrified and explicitly want to avoid fake news sites, creating a dissonance between the values of a company, and where they advertise. This makes fake news for online marketers reputationally damaging at the same time as it bleeds their budget.

Research in 2017 confirmed that 60 websites publishing fake news were earning revenue from advertising networks¹¹. Pablo Reyes, who runs fake news sites such as Huzlers.com, said in his experience ad networks don't care about the content as long as the traffic comes from real people. "What matters the most is that they get their [ad] impressions."

BRAND EQUITY COSTS

In this way, brands which has taken decades to build brand "value" can see this undermined, through fake news. Brand Finance argues that "a strong brand reputation is a valuable asset for any business, driving higher customer acquisition, satisfaction, loyalty, and advocacy." Fake news cuts into these valuations by poor placements next to fake news. To take only one example, we could see the damage to the \$8.6 billion digital advertising strategy of L'Oréal if the company appeared on a site discussing unscientific or misleading medical news.

The beauty brand says a core part of its identity is to "ensure that all advertising and promotional material is based on proven performance and relevant scientific data obtained during evaluations, consumer or laboratory studies carried out in accordance with our industry's best practices". It is a business imperative for such brands to keep away from pockets of misinformation. Or, as we shall see, companies also face both direct and indirect costs, when they themselves are the subject of targeted misinformation.

¹¹ See, Craig Silverman Buzz Feed News April 4, 2017 <https://www.buzzfeednews.com/article/craigsilverman/fake-news-real-ads#.iorLO7gqk>

REPUTATION MANAGEMENT COSTS

Companies often face direct costs in fighting allegations. [BuzzFeed](#) found that the most viewed fake stories of 2018 included widely disseminated stories on top global companies. These included stories targeting Nike (falsely claiming Michael Jordan quit its board) and Samsung (falsely claiming the electronics giant was being sued). These two fake articles alone racked up 2.2 million Facebook engagements. In August 2017, for instance, someone on the anonymous online message board 4 Chan said he wanted to inflict pain on a “liberal place” and baked up [a campaign against Starbucks](#), posting bogus tweets that advertised “Dreamer Day”. Here, the chain was supposedly giving out free drinks to undocumented immigrants. The Seattle-based company had to move quickly to counter the campaign with not-insignificant costs.

Extending to the reputation of local businesses, a fake news site produced an article falsely accusing a London Indian restaurant of [serving human meat](#) – the business saw its revenue [drop](#) by half. It is inconceivable that similar economic harm is not achieved by brands, big and small, caught up in such news cycles.

In the past year hundreds of companies have been forced to spend resources denying false information against their companies. In other cases, Procter & Gamble has been [forced to refute](#) that their Tide product was being discontinued, while Coca-Cola and Nestle have been forced to deny claims that they are [privatizing](#) a Brazilian aquifer. This requires costs of engagement, reputation management and executive time. The social [media management / analytics market](#), of which reputation management is a sub-segment, is estimated to grow to \$9.54B by 2022.

