

Science, Market, and Politics: How Corruption Is Manifesting in the Covid-19 Pandemic

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Abstract

The sudden onset of demands for the basic human right to health during the pandemic has shown a light on the proverbial cracks in the global system. These cracks may manifest as varying types of corruption. It begs the question, what are the ways corruption has been manifesting in different contexts in impeding these demands? This article proposes a categorization to examine the myriad of ways corruption manifests in relation to responses to Covid-19 induced changes, utilizing examples from different countries and contexts. This paper concludes with various strategies to combat corruption and managerial implications.

Introduction

The World Health Organization (WHO) announced the Covid-19 pandemic spreading on March 11, 2020. By early 2022, less than two years after the WHO's proclamation, there were 410,565,868 cumulative confirmed cases and almost 6 million deaths.¹ Covid-19 has brutalized communities around the world leaving in its wake devastating sadness and loss. Countries, industries, firms, and individuals are feeling the ripples of the impact of the pandemic, some potentially leading to the perpetuation of socioeconomic sacrifice and systemic injustice.² With tens of billions of dollars or more at stake, there is tremendous incentive and opportunity to engage in various forms of corruption particularly along the health services value chain. Under typical circumstances six to seven percent of global healthcare spending is

diverted to corrupt activities.³ The 2020 estimates of global healthcare spending at USD \$8.3 trillion in early pandemic, put the diversion to corrupt activities at nearly half a billion dollars.⁴ The state of emergency leads to the concentration of power in management of the crisis, while concurrently a huge amount of money flows into the sector.⁵ In addition to the pre-existing corrupt practices, with the global spread of the pandemic, in 2020 alone more than 1800 ordinary people contacted Transparency International with Covid-19 oriented concerns about corruption.⁶ Thus, the power given to the authorities in emergencies increases the corruption concerns in the healthcare sector, and traditional anti-corruption policies may be insufficient in responding.

Yet some of the corrupt practices may be associated with the perceived corruption levels of a country. Corruption occurs when an actor abusively leverages their power for private gain to themselves.⁷ Typical forms of corruption include *quid pro quo*, bribery, manipulation, favoritism, fraud, skimming, misrepresentation, and cronyism, to name a few. These practices mar the truth and are hidden with secrecy. Corruption is facilitated by a lack of transparency, high speed processes, and a disabling environment.⁸ Historically, corruption in business was typically examined in market decisions and political decisions however, now science-related decisions have entered into mainstream consideration, widening the scope for further malfeasance.

Public goods and corruption are intrinsically related. Government spending has sometimes been linked to corruption.⁹ Hessami found when creating a government budget, the amount of rent-creating spending is positively associated with corruption.¹⁰ Arvate *et al.* also found evidence among OECD countries that government spending is directly related to the relative degree of corruption in public and private markets.¹¹ Desierto formally modeled the “political resource curse” in which the rents appropriated from natural resource revenues occur during the provision of public goods. In a different investigation, she discovered a sequence of events where at certain levels, a politician may obtain extra income through bribes, but later, after a certain threshold, the additional phenomenon of thievery emerges.¹²

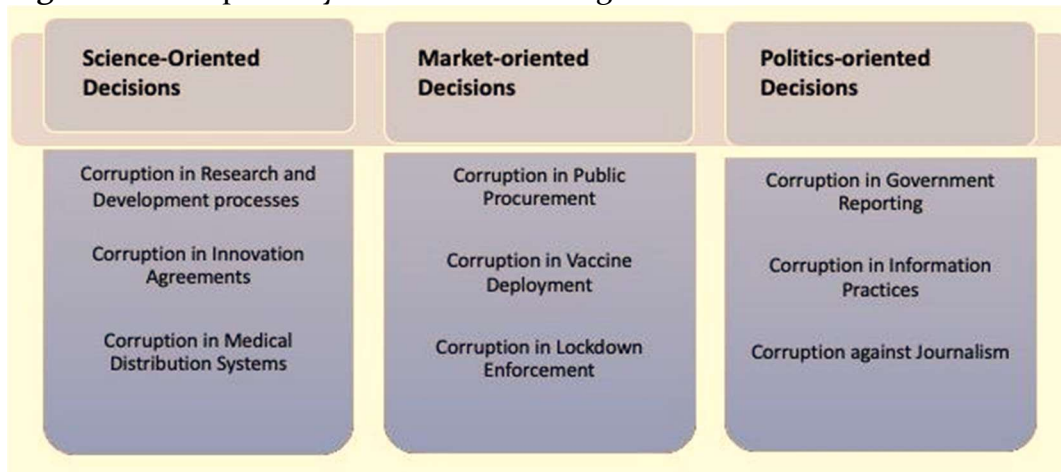
One critical role played by governments is the attainment of various public health goals, particularly accessing effective and safe vaccines for their respective populations. Yet not all vaccines are created equal, and nor is access. This puts pressure on the systems engaged in allocating, distributing, and prioritizing vaccines. Consequently, while seeking to meet public health mandates, the pressure may form an environment for corruption to occur. It is argued by some at the United Nations Office on Drugs and Crime that

