GROWING

Warwick Think Tank Termly Report
— December 2020

TENSIONS

Contents

Introduction

to the Warwick Think Tank Report

This policy report is Warwick Think Tank Society's first formal one. It spans five policy areas - Foreign Affairs; Energy & Environment; Healthcare; Technology and Education - and is unified by the theme: Growing Tensions.

In each policy area, we explore a trend that indicates rising tensions, whether they be between countries, or between economic and health priorities. The team behind each policy area has put forth a submission*; their findings will be presented in the following format:

1. Briefing

In this section, we summarise the current state of affairs by providing key details and note trends. The phenomena is broken down into sections; trends in each section are presented.

2. Insight

In this section, we provide explanations of the trends by breaking phenomena down into key underlying themes.

3. Policy Recommendation

Finally, each submission is concluded by providing solutions for dealing with the growing tension, comprising an extensive action plan.

*NOTE: There are two submissions from Foreign Affairs, addressing two growing tensions in the international sphere.

to the Research Team

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Richa is a final-year Philosophy, Politics and Economics (PPE) student, intending to pursue a career in journalism. As Research Head, she provided the guidelines for the report structure and findings, as well as editing the Report. She was a WTT research analyst last year.

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Jasmine is a final year French and Italian student with plans to pursue a Master's in Gender Studies with a particular interest in gendered violence. She has enjoyed writing for *The Boar* over the course of her time at Warwick and working in the Italian Society Exec during her second year.

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Thomas is a first year Philosophy, Politics, and Economics student who aims to become a politician after having experienced the financial services industry. He intends to find nuanced and objective solutions to modern-day issues through his academic studies, presidency of the Factum Think Tank, and independent research projects. He also represents the PPE students as the Secretary of the PPE Student Staff Liaison Committee.

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Vriddhi is a first year Philosophy, Politics and Economics student, intending to pursue a career in social analysis and research. She was also the founder of Epanortho, an intellectual property rights campaign programme and was lauded by the Dubai Customs Authority for her endeavours. She is currently a part of the research initiative 'Resilient Together' and actively writes for Warwick Amnesty's blog and continues to passionately work towards human rights.

Foreign Affairs
China and the Changing World Order

by Anita Goga & Shilp Burman Roy

Briefing Note

Recent developments in China's foreign policy have led people to question whether China is rising as a revisionist state[1]. The measures taken to expand its influence internationally have been increasingly aggressive. The following 4 domains will be explored to highlight these policies; Economic, Military, and Soft Power. A final section will look at how the Chinese Communist Party aims to secure control in the domestic realm.

Overview

- **China's economic policies have been scrutinised in the past decade because they do not uphold 'international trade norms' by increasing competitiveness through heavy subsidisation and intellectual property theft. This has recently been called out by the United States in the technology domain.**

- **China has engaged in occupying vacant borders, but recently the military strategy to expansion has shifted, as we see more a more confrontational approach which is coupled with plans to revolutionise and modernise the military**

- **China has also relied on spreading soft power through bilateral agreements, engagement in international agreements and providing aid to lesser developed states**

- **Despite integrating in the international community and opening up its economy to global trade, China has not adopted democratic values as other states had hoped and continues to undermine democratic freedoms.**

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[1] revisionist state - a state that aims to change or end the current system of international affairs

Economic Power and Policies

China leverages its monopoly on natural resources to undermine the United States' economic power by engaging in the trade practice of dumping.

- The U.S. Defence Department led a review which concluded that the Chinese government dumps raw materials used to manufacture U.S. missiles, jets and rockets, effectively forcing American suppliers out of business[2].

- China has a monopoly over ammonium perchlorate - a compound used in every U.S. military aircraft and electronic device - and sells at artificially low prices, undercutting the single U.S. supplier of this compound[3].

China remains the world's principle intellectual property infringer and the theft of American trade secrets negatively impacts the U.S. economy.

- The CNBC Global CFO Council collectively manages $5 trillion in market value across multiple sectors. One in five North American corporations in the Council claim that Chinese companies have stolen their intellectual property in 2019[4].

- The IP Commission estimates that China's IP theft and infringement activities cost the U.S. economy $600 billion on an annual basis[5].

- China exploits U.S. academic openness to steal technology by utilizing campus proxies. Theft of American trade secrets by China costs the U.S. economy more than $300 billion per year. The FBI is investigating 1,000 cases regarding Chinese technology theft across its 56 regional offices[6].

- 73% of Chinese espionage against the U.S. took place in the last decade. 90% of the 180 investigations into the misuse of National Institutes of Health funds, diversion of research intellectual property and inappropriate sharing of confidential information have been linked to China[7].

Made in China 2025 intends to update the Chinese manufacturing base by developing high-tech industries and reducing its dependence on foreign technology, hence securing China's dominant position in global markets.

- The 2015-launched initiative involves integrating big data, cloud computing and other emerging technologies into global manufacturing chains. It emphasises the production of semiconductors, given their centrality to electronic products. China accounts for 13% of the global supply of semiconductors[8].

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[2] Foreign Policy, 2018, Pentagon accuses China of dumping products to undermine US security
[3] Foreign Policy, 2018, Pentagon accuses China of dumping products to undermine US security
[4] CNBC, 2019, 1 in 5 corporations say China has stolen their IP within the last year: CNBC CFO survey
[5] CNBC, 2019, 1 in 5 corporations say China has stolen their IP within the last year: CNBC CFO survey
[6] The Guardian, 2020, China theft of technology is biggest law enforcement threat to US, FBI says
[7] The Guardian, 2020, China theft of technology is biggest law enforcement threat to US, FBI says
[8] Council on Foreign Relations, 2019, Is 'Made in China 2025' a Threat to Global Trade?

- Foreign companies investing in China must enter into joint ventures with Chinese firms and share sensitive intellectual property. The value of Chinese acquisitions in the US peaked in 2016 at over $45 billion[9].

- The Pentagon warned that Chinese investment in U.S. firms concerning facial-recognition software, 3-D printing and virtual reality systems have obscured boundaries between civilian and military technologies and consolidated China's power over global supply chains[10].

The Belt and Road initiative connects China with Asian and African countries via land and maritime networks. It improves China's regional integration, increasing trade and stimulating economic growth.

- The project involves $1 trillion in Chinese investments to develop six corridors of roads, railways and telecommunication networks. It spans across 70 countries, accounting for 65% of the world's population and one third of its Gross Domestic Product[11].

- China partnered with former Sri Lankan president Mahinda Pajapaksa to develop infrastructure in the vastly underdeveloped region of Hambantota. When Sri Lanka struggled to repay Chinese-administered loans, China seized a 70% share of the seaport in Hambantota for its own trade purposes[12].

- Chinese state-owned firms pumped $36 billion into Malaysian infrastructure projects, including the East Coast Rail Link initiative. China aided Malaysian Prime Minister Najib Razak to conceal evidence of financial irregularities by artificially inflating infrastructure costs. In return, Malaysia presented Chinese companies with large stakes in national railway projects and ports[13].

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[9] Council on Foreign Relations, 2019, Is 'Made in China 2025' a Threat to Global Trade?
[10] Council on Foreign Relations, 2019, Is 'Made in China 2025' a Threat to Global Trade?
[11] The European Bank, Belt and Road Initiative
[12] Forbes, 2020, How China's Belt And Road Became A 'Global Trail Of Trouble'
[13] Forbes, 2020, How China's Belt And Road Became A 'Global Trail Of Trouble'

Military Expansion and Strategy

China practices occupying vacant territories near its border thus slowly expanding them.