POLICING THE PROBLEM

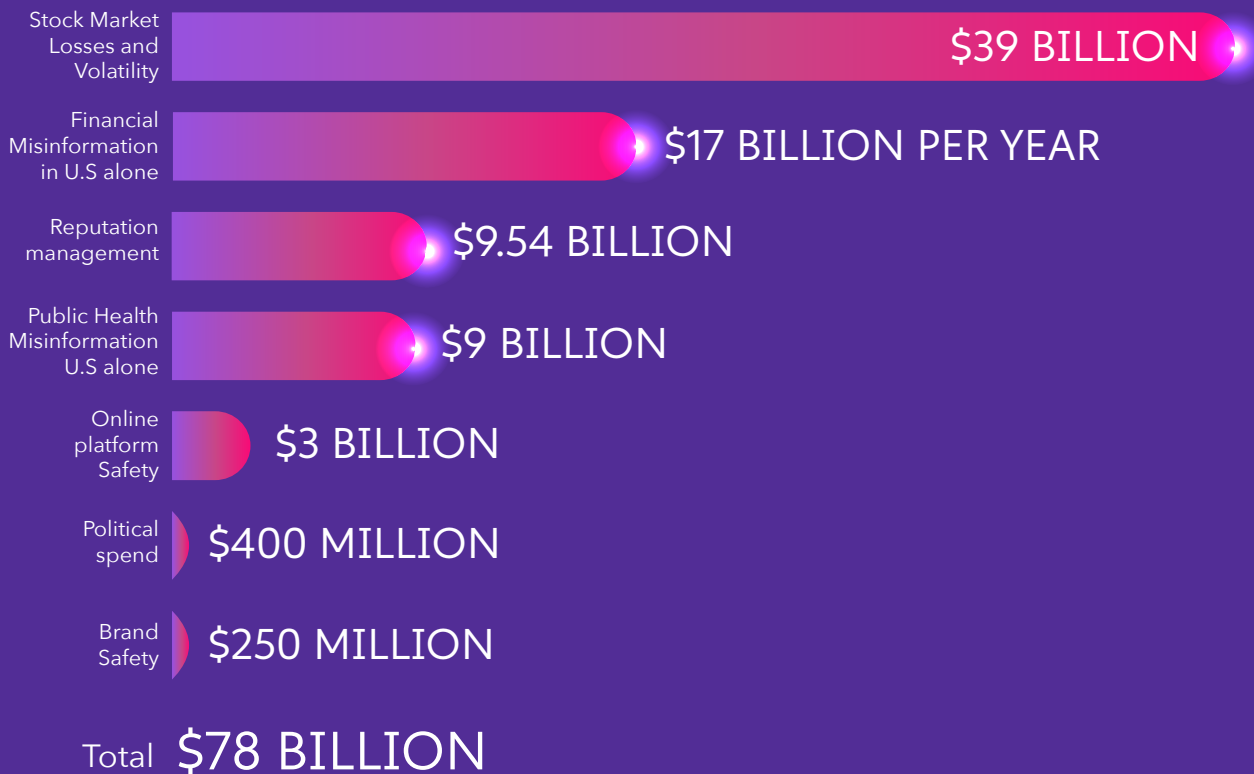
Resources pumped into the global economy to tackle the fake news epidemic have extended to everything from inquiries (the Mueller report alone cost US taxpayers \$32 million according to the Justice Department) to new legislation, media literacy programs, and enforcement. Most famously, Facebook has launched a number of efforts to address the issues faced by its community, including a partnership with fact-checking organizations and its News Integrity Initiative. CEO, Mark Zuckerberg has [said](#) the amount of our budget that goes toward our safety systems is greater than Twitter's whole revenue this year" – Twitter reported [\\$3 billion revenue](#) in 2018. He adds that Facebook employs 30,000 professionals globally and pores over [more than two million](#) pieces of content every day. In line with the policing against fake news, there has been significant investment in startups and acquisitions – Facebook bought Bloomsbury AI and Twitter acquired Fabula AI, while companies tackling the problem receive mounting funding.

Governments are also stepping up. The US Department of Defense Advanced Research Projects Agency (DARPA) has spent \$68 million on research for a technological solution for spotting manipulated fake videos to protect national security. Britain has spent [£18 million](#) on a 'fake news fund' for Eastern Europe alone. The European Commission has put \$5.5million into a [rapid alert system](#) to help EU member states recognize disinformation campaigns. Canada has given [\\$7 million](#) to projects aimed at increasing public awareness of misinformation. Fake news detection systems, apps and IT systems have been variously announced in countries from Brazil, to China.

To give only a sense of the court costs in tackling the problem, Trip advisor won \$9,300 in costs and damages against one individual writing malicious fake reviews. Amazon have [hit back](#) with a series of lawsuits against websites that offer to post fake verified reviews. The Mueller probe indicted thirteen Russians, twelve of whom worked for the Internet Research Agency as part of its investigation into fake news. This trend of enforcement is only likely to increase, bringing with it spiraling investigation costs.

BRINGING IT ALL TOGETHER

As described above the cost of fake news is manifested in several ways. The most significant cost detailed above are seen in the table below.



The costs estimates noted above, and in all cases outlined in this study, are conservative. The price of disinformation regarding health, politics, economics in much of the developing world in particular are hard to estimate. Similarly, misinformation in some nations such as Russia, China, Iran and others have geopolitical and economic costs that are significant but uncertain at this point.

INDIRECT COSTS: PRICING IN TRUST AND TRANSPARENCY

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Direct costs, described above, refer to the losses and opportunity costs imposed on society by the fact that a crime or attack is carried out. However, the US government has suggested that to best understand the cost of harm, estimates should consider both the financial and non-monetary effects of harm. Such indirect costs could impact quality of life, increase fear, or change behaviour. Some researchers have concluded that crime's most costly factors stem from these less tangible effects.¹³

The potential effects of fake news include undermining trust in democracy and markets. In the US, fake news and misinformation has emerged in the public mind as more dangerous than immigration, climate change and racism, according to [Pew Research Center](#).