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vaccines should be a public good and, as such special attention should be paid to actively mitigating corruption in the supply chain so as to facilitate equitable access.¹³ Meanwhile, product supply chains are facing incredible disruption from global economic shocks and are seeking to stabilize through managing cash flows.¹⁴

Under the extraordinary circumstances for the public health expenditures, let us examine the pathway of development from the germination of vaccine research through to government purchasing for distribution. Note that while we offer in Figure 1 a classification for the corruption during the pandemic and present many examples and stories here to be thorough, this is not comprehensive. In addition, while the examples included here are representative of each category, they are not necessarily fully mutually exclusive in practice.

Figure 1. Corruption by Motivations during the Pandemic



Science-oriented Decisions

Corruption in Research and Development processes

A substantial amount of both public and private R&D investment has been made in racing to develop diagnostic tools, therapies, and vaccines. It is common for a vaccine to take 10.71 years to be brought to the US market, and yet hardly a year passed before the first vaccine was available.¹⁵ The R&D process is multipronged, beginning with an initial research stage, patent application, testing in preclinical settings, three clinical trials, and concluding with the process of registration, each state with its own hurdles to pass and authorities to appease.¹⁶ In a conflict of interest example provided by a whistleblower at Pfizer during stage III clinical trials as reported to the *British Medical Journal*, some at the company were reported to have falsified data points, employed inadequately trained personnel, de-

blinded participants, and deferred reporting on some of the negative side-effects.¹⁷

As UNICEF's survey on vaccine hesitancy shows, some citizens cite the short time horizon in refusing to be vaccinated, believing not enough research has been performed.¹⁸ This reflects an undermining belief as to the safety and efficacy of the vaccine by some of the at-large population. Abbasi points out the risk of "suppression of science" for financial gains as Covid-19 gives free rein to state corruption on a large scale.¹⁹ In addition, masses that are skeptical about corrupt government officials are unlikely to get vaccinated. A survey of South Africans found that 70% of the population believes the response to the pandemic is highly corrupt and the government is not trustworthy enough to ensure the safety of the vaccines.²⁰ This is higher than the global mean, where the OECD reports 45% of world citizens to believe there is corruption in the health sector, though the number drops to 33% in OECD-specific countries.²¹

In other infrequent instances, a few countries are accused of trying to digitally steal R&D information. For instance, Russian hackers were cited in the mass media as trying to steal data from American, Canadian, and British organizations.²² The supposed motive was not to sabotage but rather to speed their own nation's progress in vaccine development.

Corruption in Innovation Agreements

This fast-paced atmosphere creates other opportunities for corruption as the basic standards for vaccine and drug developments are not being met in the contracts. It can be unclear how much of the missing information or opacity from these billion-dollar contracts is due to the urgent public interest or due to the abuse of the circumstances by the drug companies. Patents are protected by the innovating firms, liability shields are given, and vaccine prices are kept confidential while the risks associated with the vaccine/drug development are shared by the people, either as use of the public funds or as the liability protection.

Examining the agreements, stakeholders sometimes fast-track negotiations which can result in a lack of transparency regarding what is - and is not - included in the innovation agreements and contracts in and of themselves. The demands of the drug firms in terms of contracts are found extreme in many cases. As mass media reported during their negotiations with Pfizer, several countries complained of "unfair and abusive contractual demands," but still signed redacted contracts whose terms are hidden from the public knowledge.^{23,24}

Oftentimes when an agreement contract is published, it contains redactions. While redactions can be used to protect proprietary information,

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they can also be used to selectively report and manipulate data. Transparency International analyzed 182 such agreements for 12 distinct covid-19 vaccines - only one contract contained no redactions, while many others had pages upon pages of redactions.²⁵ This may particularly be exacerbated when a laboratory or a university is involved due to the non-disclosures, indemnity agreements, and confidentiality declarations that are often required for these arrangements. Despite several requests for transparent information under the Freedom of Information Act, many of the requests have been rejected.²⁶ This is more commonly associated with high-income countries putting low-income countries potentially at a disadvantage with regards to equitable global access and pricing. With regards to the latter, it was found that the high-income countries were paying the least per vaccine than lower-income, middle income; and upper middle-income countries were paying an average of 25% more than the high-income countries.²⁷