- Data released by the Nepalese government shows that Chinese state has encroached around 36 hectares of land through and diverted a river along the border through the ongoing road expansion project in Tibet[14].

- The Doklam Dispute in 2017 saw Chinese army engineers attempt to build a road through the Doklam plateau which is disputed land between China and Bhutan. This resulted in a military standoff with Indian forces whereby China withdrew troops. However, since the issue China has continued to deploy troops and build new infrastructure in the area.[15]

- The Stimson Centre warns that the unwillingness of foreign powers to stand up to Chinese border expansion, unless their own sovereignty is at stake, will see a continuation of such expansionist policies.[16]

Sino-Indian border dispute of 2020 signals a more confrontational strategy to land grabbing by the Chinese as the conflict escalated to military action.

- Early May Chinese forces were found to have moved into Indian territory along the Galwan Valley leading to clashes between armed forces.[17]

- The Indian Ladakh region is strategically important to China for maintaining a link between Tibet and Xinjian and due to its position which would allow China easier access to New Delhi.[18]

- The territory in question was agreed by both states as being Indian Territory thus singling a shift in Chinese Policies in occupying vacant/disputed land, to entering other states' territory, according to Braham Chellaney, Professor of Strategic Studies at the Centre for Policy Research in New Delhi.[19]

China continues to challenge the status quo in the South China sea and recently has begun militarising disputed borders.

- Despite the Declaration on the Conduct of Parties in the South China Sea in 2002, China has continued to use force or threat to intimidate.

  - The most significant dispute happened over the Scarborough Shoal in 2012, where Chinese and Philippine vessels had a standoff over Chinese fishing

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[14] Tibetan Journal, 2019, Nepal Government Data Shows China Illegally Occupying Their Land
[15] The New York Times, 2017, How India and China Have Come to the Brink Over a Remote Mountain Pass
[16] War on the Rocks, 2018, DOKLAM, ONE YEAR LATER: CHINA'S LONG GAME IN THE HIMALAYAS
[17] BBC, 2020, China-India border: Why tensions are rising between the neighbours
[18] Gumaste, 2020, Expansionist China a dangerous cocktail of past and present
[19] The Hill, 2020, China's expansionism enters dangerous phase

vessels crossing boundaries[20].

- o Tactics escalated as in 2014 China began building artificial islands on disputed territory near the Spratlys Islands, clashing with UN Convention on the Law of the Sea. These have been used to build runways and hangars for higher aircrafts as well as housing anti-ship cruise missiles, anti-aircraft batteries and missile defences. According to U.S State Department Morgan Ortagus, these are used to assert control over disputed waters.[21]

- China has been protecting shipping boats that cross into disputed lands to intimidate other parties while simultaneously blocking out foreign vessels.

  - o In July 2012, Beijing sent two Chinese surveillance ships to protect their fishing boats that were anchored inside the Scarborough Shoal in territory claimed by the Philippines resulting in a standoff with Philippine warships.[22]
  - o In 2012 Chinese government passed a law that gave power to law enforcement to board and seize control of foreign ships which entered Chinese-claimed waters.[23]
  - o China regularly used 'China Marine Surveillance' vessels to block foreign vessels from conducting research and exploration in disputed areas.[24]

President Xi Jinping has embarked on a project of re-modernising Chinese military and requires a strong military to back up visions of China as a world power by 2050. This can come off as an offensive tactic in line with an expansionist vision.

- New military plans aim to fully modernise the military and achieve top-rank status by 2050[25]

- The Military saw purges within high-ranking officials, and the Communist Party's power over the Military was extended.[26]

- From 2012 to 2019 there was a 21% increase in Chinese Warheads, emphasising air and sea capacities to enhance ability for retaliatory strikes. [27]

- The Defense Intelligence Agency stated that China is likely to more than double the size of nuclear weapons stockpile over the next decade.[28]

- RAND estimated that over 70% of the Chinese fleet was considered modern, which is an

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[20] The Guardian, 2012, Philippines accuses China of deploying ships in Scarborough shoal

[21] Defence News, 2020, China's island fortifications are a challenge to international norms

[22] Nandyatama, 2019, Beyond brinkmanship: the implication of South China sea conflicts on China's soft power in Southeast Asia

[23]Nandyatama, 2019, Beyond brinkmanship: the implication of South China sea conflicts on China's soft power in Southeast Asia

[24] Nandyatama, 2019, Beyond brinkmanship: the implication of South China sea conflicts on China's soft power in Southeast Asia

[25] abc news, 2017, Chinese President Xi Jinping takes absolute control of armed forces in military shake-up

[26] Pacific Council, 2020, Understanding China's Military Expansion

[27] ChinaPower, 2020, How is China Modernizing its Nuclear Forces?

[28] ChinaPower, 2020, How is China Modernizing its Nuclear Forces?

increase from the 50% in 2010.[29]

- Between 2014-2018, China launched 678,000 tonnage of ships which is larger than both the tonnages of the French and Spanish navies combined.[30]

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[29] ChinaPower 2020, How is China Modernizing its Navy?
[30] ChinaPower 2020, How is China Modernizing its Navy?

Increasing Chinese Soft Power

Despite disputes in South China Sea, China continues to maintain strong economic ties with its neighbours in order to spread economic dominance in the region

- China became a major benefactor of the Greater Mekong Subregion Economic Cooperation Programme which aims to improve connectivity within the region. China plans to build a high-speed railroad from Kunming to Singapore worth $7 Billion

- Chinese imports and exports make up 14.3% of Indonesian trade[31]

- Exports to China make up 14.6% of all Singaporean exports[32]

- China continues to participate in forums lead by ASEAN such as ASEAN Defence Ministers' Meeting, ASEAN Regional Forum, which shows China's aim to reduce its perception as a threat by attending ASEAN-led negotiations.[33]

- In 2020, China joined the Regional Comprehensive Economic Partnership which has now become the world's largest trading bloc. The pact has been deemed an extension of Chinese economic influence and is the first time China has signed up to a multilateral trade pact[34].

China utilises aid programs and soft power to extend influence and build military bases in lesser developed countries that are strategically placed. Cambodia is an example.

- Commercial satellite imagery shows that a Chinese-owned construction company has been completing a runway in Cambodia which Chinese officials claiming it is for touristic purposes. However the specifications of the runway are better suited for military aircrafts.[35]

- Beijing claimed the constructers were undertaken for humanitarian purposes.[36]

- China is Cambodia biggest aid provider with an expenditure of 250 - 300 million in the period of 2016 - 2018[37]

- In 2019 43% of Foreign Direct Investments in Cambodia came from China[38]

- In 2020 China and Cambodia signed a free trade agreement which will also see China granting aid of 149 million to Cambodia for top priority projects[39]

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[31] OEC, 2020, Indonesia
[32] OEC, 2020, Singapore
[33] Kheng Swe, 2017, China's Revisionist Aspirations in Southeast Asia and the Curse of the South China Sea Disputes
[34] BBC, 2020 RCEP: Asia-Pacific countries form world's largest trading bloc
[35] Seidel, 2020. Scary reality: China's secret Cambodian military base
[36] War on the Rocks, 2019, HIDING IN PLAIN SIGHT: CHINESE EXPANSION IN SOUTHEAST ASIA
[37] PPE Sydney, 2019, Two To Tango: Cambodia And Chinese Aid And Investment
[38] Santander, 2020, Cambodia: Foreign Investment
[39] Rufinaldo, 2020, China, Cambodia sign free trade agreement

Aid projects that do not adhere to international standards are provided to lesser economically developed countries in order to spread soft power.