Fake news is further diminishing public trust in specific sectors — trust in the news media has dropped from 55% in 2015 to 32% in 2019.¹⁴ Trust in peer reviews has dropped (online reviews were found in the UK alone to influence \$26 billion a year of consumer spending each year)¹⁵. For instance, Trip Advisor claims 0.6% of its 66 million annual reviews are fake. In 2018, 34,643 businesses out of the 8+ million locations listed on TripAdvisor received at least one "ranking penalty" for encouraging or paying for the submitting of fake reviews.¹⁶

Other indirect costs include the effects of constant vigilance, energy and resources to defend against and repair damages caused by campaigns of misinformation. This effort is often diverted away from innovation, training, corporate social responsibility and many others vital economic sources of growth. These positive economic benefits, necessary for competition and growth, are casualties in the war against fake news.

¹³ <https://www.gao.gov/assets/700/691895.pdf>

¹⁴ World Economic Forum, Fake News: What it is and How to Spot it, 06, March 2019. <https://www.weforum.org/agenda/2019/03/fake-news-what-it-is-and-how-to-spot-it/>

¹⁵ Competition and Markets Authority: Online reviews and endorsements (2015)

¹⁶ 2019 TripAdvisor Review Transparency Report

INVESTMENT IN FIGHTING FAKE NEWS

Twitter	Buys Fabula AI	\$2019
Facebook	Acquires Bloomsbury AI	2018
Facebook	\$10 million into the "Deepfake Detection Challenge" to spur detection research.	2019
Factmata	Raises \$1million	2018
Userfeeds	Raises \$800k	2017
Logically	Raises \$1.2 million	2018
Britain	\$18 million spent on fake news fund for Eastern Europe	2019
The US Department of Defense Advanced Research Projects Agency (DARPA)	Spends \$68 million on research to fight deepfakes	2018
Google	Launches a global media literacy campaign for \$10 million	2018
NewsGuard	Raises \$6M	2018
European Union	Sets up a \$5 million rapid alert system to help EU member states recognize disinformation campaigns.	2018
Canada invests in campaigns against fake news campaigns	\$7m	2019
Brand Protocol	Raises \$3M	2019
University of Washington	\$25,000. Training the AI for the university-created fake news detection algorithm, "Grover"	2019

FAKE NEWS INITIATIVES GLOBALLY



CONCLUSION

The economic costs of fake news—straining sectors from health, to finance and advertising—reflects the broad sweep of the menace. The spread of fake news is being repeated across every country and sector in the world.

So long as the ad market incentivizes the production and fake news and it remains human nature to be reactive to news, then the global economy will continue to be at severe risk of harm. The disincentives to reform point to sustained economic losses for some time. Jerry Michalski, futurist and founder of REX, argues: “It is inexpensive and easy for bad actors to act badly, and real solutions based on actual trusted relationships will take time to evolve – likely more than a decade.” Scott Shamp, a dean at Florida State University, adds, “Too many groups gain power through the proliferation of inaccurate or misleading information. When there is value in misinformation, it will rule.”¹⁷

This study can only provide a glimpse at the full scale of the epidemic affecting both traditional and emerging sectors and economies. The fake news challenge continues to manifest itself in unforeseen ways economically such as bringing additional resource strains on fundamental institutions such as the army, governments and policing.

In France, the gilets jaunes anti-government protests caused a surge in “fake news” with false information viewed an estimated 105 million times [during five months of protest](#).

Google closed 210 channels on YouTube it said were part of a «coordinated” attempt to post material about protests in [Hong Kong](#)”. Nigerian police have claimed that deaths occurred by [false images and news](#), exacerbating an already tense conflict. The South African Police Acting national police commissioner, Lt Gen Khomotso Phahlane underlines that the spread of fake news not “only sows panic”, but is “wasting [police’s time and resources](#).”

Even seemingly minor instances such as bad online reviews of a business product or service, or of a restaurant by disgruntled former employee must be included in the aggregate and have an outsized impact. We think it reasonable that a global and growing multitude of small costs associated with fake news, along with larger incidents are imposing a cost on the global economy of at least \$78 billion per year

With technology advances, and despite rapid efforts at detection, the risks and costs of fake news will only grow. Fake news-generated black swans may have the power to destroy iconic firms and generate untold economy wide chaos and harm.