Corruption in Medical Distribution Systems

While most distribution systems have been adversely affected by the associated Covid-19 lockdowns and slowdowns, the medical industry distribution systems have been put under increasing pressure. Moving personal protective equipment (PPE) became difficult, and the problems were magnified when temperature-sensitive vaccines came to the market.²⁸ Now, distribution channels need to store, handle, transport, manage stock, and maintain service delivery across state lines. The most obvious corruption threat is theft for redistribution in the shadow economy or for private use. This phenomenon of stolen or missing vaccines occurs more often when supply is low, and demand is high. This can occur both during transportation in the supply chain and while stored in the final destination (e.g., medical and hospital settings). It is claimed by the Turkish press to have happened at the Taşkent State Hospital in Konya, a central Anatolian city. Here not only Covid-19 vaccines went missing, but also seven other types of vaccines ranging from tetanus to hepatitis B are claimed to have disappeared.²⁹ Likewise, doctors can sometimes engage in various types of malpractice; for example, Italy is currently investigating some of these intermediaries who are accused of skimming off and selling vaccines on the shadow market as reported in media sources.³⁰ Meanwhile, it has been reported that some practitioners are not administering vaccines but are forging official vaccination cards, paperwork, and records, as happened in New York.³¹

Market-oriented Decisions

Corruption in Public Procurement

The health procurement processes during the pandemic highlighted the problems of procurement centralization and bureaucratic conformity, in addition to the lack of preparation for emergency situations and the lack of coordination.³² The problems created mistrust within the public sector and between authorities and suppliers. It is during standard global circumstances that the public procurement process reveals the greatest threat of corruption among the range of government functions, particularly because of the high volumes negotiated. It is estimated that 15-30% of the GDP is made up of public procurement in some countries.³³ In the pre-bidding stage, corruption may manifest as inappropriate demand estimates, skipping the bidding process, and skewing tender documents to prioritize a favored bidder.³⁴ Alternatively, in the procurement process, due to the speed of some crises, public and equitable procurement processes are at risk of being circumvented in favor of direct contracts, potentially without the controls in place for the detection and mitigation of corrupt abuses. In the bidding process, the risk of kickbacks and bribes increases, as does the potential for collusion by actors. After the bidding stage has been completed, corruption may emerge in the form of falsified invoices, changing agreements, and failure to deliver. Corrupt government officials may again demand kickbacks, and suppliers may capitalize on shortages to inflate prices without contract controls in place. The risk of procuring inappropriate, ineffective, and falsified vaccines and other products by the government also increases.³⁵ Should this be the case, it may undermine the citizens' trust in the government and, by proxy, its response to the crisis at hand.³⁶

Sometimes the bidding process can manifest as a "single bidding" wherein there is only one company that bids on a contract. This can happen when the other industry players know from previous experience that the focal buyer only wants to make deals with a certain supplier. In this case, the players who did not bid are actively choosing not to engage in the sham contest and instead choosing to deploy their time and resources to more likely contracts.³⁷

Similarly, in the early days of the pandemic Organized Crime and Corruption Reporting Project (OCCRP) reported that the companies that won the urgent tenders for the supply of protective equipment in Italy were dubious companies.³⁸ Likewise, in several questionable public contracts, the waste and fraud of medical supplies and embezzlement of healthcare funds are increasingly being reported.³⁹ Unfortunately, the opacity in governance lowers the chance of establishing appropriate business-government cooperation and efficient public procurement.

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In Africa, Zimbabwe's Minister of Health was fired in July 2020 due to claims stated in mass media as selecting a multi-million USD contract with inflated medical equipment costs.⁴⁰ Similarly, in Kenya, the Senate Health Committee is examining the criminal misuse of pandemic funds exceeding \$69 million for procurement and supply of pandemic-related equipment.⁴¹

Corruption in Vaccine Deployment

The falsification, counterfeiting, and underperformance of vaccines can emerge when an organized criminal group collaborates to take advantage of gaps in both medical systems and criminal systems. This can occur from corrupt governments and from pharmaceutical firms with a history of paying fines connected to suspected bribery agreements.⁴² Despite massive multi-million dollar fines for these various pharmaceutical companies, the potential for profits is believed to often outstrip the costs of getting caught. Engendered by massive global demand and competition for PPE, testing equipment, and vaccines, criminal groups may falsify and traffic these through said gaps.