- 2018 saw a restructuring of Chinese foreign aid through the establishing go the Chinese International Development Cooperation Agency, whereby the management of foreign aid was removed from under the Ministry of commerce as a result of China being criticised that it was mixing development efforts with trade and investment efforts[40]

- The China Africa research Initiative 2020 report shows that in 2018 China had a new record of $3.3 billion in foreign aid expenditure.[41]

- A study by AidData found that when compared to western foreign aid, Chinese development aid caused negative externalities to recipients as receiving states lost liberty of economic reforms.[42]

However international perceptions of China remain mixed despite strong economic ties

- Despite being a large recipient of Chinese investments, Indonesian public has a 36% unfavourable view of China and 36% favourable[43]

- Throughout Africa and Latin America most view a growing Chinese economy as favourable to their own economy[44].

- In Japan 85% view China in an unfavorable light even though China is the biggest recipient of Japanese exports[45].

- In Indonesia, positive perceptions have fallen by 17 percentage points[46].

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[40] Carnegie Endowment, 2019, The Logic Behind China's Foreign Aid Agency
[41] China Africa Research Initiative, 2018, Data: Chinese Foreign Aid
[42] China Africa Research Initiative, 2018, Data: Chinese Foreign Aid
[43] Pew Research Centre, 2019, People around the globe are divided in their opinions of China
[44] Pew Research Centre, 2019, People around the globe are divided in their opinions of China
[45] Pew Research Centre, 2019, People around the globe are divided in their opinions of China
[46] Pew Research Centre, 2019, People around the globe are divided in their opinions of China

Chinese Domestic Policies

The Chinese government has taken initiatives to undermine Hong Kong's autonomy through legislative means.

- February 2019, the "Mutual Legal Assistance in Criminal Matters Ordinance (Cap 525) bill was proposed to amend the "Fugitive Offenders Ordinance (Cap 503)" with the aim of arranging mutual legal assistance can be made between Hong Kong and with outside cities[47].

- The Law society published a submission regarding the bill which expresses worries that the legal amendments could be used for political persecution and suppression of freedom of speech. The Law Society also highlights that China signed but has not ratified the International Covenant on Civil and Political Rights[48].

- In June 2020 Chinese president Xi Jinping signed a presidential order enacting a national security law which was voted to be listed in Hong Kong's basic law as well[49].
    - Potential Consequences of Law;
        - It curtails rights of people to protest by extending sentences to acts of subversion
        - Imposes on Hong Kong's autonomy by allowing certain cases to be trialed in Mainland China which operate under different legal systems.
        - Beijing will have more control over Hong Kong judicial system as it is the main body which determines how to interpret the law.
        - Limits freedom of expression by imposing more surveillance of foreign-owned media
- Professor Johannes Chan legal scholar at University of Hong Kong warns that the law will impede freedom of expression and personal security of people in Hong Kong[50].

- As a result of Beijing's passing of the National Security Law, 4 pro-democracy legislators were identified as threats to national security and dismissed before the election. This lead to mass resignations from the opposition parliament as the law criminalises in a vague manner the act of 'subversion'[51].

The International Community and International Organisations have condemned China in its measures to undermine Hong Kong autonomy and democracy

- The United Kingdom States that the National Security Law adopted by Beijing is a breach of the legally binding Sino-British Doing Declaration where China has to protect Hong Kong's autonomy[52].

- The European Union calls for the immediate reversal of law National Security Law by Beijing, and the dismissal of the 4 pro-democracy lawmakers. Additionally, the statement

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[47] BBC, 2019, Hong Kong-China extradition plans explained
[48] Law Society of Hong Kong, 2019, FUGITIVE OFFENDERS AND MUTUAL LEGAL ASSISTANCE IN CRIMINAL MATTERS LEGISLATION (AMENDMENT) BILL 2019
[49] BBC, 2020, Hong Kong Security law: What is it and is it worrying?
[50] BBC, 2020, Hong Kong Security law: What is it and is it worrying?
[51] BBC, 2020, Hong Kong: China condemns defiant opposition lawmakers
[52] BBC, 2020, Hong Kong: China condemns defiant opposition lawmakers

acknowledges the law as Beijing further undermining Hong Kong's autonomy under the "One Country, Two Systems" principle[53].

- July 2020, United States Lawmakers approved new set of sanctions which penalise banks which do business with Chinese Officials in response to the National Security Law[54].

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[53] Council of Europe, 2020, Hong Kong: Declaration by the High Representative on behalf of the EU on the disqualification of Members of the Hong Kong Legislative Council

[54] BBC, 2020, Hong Kong: US passes sanctions as nations condemn new law

Insight

Overview

To understand China's rise and its place in the changing world order this section will first draw on theories of International relations such as Constructivism and Realism to explain how History and Security Interests play a major role in determining Military Policy as well as Spread of soft power. Secondly, it will cover how the need to secure power is also important in discussing what is happening in Hong Kong. Finally, it will look at China's path to becoming one of the fastest growing economies.

The overarching theme explores how China's recent policies fit into a liberal world order, led by the United States. These have signaled a more confrontational approach by the Chinese that has led to an increase in tensions with its neighbours as well as the US. The question remains whether these Chinese policies are proof of revisionist intentions, or simply reflect a state growing in power that is aiming to pursue interests regionally without offensive desires. Regardless, as China continues to become stronger, tensions will grow as its strategy will never truly be known to the outside world.

Sino-Centrism – Chinese foreign policy is shaped by the distinct manner in which the state identifies itself

To explain the structure behind the spread of China's soft power, but also the reasoning behind land grabbing tactics we can turn to a constructivist approach. This International Relations theory explains that state identity shapes the way it views itself in the international arena and as such conducts its behaviour from this understanding (Newton, 2015). Sino-Centrism characterises the way China understands itself in the international community, as the economic, social, and cultural centre of the world. As such expansionist policies can be explained by Sino-Centrism that draws on Chinese history.

China being one of the world's greatest civilization is a significant driving force behind land grabbing tactics and border disputes. This is because Chinese history is riddled with 'greatness' and display of excellence in many fields like science and culture. This is coupled with the fact that Chinese dynasties have not suffered significant defeats thus preserving in a consecutive manner the Chinese identity. Additionally, Chinese borders continued to expand as nearby tribes were incorporated into the Kingdom and eventually succumbed to Sinification (DIIS, 2011). As such there is a strong conception of "Chinese" identity which draws on the Chinese dynasties and manifests in Sino-Centrism. These beliefs fuel aspirations to expand power and influence over the Asia region to restore former glory, but also justify these actions as China sees itself superior to its neighbours. This is visible by Xi Jinping's rhetoric of 'rejuvenating the Chinese nation'(Callahan, 2016). Aaron Friedberg, former deputy assistant for national-security in the U.S Vice-president's office, argues that if China remains unchecked, it will continue to enforce claims over resources and territory that are currently disputed by its weaker neighbours because the way the state views itself, these actions are justified as China is the Centre of the world. Chinese academics and officials are talking about the idea that what is good for China is good for Asia, thus reflecting the aim of exporting the idea of China being the centre of the world(Callahan, 2016).