Decision making with regards to the allocation of vaccines for prioritized groups and those adjacent to (e.g., the elderly, those working or volunteering in medical facilities, those in small indigenous communities) may be vulnerable to the corruption risks of nepotism and favoritism. Further corruption in the decision making process may be associated with policy and the distribution of - particularly surrounding conflicts of interest. Despite the vaccine being considered a public good, the gulf between the vaccine have and have-nots has been termed the "vaccine apartheid."⁴³ This may be exacerbated by some countries enacting policies to keep manufactured vaccines within country borders. Estimates indicated nine in ten persons living in the most underdeveloped countries were not likely to not receive a vaccination in 2021.⁴⁴ Countries like South Africa have seen fewer doses provided and, at one point, were being charged twice what some members of the European Union were paying, according to some mass media sources.⁴⁵ At the same time, it has been reported that the South African police found vaccine ampules of unregistered and falsified counterfeit vaccines. Interpol issued warnings about this style of corrupt organized crime in December 2020. Later in March 2021, Interpol arrested 80 suspects in collaboration with the Chinese police force with regards to an alleged syndicate marketing falsified vaccines.⁴⁶ In such circumstances, wealthier members of communities and those with political power in countries with access to vaccines may pay bribes and high markups to "jump the line" and access vaccines sooner.⁴⁷ For instance, financial media reported that vaccine

ampules had been found on the Deep Web selling for \$1200 apiece in Lagos, Nigeria.⁴⁸

Corruption in Lockdown Enforcement

The pervasiveness of corruption in a country has implications on how the people and businesses react when new rules for public health are imposed. Everyday citizens may sometimes participate in corrupt activities in order to break the rules for personal gain.⁴⁹ The empirical analysis by Gani on Tunisia indicates a very high level of irresponsible behavior of the citizens to breach the lockdown.⁵⁰ His study found evidence for the causality of the irresponsible behaviors of the people and the corruption as the forms of abuse of power and favoritism. At times, penalties may not be fairly given, and permissions may be granted unequally for some firms and individuals with good social and political ties.

Reinforcing trust between citizens and governments is key to successful crisis management during the pandemic. However, widespread corruption can break the bond of trust in most countries. Thus, while governments attempt to keep their citizens safe through the employment of lockdowns, some members of society are breaking the lockdowns and curfews. The lack of transparency and trust in public authorities plays a major role in the inefficiency of the lockdown measures.⁵¹

Politics-oriented Decisions

Corruption in Government Reporting

Some governments have shown signs of underreporting the number of Covid-19 cases. In an extreme example reported in the news, the previous president of Tanzania - President John Magufuli - while originally reporting numbers, then shifted policy to officially report no cases or deaths from the virus and banned the wearing of masks.⁵² He proclaimed in a church service in 2020 that “the corona disease has been eliminated by God,” and the country was pandemic free.⁵³ Yet, he passed in March 2021. His death was officially attributed to heart troubles but it was widely speculated by the public and the media that the cause was Covid-19 virus complications.^{54,55} New President Samia Suluhu Hassan has overturned much of the authoritarian dictates, has begun to form a science-based advisory committee, and she has started publishing official numbers through the World Health Organization.⁵⁶ In a similar situation, North Korea has yet to report any Covid-19 cases. While the country has actively rejected vaccine doses citing doubt over efficacy, the WHO has begun shipping medical supplies related to Covid-19.^{57,58}

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Transparency International indicates data manipulation has been a clear indicator of corruption.⁵⁹ This can cause misallocation, spikes in rates, and mistrust across a performance-portrayal gap in government reporting as compared to citizen experiences. Also, various inequities in public resources and uneven manufacturing capacity have impacted the order in which countries are procuring vaccines, thus also impacting which members of the community have access to vaccines.

Sometimes the low reporting rates are because of limited access to testing equipment.⁶⁰ This falsely low infection rate means results from some countries are not generalizable to other countries and settings.⁶¹ Despite these conflicting publications, Mwananyanda *et al.* found in the case in Zambia low testing rate was the cause of a low prevalence. This has been corroborated in many studies where the rate was low, but the population showed high antibody rates.⁶² At one point, Brazil removed its cumulative data from official health ministry websites, declaring the statistics are not a true representation of the “moment the country is in.”⁶³ In another case, Turkish official Covid-19 mortality rates are significantly lower compared to countries with similar case numbers.⁶⁴ Interestingly, the Turkish Medical Association, an independent organization of physicians, reported four times higher mortality for the year 2020 with their collected data raises questions about the accuracy of the government reporting.⁶⁵