A second historically significant element that is important in China's self identification today is the Tributary System that guided Chinese foreign relations. It can be traced back to the Han Dynasty in 202 BC and operated until the Qing Dynasty in 1911 (Zhang and Buzan, 2012). The Chinese emperor would grant trading rights to foreign states on the condition they would be subservient to the Chinese emperor and accept roles as 'vassals'(Higgins, 2020). This was established through a ritual whereby foreign powers offered tribute to the Chinese emperor. The legacy of this system guides China's approach to ASEAN countries and the spread of soft power. Efforts to develop regional infrastructure in Southeast Asia through the Silk Road Fund and the Asian Infrastructure Investment Bank which is meant to rival the World Bank are extensions of Chinese soft power which are reminiscent of the Tributary System, whereby China was the centre of international relations in the Southeast Asian region (Tan, 2020). China has taken significant efforts to extend its influence in this region thus reflecting a Sino-centric identification of itself as a patron, or protector.

This becomes an issue as China continues to challenge the existing international norms by placing itself at the centre of international relations. This can be seen by Chinese behaviour vis a vis the South China Sea where it aggressively asserts dominance but especially in its conducting of soft power where it takes on a role of benefactor to the region, ultimately leading to most states becoming dependent on the Chinese economy. This is reflective of Sino-Centric belief that China is supposed to be the architect of Asian security.

Regional Security Interests – Realist perspective on how Chinese Military aggression comes from a need to secure itself in the international arena

Realism is another approach that can be used to explain the reason behind Chinese military expansion and confrontational policies within the region, as a result of wanting to secure its security interests. A Classical realist viewpoint explains that states such as China will only achieve security by expanding power and challenging the status quo. Realist scholar Organski outlines in 1958 in his theory of power transition that there will be power struggles between the US and China as they both aim to achieve hegemony in order to shape the world order in a way that benefits their security interests. Organski also argued that it is the transitional period of power that will result in heightened conflict (Newton, 2015). This can be seen in the escalation of the India dispute to shots being fired, as well as the South China Sea aggressions. Additionally, China has taken significant leaps in expanding its military power. In 2014, China announced it will increase military spending by 12% while the US spending was to remain at the same level ("At the Double", 2014). In 2020 the defence budget saw its 5th highest increase despite Chinese economy shrinking due to the COVID pandemic (Yeo, 2020). Therefore, as China aims to maximise its power and change regional norms it will come into conflict with the US who has claimed global hegemony. However, as argued also by Classical Realist Mearsheimer, it must continue increasing power through land grabs and military modernisation to ensure its security.

However theorists such as Robert Ross highlight that Chinese security interests lie in becoming a *regional* hegemon; China does not aim to challenge the US as it has no security interest in doing so (Newton, 2015). Majority of China's efforts in spreading soft power, and building military ties remain in the region of Southeast Asia. Aggressions in the South China Sea are directly linked to Chinese energy security and achieving regional hegemon status. A US Geological Survey (2010 - 2015) concluded that the South China Sea platform has a 95% chance that it holds at least 750 million barrels of oil and a medium chance it holds around 2 billion barrels of oil (Assessment of Undiscovered Oil and Gas Resources of Southeast Asia, 2010, 2020). Considering China relies on imports for 75% of total oil usage, control over the South China Sea represents an important element in Chinese energy security, and thus national security (Clemente, 2020). Additionally 80% of Chinese oil imports are channelled through the South China Sea (Lim, 2017). Therefore, the increasingly aggressive policy towards securing land in the South China Sea is explained by the Chinese State aiming to protect its security interests and decrease reliance on other states. Robert Ross argues in his article 'Problem with the Pivot", that the conflicts and tensions that have been rising are a result of the US misinterpreting Chinese policy and increasing presence in East Asia which is counter to Chinese security interests. The Obama administration's Pivot to Asia aimed at countering a growing Chinese influence, thus directly impacting Chinese security. To counter US presence it is likely that China feels obligated to expand military bases, militarise the South China Sea, or grow its military capabilities.

However to conclude, it is the miscommunications of intentions that have led to increasing tensions between US-China, while it is the Chinese aim of becoming the regional hegemon that will continue to see Chinese expansion at regional level. The US may, out of fear, identify Chinese policies as offensive to its own interest, and as such take measures against China which in turn leads Chinese foreign policy to increase their rate of military build up.

Reasserting Control – Curtailing Hong Kong's autonomy as a way to stop the spread of democracy, which is a threat to the Chinese Communist Party.

The same incremental increases in aggressiveness can be found in China's curtailing of Hong Kong's autonomy. This can be seen as resulting from Chinese government needing to reassert legitimacy within its borders. The new security law threatens to overturn the "one country, two systems" approach which was agreed upon when Britain returned Hong Kong to the Chinese. Curtailing Hong Kong's autonomy is a recent development as Steve Tsang, director of the SOAS China Institute in London claims it is under president XI Jinping that a harder-line of action was taken regarding the matter (Chandler, 2020). China's actions in Hong Kong serve as a clear signal that it will not be conducting its policies according to international norms. By using force to squash protests and passing the security law (despite disturbances), it is clear that the Communist Party aims to strengthen its centralised control, despite condemnations from the international community (Macshane, 2020). The strategy involves using fear, rather than diplomacy, to solve issues that threaten the Chinese government's legitimacy, which can be seen as part of a grander strategy to assert dominance in the region.

An inward look can also explain that preventing Hong Kong's democracy movement is a move by the Communist Party to eliminate threats to its political power. If the movement in Hong Kong would be successful, it could spread to the mainland as well which would threaten Xi Jinping's power. As such the use of force and controversial passing of the security law is a move to strengthen political power and deviate other potential dissidents from challenging Beijing (Roth, 2020).

Economic Dominance – Economic practices are used to spread influence regionally and to back up growing Chinese power

China's aggressive economic policies are influenced by its aspirations of becoming a regional hegemon. The Belt and Road Initiative aligns with the economic priorities of China. It is an implementation of soft power through trade cooperation and investment. It aims to create a favorable international perception of Chinese expansion and commercial projects, and neutralize fears associated with China as a dominant player on the global platform (Silin, 2017).

China's economic policies surrounding the Belt and Road initiative are designed to promote Chinese goods across the world. It requires reducing transportation costs by narrowing the transport gap between the East and West. Chinese companies construct routes and industrial and logistical centers (Silin, 2017). These contribute towards international cross-border cooperation, which solidifies China's position as a significant player in the global economic system.

Intellectual property theft is conducted for the purpose of expanding markets for products and services in the Chinese economy. Rapid development of information and communication networks promotes Chinese e-commerce giants such as Alibaba Cloud to conduct business in Western countries (Every CRS Report, 2016). This leads to the unifying of customs formalities and the automation of operations in logistics and information. Hence, China is able to widen its sphere of influence on the international platform.

Made in China 2025 initiative aims to decrease China's dependence on the U.S. as its main trading partner. This will allow China to pursue aggressive foreign policies that threaten the U.S's position as the global hegemon, without the risk of deteriorating trade relations (Kelly, 2014, pp.11–46). Furthermore, the initiative intends to increase foreign direct investment conducted by Chinese companies. This would potentially bring forth an international expansion and ownership of Chinese companies in manufacturing processes (Bishop, 2020).