Corruption in Information Practices

Zimbabwe’s government ranks 10th as highly fragile on the Fragile States Index.⁶⁶ The country is reportedly high in corruption which is corroborated by its Corruption Perception Index rating. It has been reported by the media that in Zimbabwe alone, the health minister and the director of epidemiology and disease control were arrested in conjunction with procuring medical supplies and payment irregularities to co-workers, private vehicles, and hiring relatives.⁶⁷ Smart people are committing smart crimes in the shadow economy and sometimes get away with it due to the dearth of transparent information available. The insecurity people feel about not only the government but the healthcare workers can have secondary impacts in the years to come. For example, after the Ebola crisis in Sierra Leone, the mother mortality surged. Elston *et al.* found it was the high levels of mistrust that encouraged pregnant women to avoid the hospital - where employees learned to demand fees for previously free healthcare services - in favor of home birth.⁶⁸ In the aftermath of the Ebola crisis, women were disproportionately still being affected.⁶⁹

Yet this obscuring and withholding of information is also prevalent in less corrupt countries and regional blocs like the European Union. The European

Commission has refused to release its documentation regarding purchase agreements and negotiations in connection with vaccines in response to the complaints about public access.⁷⁰ The confidentiality is often meant to protect patents and proprietary information but is being used to prevent public knowledge of quantities of vaccines procured, contract conditions, and the timeline for distribution.

Corruption against Journalism

Sometimes, those who speak out against corruption are vilified. Some journalists are losing their jobs from verbal attacks both in-person and online, while others are losing their jobs due to legal intimidation tactics. These threats can emerge from both the state and from laypersons presenting a high risk to the field of truthful journalism. In the Philippines, it has been reported that Maria Ressa, the founder of a news website, is facing her 10th arrest warrant, libel proceedings, and a six-year jail sentence for speaking out against how the government is handling the Covid-19 situation. While Ressa is appealing the sentencing, she is still the victim of highly explicit abuse on Twitter.⁷¹ Public Health Expert Anthony Leachon was pressured to quit the Covid-19 taskforce stating the group had bowed to various political pressures in the Philippines, according to the same report. He continued to speak out demanding the release of real-time data and yet received mockery, ridicule, and was publicly cursed by President Rodrigo Duterte.⁷²

In another example, Hopewell Chin'ono, investigative journalist in Zimbabwe, reported on a \$60 million USD procurement fraud (see above for procurement fraud examples) by Health Minister Moyo. While President Emmerson Mnangagwa fired the Health Minister, it is journalist Chin'ono himself who is facing charges of "inciting public violence," according to media reports. Some have even called his arrest an abduction as no warrant was produced.^{73,74}

Given this series of science, market, and political-oriented aspects of corruption, let us briefly examine some ways to mitigate corruption and managerial implications.

Actions for Managers

The pandemic has created a new normal for businesses and required a new set of priorities for CEOs. Managers need to rethink how the firm operates, what matters more, and why the firm exists for the long-term financial security of the company. The new normal facilitates public-private partnerships to manage and share the risks of the large projects and to fulfill the government's responsibilities to the public.⁷⁵ However, there are challenges for the business leaders from both the economic and moral

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spheres in the unprecedented times of pandemic. When it comes to public-private partnerships, executives' social ties and perceptions always matter. But at the same time, such ties are prone to create unhealthy outcomes. Managers with ties to government officials or politicians are more likely to engage in corruption, and they tend to rationalize that corruption is a necessity for being competitive in such markets.⁷⁶ Moreover, it is not easy to deal with corruption when it has become a usual procedure of doing business.

Nevertheless, the costs of anti-market activities must be addressed even under urgent circumstances. Although there is no consensus among the business community on what corruption is and how to deal with it, multinational firms may wish to generate a resilience-oriented management standard for more accountable operations in the aftermath of the pandemic.⁷⁷ Setting anti-corruption policies and creating a company code against corrupt practices can help to improve a moral organizational culture. Public statements on websites against corrupt practices, as a first step, may demonstrate the willingness of the company to acknowledge and deal with the problem. But, as the importance and relevance of the public-private collaborations have been seen by the pandemic, traditional anti-corruption policies are likely to be insufficient in response to an emergency. Thus, managers need to take strict and broader actions against corruption.

- ✓ Managers in science industries can develop contracts with greater transparency and fewer redactions to promote confidence in vaccine development while reducing hearsay, conspiracies, and misinformation.
- ✓ International managers working with the sciences can press for greater fairness in negotiating vaccine prices across country borders with various contract controls.
- ✓ Managers can develop protocols for public and private procurement processes to help alleviate collusion, kickbacks, and falsified information on the general market.
- ✓ Relatedly, leadership can shift performance incentives to acknowledge high-risk market regions and settings.
- ✓ Politically, managers can press for accurate measures and counts from country officials so as to increase the likelihood of appropriate forecasting models and scenarios.
- ✓ Within the company, establishing an “open hiring model” may help to avoid nepotism and favoritism.⁷⁸
- ✓ In company projections, some may build the cost of avoiding bribery into their estimates and deal with the setting using alternative methods if it is still profitable in that market.⁷⁹