Chinese dumping practices ensure that China maintains a competitive advantage in the foreign market over other U.S. suppliers. This reduces the pressure on the Chinese labour market, which is suffering from a slowdown in the national economy (Bowman, 2015). Furthermore, dumping ensures that China preserves its monopoly over specific natural resources that are demanded by wide-ranging countries. This contributes towards China's capacity to become a global hegemon (Bowman, 2015).

Conclusion

- **Sino-Centrism and Chinese policy are important drivers to expansionist measures.**

- **The recent disputes and land grabbing tactics can be explained by the need for China to pursue security interests.**

- **Tensions are likely to remain high as the US and China remain unclear about each other's intentions and continue antagonizing each other.**

- **Securing the power of the Chinese Communist Party is more important to China than abiding by commitments to democracy.**

Policy Recommendation

Overview

The aim of these recommendations is to highlight ways in which international cooperation can be used to address a revisionist China, while also finding a balance to not threaten its security. Whether China will become a threat to the world order is still up for debate, however a policy response must be crafted before this becomes evident.

The policy recommendations are as follows:

1. **The United States should seek to improve relations with China by finding shared interest.**

2. **The United States should maintain its presence in East Asia while strengthening regional alliances.**

3. **Europe and the United States have to develop a common approach to an aggressive China in order to strengthen their leverage.**

4. **Through the WTO, an agency should be established whereby countries can investigate unfair competition practices and coordinate trade defence policies.**

Action 1: The United States should seek to improve relations with China by finding shared interest.

The US-China relations are a significant element which drives China to engage in further aggressive foreign policy as it sees itself threatened. And the aggressive rhetoric from the Trump administration identifying China as a threat has failed to stop this behaviour. As such the United States should aim to identify areas where cooperation with China can benefit the national interest of both states. Brookings Institute published a **Framework for U.S policy toward China** where they highlight that an effective policy option is finding a middle ground between rivalry and accommodation (Brookings, 2016).

Policies should be aimed at **improving trade relations** between both countries as the trade war has been estimated by the IMF to have cost $455 billion in lost output (Elliott, 2019). While hurting the US economy more than the Chinese, it would be in the United States' interest to work on developing trade relations in areas identified in the Phase One Trade Agreement as having growth potential but also being issues in past negotiation; intellectual property, technology transfer, agriculture, financial services, and currency (Stratford, 2020).

Another area of **mutual interest is in issues of climate change**. Incoming US president Joe Biden has expressed prioritising fighting against climate change, and China has the highest allocation of resources to green energy development and production (Moak, 2020). Both states are top carbon emitters and as such have a common responsibility to take actions on this issue. Their cooperation can be increased through exchanges of good practices and green technologies, as well as engagement through multilateral institutions such as the Paris Agreement (Which USA is expected to rejoin), or the Kigali Amendment (Lewis, 2020).

This would eventually lead to increased dialogue between the USA and China which can spill over into areas such as security. **Dialogue and cooperation** are important as it would be through these processes that China would no longer see the US as a threat to security and vice versa.

This type of policy of identifying and pursuing cooperation on common issues **has been used when the US and China began a period of rapprochement in the 1970s** and established full diplomatic relations by 1979. The US was locked in Cold War tensions with the Soviet Union, at the same time Sino-Soviet tensions were growing. Therefore, the rapprochement was built on the mutual need of both states to find allies to counter the Soviet Union. Additionally, it was the US abandoning ties to Taiwan that lead to the establishment of full diplomatic relations which were successful as the following period saw cooperation on issues such as peace in Korea, and reforming and opening policies in China (U.S.-China Relations Since 1949 | Asia for Educators | Columbia University, 2020).

The **overall outcome** of improving US-China relations would be felt globally. If Robert Ross was correct in his prediction that conflict is a cause of US policies antagonising China, a more cooperative approach will result in less conflict. Additionally, cooperation and strong economic ties are likely to increase communication between two states so instead of viewing each other as threats to security, US and China make steps to become partners in addressing global issues.

Action 2: The United States should maintain its presence in East Asia while strengthening regional alliances.

As outlined by The Brookings Institute, the **US should continue to protect its regional allies** against Chinese expansionist policies, and keep a hard line on issues of security. The key would be to find a balance between allocating resources to maintain a constant presence in Asia, without interfering with the sovereignty of countries in the region. The US **should invest and participate in regional multilateral institutions** such as the Asian regional Forum, and East Asia Summit as well as ASEAN. Plus, in order to get involved with the dialogue on key security issues. In order to contain China without overstepping boundaries, it is important for the US to understand security trends, and to do this by joining the regional dialogue(Haug, 2020).

New initiatives should be taken to collaborate on security issues in the Indo-Pacific with key allies as Southeast Asian countries that have been hesitant about joining groups aimed at constraining China(Policy Recommendations: Mapping the future of U.S. China Policy, 2020). Therefore, the strategy should be to create dialogue on security issues and ensure assistance without the focus being on constraining China, but keeping in mind that necessary collaboration is required to disincentive Chinese expansion.

To strengthen regional relationships it is important for the US to prove that alliances will benefit their economic interests. Therefore another way to **engage and strengthen relationships by working with allies to build technology intensive infrastructure in the developing world**, and coordinate multilaterally to formulate international standards regarding latest technologies. Such measures would aim to make alliance with the US more attractive than with China.

The effect would be that strengthening relationships and coordination on security issues would create a more united front that can counter expansionist measures by China. However the focus should be on stopping measures that threaten the sovereignty of other states, rather than stopping China's rise to power. This is because the latter can be misinterpreted and lead to more conflict as China tries to increase security through aggressive means. That being said, it is about finding a balance of involvement that gives assurance to allies and ensures that if China continues to encroach on sovereignty a coordinated and fast response can be implemented to stop further aggressions.

Following the cold war, the US had made efforts to increase presence and ties in the Asia region. **The US placed military troops in Japan to provide assurance that they would be protected in the case of an attack**, the US also signed bilateral agreements such as the Japan-America Security Alliance, the Korea-America Security Alliance, and the Australia-New Zealand - United States treaty to ensure allies of protection. Under the Obama administration, **the US signed the Treaty of Amity and Cooperation** which showed that the US was ready to invest in the region. However, following the Trump administration many US alliances have been threatened by the "America First" Policy doctrine and multilateral committees undone (Wyne, 2020). Thus allowing China to fill the power vacuum left behind. However if the US reasserts itself as having interests in the region and becomes involved in multilateral initiatives it can serve as a discouraging force to Chinese expansion.

Action 3: Europe and the United States have to develop a common approach to an aggressive China in order to strengthen their leverage.

While it is important for the United States to improve relations with China, it must also take action to stop Chinese violations of human rights in Hong Kong, or its expansionist policies. **By increasing the costs of pursuing such paths, a common response from the EU and US would hold more weight in countering Chinese aggressions.** A policy suggestion published by Carnegie, Endowment for International Peace highlighted how attempting to use multilateral institutions by the EU in response to China resulted in little to no change (François Godement, 2020). **As such the document argues a more efficient policy would result from EU-US cooperation**.

This would mean that the US, instead of targeting European states through tariffs, **should cooperate with Europe to form an economic approach to Chinese dumping and subsidies.** European Trade defence policies are well developed and can be emulated if necessary as they target sectors where China heavily subsidises or uses dumping, in order to level the playing field (Trade defence - Trade - European Commission, 2020).

I**n response to security issues, the US should combine its hard power advantages in the Indo-Pacific, with the European Union's use of economic and soft power tools to increase the costs of Chinese confrontational behaviour.** This would increase efficiency because China is dependent on trade with both the US and EU. Lastly, both parties should focus activity on utilising multilateral organizations in the region to maintain security.

The implementation of such a policy would be very context dependent on whether China will continue with confrontational policies or not. However, the work must be done prior to reaching a point where policies must be implemented, and both the US and EU have to identify common interests and build a strategic response around those.

The desired outcome would be targeting Chinese policies that undermine the liberal world order, in examples such as Hong Kong protests and the National Security law. By raising the costs of embarking on such an action path and involving the potential of using hard power, would disincentives aggressive policies.

Additionally, if China begins to abide by international norms it is likely this effect will be felt in bilateral relations between China, its neighbours and the international community as states will feel more confident in entering agreements and forging relations.

Action 4: Through the WTO, an agency should be established whereby countries can investigate unfair competition practices and coordinate trade defence policies.

The WTO has mechanisms of dispute-settlement against measures such as subsidies, but when it comes to dumping it simply allows countries to take anti-dumping measures. Therefore, an **International Trade Defense and Investigation** mechanism would be needed whereby countries can use a common system to investigate cases of dumping as well as other unfair trade practices. **Coordination would aim to improve the efficiency between detecting dumping and irregular subsidy measures and implementing countervailing measures.** If states exchange information and trade defence measures they would be quicker to implement a policy response to countries such as China that do not follow international trade norms.

The idea would be to maintain economic relations with China but target specific important in a more efficient manner to equalise the playing field between companies. For example, countervailing measures to subsidies are to add a percentage of the price to the good or other measures to increase the price of the good (Anti-subsidy - Trade - European Commission, 2020). T**his would force Chinese government to spend more money in order to keep the good competitive, which is not a sustainable policy.** Such a mechanism would be designed to work for long-term goals as it would become more effective as more states join and more information is shared.

This policy recommendation is based on the measures taken by the EU to implement trade defence policies against Chinese dumping. These focus on opening investigations in suspicious activity based on complaints received and then implementing necessary counter measures. Additionally, **a good practice of the EU is to create reports on the measures that were implemented and review whether they are still needed and still efficient.** So far EU's trade defence measures have proven efficient as the 2019 report sites that anti-dumping and anti-subsidy duties imposed by the Commission lead to a decrease of 80% in unfair imports, and 23,000 more jobs were protected from the previous year (Trade defence report: restoring the level playing field for European producers, 2020).

CONCLUSION

The recommended policies are meant to work together to target the different areas of concern regarding Chinese foreign policy. But the key in all approaches is to strike a balance between identifying areas that require clear boundaries and ways to not appear as a risk to Chinese security. It is accommodating China's economic rise and spread of soft power, while also making sure that border aggressions and issues in the South China Sea do not escalate.

The policy recommendations also identified America as a major actor of implementation. This is because the developments of US-China relations shape the relations between allies and the other state. Once the US began efforts to ban Huawei, several European states followed. As such, it will be up to the US to improve such relations.

With Joe Biden being elected US president in 2020, the implementation of such policies is more likely now than under the Trump administration. Biden has highlighted his commitment to multilateralism as an approach to solve international issues which is a positive given that the policy recommendations focus on the response of the international community. However, Biden has also identified China as a rival to the US but adopted a softer stance on how to respond. Therefore, increasing cooperation with China to a significant enough level where dialogue between both nations spills over to security issues is not very likely. We can expect a de-escalation of the trade war, but not full cooperation on matters such as the international economy or security in Asia.

Additionally, another area for concern is regarding whether states will intervene and be ready to respond if China continues to encroach on sovereignty by stealing land from around its border and the South China Sea. Recent events show that unless their own sovereignty is under threat, powerful states will not get involved to protect the sovereignty of others. Hopefully this issue will be overcome by orchestrating a coordinated approach and response where costs of intervening are lowered due to multiple actors stepping in.

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International COVID-19 Vaccine Distribution

By Andrew Dover & Gian Remnant

Briefing Note

Effective COVID-19 vaccine distribution is key to stemming the economic, political and physiological devastation brought by the pandemic. Many nations have partnered on the COVAX vaccine distribution initiative, which aims to provide a framework for vaccine distribution between nations, however political rhetoric from populist leaders and the immense logistical challenges posed by vaccine distribution have made cooperation an enormous challenge. This report will analyse the challenges of vaccine distribution internationally through political and economic lenses.

Overview
- **Mechanisms have been developed for COVID-19 vaccine distribution, however many nations have not pledged their support which hinders development of a coherent international response to the crisis.**

- **Nations with populist leaders have seen disproportionate case numbers, primarily as populism inherently distrusts *scientific expertise*, and has a poor track record of handling complex technocratic governance problems.**

- **Vaccine distribution is a complex economic problem; it can be analyzed through the lens of a *one-shot* game, where nations are only interacting once on vaccination, or through the broader *sequential* model whereby vaccine distribution is simply another aspect of international politics.**

COVID-19 Globally

Europe: After China, Europe saw the worst outbreak in the world. After Italy, Europe as whole with a few exceptions (Sweden) went into national lockdowns, and this was effective in bringing down the death rate

- Now, the continent is in the middle of a second wave which has the potential to be significantly worse than the first wave. As of 7th Nov. 2020 cases were doubling every two weeks, an alarming rate. By November 5th, 20 countries had shut gyms and restaurants, museums and other public venues as well as introducing curfews

- Overall, track-and-trace and test-and-trace systems have been mostly unsuccessful and this is part of the reason why Europe has been unable to contain the virus to a large extent[55]

Africa: Unlike Europe, Africa was well prepared for the virus already in February as soon as the first case was confirmed in Egypt. As well as this, a big part of Africa's response to the virus being more successful is that they were less afraid of imposing 'draconian' measures compared to European leaders, who are, on the whole, more liberal

- Another reason, perhaps, may be the fact that the majority of African countries tend to be far more rural than European countries, making it harder for the virus to spread

- African leaders were also very aware that they lacked sophisticated equipment, such as virtually no intensive care units, and therefore could be less complacent about allowing the virus to spread

- An example of the aggressiveness that nations took to stop the virus was Rwanda - who, in January suspended all flights from China, and after the first case slipped through suspended all international flights altogether, closed its borders, and told everyone to stay indoors[56] - **this was significantly earlier than all other nations across not only Africa, but most importantly, Europe**

- Also, a key factor in the low death rate of Africa is the fact that, ultimately, **Africa has a significantly younger population** due to the low life expectancy across the continent, perhaps with only a few exceptions. The median age throughout the whole continent is 19.4 years old, for the sake of comparison, the median age in Europe is 43 years old, which is 12 years older than the worldwide average[57]

- Arkebe Oqubay, a special advisor to the PM of Ethiopia said **"This is not a disease you fight by ventilators or intensive care units,"** he said. **"The only way we can play and win is if we focus on prevention."**

Latin America: The region as a whole is facing a humanitarian crisis borne out of political instability, corruption, social unrest, fragile health systems, and perhaps most importantly,

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[55] *The Economist*, 2020, The second wave of covid-19 has sent much of Europe back into lockdown.

[56] Pilling, D., 202,. How Africa fought the pandemic — and what coronavirus has taught the world.