- ✓ Walk away from markets where doing business by avoiding corruption is associated with a high risk.
- ✓ Provide a performance report on the anti-corruption commitments of the company.
- ✓ Finally, for managers in international business deals, approaching joint ventures during these unstable times may increase trust and communication while expelling opportunistic behaviors through the use of contractual agreements.⁸⁰

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Endnotes

1. WHO Coronavirus (COVID-19) dashboard [Organization website]. (2022). *World Health Organization*.
2. Ku, S., Cavusgil, S. T., Ozkan, K. S. L., Pinho, C. R. D. A., Pinho, M. L. C. D. A., Poliakova, E., Sanguinetti, F., & Sharma, S. (2020). The great lockdown recession and international business. *Rutgers Business Review*, 5(1), 113-135.
3. Transparency International Global Health. (2019). *The Ignored Pandemic: How Corruption in Healthcare Service Delivery Threatens Universal Health Coverage*. U.K.: Transparency International.
4. Health Systems Governance & Financing UHL. (2020). *Global Spending on Health: Weathering the Storm*. (2020). Geneva, Switzerland: World Health Organization.
5. Terziev, V., Georgiev, M., & Bankov, S. M. (2020). Increasing the risk of corruption activities during a COVID-19 pandemic. *International Scientific Journal, Internauka*, 92(12), 58–59.
6. Citizens report on Covid-19 corruption [Organization website]. (n.d.). *Transparency International*.
7. Bahoo, S., Alon, I., & Paltrinieri, A. (2020). Corruption in international business: A review and research agenda. *International Business Review*, 29(4), 101660.
8. Ibid.
9. Mauro, P. (1998). Corruption and the composition of the government expenditure. *Journal of Public Economics*, 69, 263-279.
10. Hessami, Z. (2014). Political corruption, public procurement, and budget composition: Theory and evidence from OECD countries. *European Journal of Political Economy*, 34, 372-389.
11. Arvate, P. R., Curi, Z. A., Rocha, F., Sanches, M. (2010). Corruption and size of government: Causality tests for OECD and Latin American countries. *Applied Economic Letters*, 17, 1013-1017.
12. Desierto, D. A. (2018). Formal models of the political resource curse. *Economics of Governance*, 19(3), 225-259.
13. Covid-19 vaccines and corruption risks: Preventing corruption in the manufacture, allocation and distribution of vaccines. (n.d.). *United Nations Office on Drugs and Crime*.
14. Hofmann, E., Templar, S., Rogers, D., Choi, T. Y., Leuschner, R., Korde, R. Y. (2021). Supply chain financing and pandemic: Managing cash flows to keep firms and their value networks healthy. *Rutgers Business Review*, 6(1), 1-23.
15. Pronker, E. S., Weenen, T. C., Commandeur, H., Claassen, E. J. H. M., & Osterhaus, A. D. M. E. (2013). Risk in vaccine research and development quantified. *PLoS ONE*, 8(3).
16. Ibid.
17. Thacker, P. (2021, November 2). Covid-19: Researcher blows the whistle on data integrity issues in Pfizer's vaccine trial. *The BMJ*.
18. USAID & UNICEF. (2021). *Covid 19 Vaccine Hesitancy Survey Report 2021*. Barbados: UNICEF Office for the Eastern Caribbean Area.
19. Abbasi K. (2020). Covid-19: politicisation, "corruption," and suppression of science. *The BMJ*.
20. Moosa, M., Mpako, A., & Felton, J. (2021). South Africans support government's COVID-19 response but are critical of corruption and skeptical of vaccines (Dispatch No. 467). *Afrobarometer*.
21. OECD (2017). *Tackling Wasteful Spending on Health*. (2017). Paris: OECD Publishing.
22. Barnes, J. E. (2020, July 16). Russia is trying to steal virus vaccine data, western nations say. *The New York Times*.