[57] Pew Research Center, 2020, *Populations Skew Older In Some Of The Countries Hit Hard By COVID-19*.

longstanding and pervasive inequality—in income, health care, and education—which has been woven into the social and economic fabric of the region

- Though home to around 8% of the world's population, Latin America accounts for over a quarter of all confirmed covid-19 cases and nearly a third of all related deaths[58]

- Although some countries, including Brazil and Costa Rica, have a universal health-care system, most Latin American countries have large gaps in accessibility caused mainly by out-of-pocket health expenditure, which is 34% of total health spending. Political power is overly concentrated. There is corruption in the use of public resources. Often, the result is a strengthened private sector to the detriment of public health services. Without universal health coverage, tackling the pandemic has been extremely difficult[59]

- Most South American countries have, however, followed WHO recommendations far more closely. Bolivia, Colombia, Ecuador, and Peru began locking down as their first covid-19 cases were confirmed in March, implementing some of the longest and strictest lockdowns in the world.

- The Colombian government has been criticised by doctors for failing to implement a strategy beyond indefinite lockdowns. Fernanda Gutiérrez, a virologist at Bogotá's Javeriana University, told The BMJ, "The confinement has been extended to reduce infections—not only because there isn't enough hospital infrastructure but because it's expected that there will be a drug that can be used to treat infections or a vaccine that prevents the virus and thus we won't have to suffer the 'tsunamis' experienced in Europe."
    - But with limited health infrastructure and expertise for testing and tracing, others praise the government's strategy of buying time while it boosts healthcare capacity. Colombia's intensive care capacity has increased by 40% since the crisis began

Asia: On the whole Asia has dealt with the virus surprisingly well, with China managing to contain the outbreak and now open up again thanks to extremely strict authoritarian rules involving curfews. As well as this, the Chinese authorities were able to test entire cities and find cases, even those who were asymptomatic, because these cases wouldn't have been caught otherwise

- Another observation can be made about the **obedience** of populations of Asia. On the whole, they are much more likely to listen and obey what the government recommends. This is probably a mix both due to the fact that governments tend to be quite authoritarian, placing fear in citizens (in cases such as China and Thailand), and also a **cultural** thing[60]

- The Philippines, with their authoritarian populist leader - Rodrigo Duterte - have had a tough time with the coronavirus pandemic - there are multiple similarities between his rule and Trump and Bolsonaro

[58] Taylor, L., 2020. How Latin America is fighting covid-19, for better and worse. *BMJ*
[59] *The Lancet*, 2020. COVID-19 in Latin America: a humanitarian crisis.
[60] Strangio, S., 2020. The Riddle of COVID-19 and Democracy in Southeast Asia. The Diplomat,

- Similar to Africa, it seems that areas with a much more dense population have suffered the greatest number of cases in comparison to population - take Singapore for example who has the highest rate of infection for its population in Asia, as well as the major populations centres in the continent, such as Jakarta and Mumbai

Relationship between Populism and High Case Numbers[61]

There are multiple examples of countries that experience alarmingly high cas numbers, and populist rhetoric that is dismissive of the pandemic is the common denominator

- **Brazil:** Bolsonaro encouraged people to not wear masks, also routinely referred to the disease as just a cold, mocking it as **"sniffles"**, and refused to lock the country down - this has led to high case numbers

    - What is important to remember that Brazil has experience with dealing with epidemics, but the res[62]ponse of epidemiologists and scientists has been undermined by a government who has been unwilling to work alongside them

- **USA:** Trump's administration has consistently told Americans that the disease was nothing to worry about, as his trade adviser Peter Navarro said in February 2020, and also travelled whilst still having coronavirus publicly. Most importantly, both leaders **politicised** wearing masks and the pandemic

    - The Trump administration worked sparingly with scientific advisers, also ignoring many a time the advice given to the administration by the Centers for Disease Control and Prevention (CDC)

- **India**: While the response to COVID has generally been competent, especially in light of the unique challenges it faces (containing some of the densest cities in the world and poorest populace) Modi has used natioanlist rhetoric to scapegoat Muslims for the spread of the virus [63], leading to sectarian animosity. Indian media has disproportionately covered the spread of the virus at a single Mosque gathering. Throughout Modi's administration, violence against Muslims has measurably increased.
    - Modi, elected on a nationalist platform, has been ill-equipped to handle a governance challenge as technical as COVID-19, suing theatrics rather than concrete policy proposals to boost his nation's morale[64].

- **Hungary:** Victor Orban had emergency powers voted through parliament (in a bi-partisan vote) in response to the virus. These powers have since been abused, to change the Hungarian constitution; which has given the government more power in silencing political and journalistic opposition and in making government spending less transparent.

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[61] John Hopkins, 2020, https://coronavirus.jhu.edu/map.html
[62] CNN, 2020, https://edition.cnn.com/2020/04/18/politics/kfile-trump-officials-coronavirus/index.html
[63] Dixit, Pranav et al. 2020. https://www.buzzfeednews.com/article/nishitajha/coronavirus-india-muslims-tablighi-jamaat Buzzfeed News
[64] Wire Editorial, 2020, https://thewire.in/politics/narendra-modi-nine-covid-19-lights, The Wire

Insight

Overview

In order to grasp the complexities of the challenges facing efficient vaccine distribution, this section will analyse the politics and economic challenges facing nations in the contemporary age, and how this hinders cooperation.

- Economics, the study of the consumption and distribution of goods, is key to understanding the set of incentives and challenges that states face in mitigating the covid crisis.

- Various models can be used to analyse the problem of vaccine distribution, this report will assess the strength and relevance of each.

- It will be argued that the populist and natioanlist rhetoric seen in many modern nations is antithetical to a complex governance challenge that requires highly technical solutions; demonstrated by drawing on political theory and applying it to modern nations.

The economics of vaccine distribution - applying game theory and public goods models to pandemics

Vaccines are private goods (produced by corporations for profit) that have public health effects. Due to these effects, many leaders have signed an open letter (Brown & Khan, 2020) calling for models to be developed where the vaccine can be treated as a *public good*.

While many vaccine distribution mechanisms have been developed in theory, in recent examples of a modern pandemic (primarily H1N1), Western nations have disavowed these methods of distribution in favour of acquiring as many doses of a vaccine as feasible for themselves. It is arguable that vaccine distribution presents both a *one shot* game (i.e. where nations have to make simultaneous decisions), and a *continuous game* (part of the ongoing events of international politics) - both these framings have wide implications as to how nations should behave at this time.

In deciding how to interact with other states and international institutions, leaders must be able to analyse the economics of vaccines and their effects; public health is a public good, vaccines are not. A public good is defined as a commodity that is *non-rivalrous*[65] and *non-excludable*[66] (Gavi, 2020). Under this framework:
- Public health - including immunity from epidemics (or herd immunity) fulfils both criteria.
- Vaccines are not - they cost money to develop and distribute.

Many world leaders have signed a letter calling for a COVID-19 vaccine to **become** a public good in the model of the polio vaccine. Signatories include Gordon Brown (Former UK Prime Minister), Imran Khan (Prime Minister of Pakistan) and Mary McAleese (Former Irish President). Unsurprisingly, many pharmaceutical companies have stated that they will not sell COVID-19 vaccines at cost, though Johnson & Johnson and AstraZenica Plc have stated that they will impose no mark-up on their vaccine (Mishra, 2020).