23. Taylor, A. (2021, October 19). In secret vaccine contracts with governments, Pfizer took hardline in push for profit, report says. *The Washington Post*.
24. Apuzzo, M., & Gebrekidan S. (2021, February 24). Governments sign secret vaccine deals. Here's what they hide. *The New York Times*.
25. Transparency International Global Health. *For Whose Benefit? Transparency in the Development and Procurement of Covid-19 Vaccines*. (2021). U.K.: Transparency International.
26. Covid-19 vaccine transparency. (2021, March 2). *Transparency International*.
27. Transparency International Global Health. *For Whose Benefit? Transparency in the Development and Procurement of Covid-19 Vaccines*. (2021). U.K.: Transparency International.
28. UNODC. (n.d.). *Covid-19 Vaccines and Corruption Risks: Preventing Corruption in the Manufacture, Allocation and Distribution of Vaccines*. United Nations Office on Drugs and Crime.
29. Konya'da 2'si Covid-19 için olan 35 aşı kayıp! Sağlık Müdürlüğü soruşturma başlattı. (2021, February 5). *Hurriyet Gazetesi*.
30. Parodi, E., & Aloisi, S. (2021, February 19). Police probe side offers of Covid vaccines to Italian regions. *Reuters*.
31. Bursztynsky, J. (2022, January 29). Two New York nurses charged with forging Covid vaccine cards to earn more than \$1.5 million. *CNBC*.
32. Vecchi, V., & Cusumano, N. (2020, May 12). Covid-19: Lessons from Italy on public-private healthcare. *World Economic Forum*.
33. UNODC & IACA. (2013). *Guidebook on Anti-Corruption in Public Procurement and the management of Public Finances – Good Practices in Ensuring Compliance with Article 9 of the United Nations Convention Against Corruption*. (2013). Vienna: United Nations Office on Drugs and Crime.
34. UNODC. (n.d.). *Covid-19 Vaccines and Corruption Risks: Preventing Corruption in the Manufacture, Allocation and Distribution of Vaccines*. United Nations Office on Drugs and Crime.
35. Ibid.
36. Meyer, H. (2020). After a COVID-19 vaccine: Collaboration or competition? *Health Affairs*, 39(11), 1856-1860.
37. Mungiu-Pippidi, A. (2015). Corruption: Good governance powers innovation. *Nature*, 518, 295-297.
38. Civillini, M. (2020, April 4). Italy grants COVID-19 public contracts to alleged fraudsters. *Organized Crime and Corruption Reporting Project*.
39. More cases are available on coronavirus the website of Organized Crime and Corruption Reporting Project (occrp.org).
40. Igunza, E. (2020, September 24). Coronavirus corruption in Kenya: Officials and businesspeople targeted. *BBC News*.
41. Uche, R., Kokutse, F., Ogodo, O., Makoni, M., & Nakweya, G. (2021, March 1). Procurement corruption darkens Africa's COVID-19 fight. *SciDevNet*.
42. Smith, M. (2021, March 27). The global vaccine rollout means heightened corruption risk. Here's what to know. *Barron's*.
43. Byanyima W. (2021, January 29). A global vaccine apartheid is unfolding. People's lives must come before profit. *The Guardian*.
44. Coronavirus (COVID-19) Vaccinations. (n.d.). Covid-19 Dataset. *Our World in Data*.
45. Byanyima W. (2021, January 29). A global vaccine apartheid is unfolding. People's lives must come before profit. *The Guardian*.

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46. Fake COVID vaccine distribution network dismantled after Interpol alert. (2021, March 3). *INTERPOL*.
47. Freeman, J. (2021). COVID vaccine and privilege: When is it not about you? *RRNMF Neuromuscular Journal*, 2(2).
48. Smith, M. (2021, March 27). The global vaccine rollout means heightened corruption risk. Here's what to know. *Barron's*.
49. Harris, L. C. (2020). Breaking lockdown during lockdown: A neutralization theory evaluation of misbehavior during the Covid 19 pandemic. *Deviant Behavior*.
50. Gani, W. (2021). The causal relationship between corruption and irresponsible behavior in the time of COVID-19: Evidence from Tunisia. *African Development Review*, 33(1), S165– S176.
51. Harris, L. C. (2020). Breaking lockdown during lockdown: A neutralization theory evaluation of misbehavior during the Covid 19 pandemic. *Deviant Behavior*.
52. Mwai, P., & Giles, C. (2021, March 17). Covid: Does Tanzania have a hidden epidemic? *BBC News*.
53. Odula, T. (2020, June 9). God has 'removed' coronavirus, Tanzania's president claims. *The Associated Press*.
54. Fact Check-Tanzania's government says John Magufuli died from heart disease; numerous other politicians around the world have died from COVID-19.(2021, April 21). *Reuters*.
55. John Magufuli: Tanzania's president dies aged 61 after Covid rumours. (2021, March 18). *BBC News*.
56. Buguzi, S., Broom, F., Adriano, J., & Rueda, A. (2021, April 14). COVID-19, lies and statistics: corruption and the pandemic. *SciDevNet*.
57. North Korea rejects offer of almost three million Covid-19 jabs. (2021, September 1). *BBC News*.
58. The WHO has started shipping COVID-19 medical supplies to North Korea. (2021, October 7). *The Associated Press*.
59. Transparency International Global Health. (2019). *The Ignored Pandemic: How Corruption in Healthcare Service Delivery Threatens Universal Health Coverage*. U.K.: Transparency International.
60. Mwananyanda, L., Gill, C. J., MacLeod, W., Kwenda, G., Pieciak, R., Mupila, Z., Lapidot, R., Mupeta, F., Forman, L, Ziko, & Etter, L. (2021). Covid-19 deaths in Africa: prospective systematic postmortem surveillance study. *The BMJ*, 372.
61. This was later challenged in the response by Mucheleng'anga & Himwaze (2021). Mucheleng'anga, L. A., & Himwaze, C. M. (2021, March 3). Covid-19 deaths in Africa: prospective systematic postmortem surveillance study [Response on website]. *The BMJ*, 372.
62. Uyoga, S., Adetifa, I., Karanja, H., Nyagwange, J., Tuju, J., Wanjiku, P., Aman, R., Mwangangi, M., Amoth, P., Kasera, K., Ng'ang'a, W., Rombo, C., Yegon, C., Kithi, K., Odhiambo, E., Rotich, T., Orgut, I., Kihara, S., Itiende, M., Bottom-Ley, C., Mupe, Z. N., Kagucia, E. W., Gallagher, K., Etyang, A., Voller, S., Gitonga, J. N., Mugo, D., Agoti, C. N., Otieno, E., Ndwiga, L., Lambe, T., Wright, D., Barasa, E., Tsofa, B., Bejon, P., Agweyu, A., Scott, J. A. G., & Warimwe, G. (2021). Seroprevalence of anti-SARS-CoV-2 IgG antibodies in Kenyan blood donors. *Science*, 371(6524), 79–82.
63. Buguzi, S., Broom, F., Adriano, J., & Rueda, A. (2021, April 14). COVID-19, lies and statistics: Corruption and the pandemic. *SciDevNet*.
64. Official reported numbers of the Turkish Health Ministry are available at the ministry's official website (saglik.gov.tr). Global comparisons are available on the World Health Organization Covid-19 database (covid19.who.int).

65. TTB Covid-19 1. Yil Değerlendirme Raporu [Organization website]. (2021). *Turkish Medical Association*.
66. The Fund for Peace. (2021). *Fragility in the World*. Fragile States Index.
67. Smith, M. (2021, March 27). The global vaccine rollout means heightened corruption risk. Here's what to know. *Barron's*.
68. Elston, J. W. T., Danis, K., Gray, N., West, K., Lokuge, K., Black, B., Stringer, B., Jimmisa, A. S., Biankoe, A., Sanko, M. O., Kazungu, D. S., Sang, S., Loof, A., Stephan, C., & Caleo, G. (2020). Maternal health after Ebola: Unmet needs and barriers to healthcare in rural Sierra Leone. *Health Policy and Planning*, 35(1), 78–90.
69. Strong, A. E., & Schwartz, D. A. (2018). Effects of the West African Ebola epidemic on health care of pregnant women: Stigmatization with and without infection. In D. A. Schwartz, J. N. Anoko, S. A. Abramowitz (Eds.), *Pregnant in the Time of Ebola* (pp. 11–30). Switzerland: Springer Nature.
70. Decision in joint cases 85/2021/MIG and 86/2021/MIG on the European Commission's refusal to give public access to documents concerning the purchase of vaccines against COVID-19. (2021, May 12). *European Ombudsman*.
71. Buguzi, S., Broom, F., Adriano, J., & Rueda, A. (2021, April 14). COVID-19, lies and statistics: corruption and the pandemic. *SciDevNet*.
72. Ibid.
73. As South Africa grapples with corruption and Covid-19, journalists and civil society suffer retaliation for exposing corruption. (2020, October 6). *Transparency International*.
74. Hopewell Chin'ono: Whistle-blowing Zimbabwean journalist arrested. (20 July 2020). *BBC News*.
75. Covid-19 Implications for business. (2021, September 29). *McKinsey & Company*.
76. Collins, J. D., Uhlenbruck, K., & Rodriguez, P. (2009). Why firms engage in corruption: A top management perspective. *Journal of Business Ethics*, 87(1), 89–108.
77. For a brief summary, see:
Bahoo, S., Alon, I., & Paltrinieri, A. (2020). Corruption in international business: A review and research agenda. *International Business Review*, 29(4), 101660.
78. Pirson, M., & Livne-Tarandach, R. (2020). Restoring dignity with open hiring: Greyston Bakery and the recognition of value. *Rutgers Business Review*, 5(2), 236–247.
79. Montero, D. (2018). How managers should respond when bribes are business as usual. *Harvard Business Review*, 96(6).
80. Velez-Calle, A., Aydinliyim, L., Sosa S., Large Joshua, (2020). Expecting the unexpected: Force majeure clauses and the Covid-19 pandemic. *Rutgers Business Review*, 5(3), 416–433.