Prior to *stress-testing* the international system, it was theorized that without a coherent international structure for developing, purchasing and distributing vaccines, it is highly likely that a "chaotic" burst of negotiations between nations and pharmaceutical companies will ensue (Fedson, 2003). A bargaining and auctioning process between nations and pharmaceutical companies would almost certainly see whether first-world nations purchase unnecessary quantities of vaccine, leaving developing nations to struggle. During the H1N1 crises, many nations (including Australia, the USA and Canada) were extremely hesitant to donate vaccines to the international distribution mechanism until their domestic populations had reached herd immunity, severely constraining the amount of time required to reduce the spread of the virus internationally (Fidler, 2012).

However, mechanisms are already in place for distributing COVID-19 vaccine doses equitably, most notably the COVAX initiative led by the UN & European Commission; 170 nations have agreed to participate (COVAX, 2020). This initiative will ensure 20% of the population in

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[65] consuming it does not diminish the supply
[66] no one can be prevented from accessing it

participating nations are an international priority to vaccinate, then more will be assigned to nations as needed.

The most notable non-signatory was the United States under President Trump, which has privately contracted 800 million doses of a vaccine for their 330 million population. A Biden administration is likely to join the COVAX scheme, but the dilemma Trump has presented is notable. President Bolsonaro of Brazil has taken a diametrically opposite approach; publicly stating no citizens will be *forced* to take a vaccine once it has been developed, after consistently downplaying the severity of the virus (Rigby, 2020).

In the short term, it is clearly beneficial for nations to acquire as many doses of a vaccine necessary to achieve *herd immunity* as it allows for a smoother running of an economy, and a less overwhelmed health service. In the long term, the more effective strategy is likely international cooperation as it is more conducive to ensuring that a pandemic will be effectively globally combatted, and that international alliances have not been fractured. This raises the question; what is the correct balance between these priorities for a nation and how can they best strike it?

In economics, a *prisoner's dilemma* game is a situation where two rational actors will not reach the apparent best outcome because they do not cooperate - they reach an equilibrium where they both act selfishly that is not as beneficial as what could be achieved with cooperation. However, this game can also be repeated, in which case what each actor does has long term consequences; it is likely that this type of game will reach an equilibrium where both cooperate (Kaznatcheev, 2016). The situation regarding COVID-19 vaccine distribution has elements of both; on the one hand the COVID-19 vaccine will likely only need to be distributed once and every nation wants to be in the best position possible, on the other hand international politics will go on long after the pandemic and nations will want to retain credibility, and expand the scope for cooperation on security and trade.

The politics of vaccine distribution - Populist and nationalist rhetoric are detrimental to global strategies to mitigate COVID

With the election of Joe Biden, it is likely that the US will join the COVAX scheme, which Donald Trump has failed to do - and by taking the global lead with a more global and less nationalistic approach. This may encourage other nations to follow his lead making vaccine nationalism less of a problem when it comes to global distribution It appears as though there has been no formal infrastructure for global vaccine distribution amongst the international organisations which is ready to be deployed as soon as a pandemic strikes This is of enormous significance, meaning that it makes forming an agreement amongst nations harder in the heat of the moment, especially under pressure internally and externally when there are no large formal mechanisms already in place

There isn't a global entity that has both the power and authority to enforce a workable system to equitably distribute a vaccine with the current institutions and mechanisms in place.

The COVAX facility is attempting to amend this issue, however, participation is voluntary. Designed by the Vaccines Alliance, Coalition for Epidemic Preparedness Innovations (CEPI), and the World Health Organization (WHO), the facility aims to ensure quick and equitable access to 2 billion doses of a future vaccine by agreeing an advance purchase deal with drugmakers. Wealthy countries would pay for any future doses through their own coffers while donating to the facility to ensure that up to 90 lower-income countries also receive doses The design has been heavily criticised, wealthy countries would be able to cover up to 20% of their populations, with no similar arrangement being made for donor-funded countries (Furlong, 2020).

COVAX does not prevent countries signing their own independent deals with manufacturers, as the UK, Canada, USA and Australia have already done. This could place additional strain on what are expected to be already limited supplies. These deals consequently drive up prices, potentially making the vaccines even more unaffordable for the poorer countries in the scheme. While some manufacturers have pledged to make the vaccines available on a not-for-profit basis, others are not and this will also cause logistical distribution issues Additionally, the commitment for 2 billion doses by the end of 2021 is far too small, given most of the vaccines that are being produced in the vaccine race require up to two or three doses to confer immunity When divided among all the countries that have signed up to COVAX, it means each country will receive a very small supply. As a result, this could encourage governments to seek out additional independent deals to meet the demands of their populations

Another challenge presented is that while COVAX is wisely not putting all of its eggs into one basket - it is supporting a total of 9 vaccines in development and evaluating another 9 for possible support - the 2 billion doses will likely be sourced from multiple manufacturers. As a result, some governments may not be very happy with the vaccine they are allocated under the plan, particularly if one vaccine appears to be more effective than another or is produced by a country they don't trust (Kamradt-Scott, 2020).

Currently, an international, enforceable commitment to distribute vaccines globally in an equitable and rational way is absent, and leaders will instead prioritize taking care of their own populations over slowing the spread of COVID-19 elsewhere, or helping protect essential healthcare workers and highly vulnerable populations in other countries. The greatest suffering as a result of this will be in low- and middle-income countries which find it harder to access large supplies of the vaccines. In the interim, health-care workers and billions of elderly and other high-risk inhabitants in poorer countries will go unprotected, which will not only extend the pandemic but also increase its death toll, both globally and nationally. This puts already fragile health care systems and economies at greater risk In their aim to obtain vaccines, countries without access to the initial stock will search for any form of leverage they can find - this may include blocking exports of critical vaccine components, such as syringes - which will lead to the breakdown of international supply chains and trade, making co-operation less likely.

Forecasts project that the coronavirus pandemic could kill 40 million people and reduce global economic output by $12.5 trillion by the end of 2021. Ending this pandemic is therefore in everyone's best interest, not just a few select countries - therefore global co-operation should be

at the forefront in the minds of world leaders (Bollyky & Bown, 2020). We shall now analyse various prominent nations' response to this dilemma as case studies.

In the United States; The Trump administration has devoted nearly $10 billion to Operation Warp Speed, a program designed to deliver hundreds of millions of vaccines by January 2021 - but only to Americans (Bollyky & Bown, 2020). The incoming Biden administration, however, will most likely take a different approach to that of Trump's and be more prepared to co-operate globally and attempt to distribute the vaccine across the globe. Although, his administration may decide to still prioritise American citizens

In India, Adar Poonawalla, the chief executive of the Serum Institute of India (the largest global producer of vaccines), has stated that "at least initially" (as of Sept. 2020), any vaccine the company produces will go to India's 1.3 billion people (Bollyky & Bown, 2020). Congress leader Rahul Gandhi said that the government will have to define a vaccine distribution strategy to ensure that every Indian gets the COVID-19 vaccine - they, like many other nations, are prioritising their own population and covering everyone, not just the most vulnerable (Ghandi, 2020).

The approach of EU member states has been varied. The German chancellor Angela Merkel has described a future vaccine as a "public health good for all humanity". European Commission President Ursula von der Leyen has said that the vaccine must be distributed at an affordable price to "every single corner of the world", French President Emmanuel Macron has made similar declarations, at the Global Vaccine Summit he stated that when a vaccine is discovered it must benefit everyone "because it will be a global public good" (Furlong, 2020).

The UK has agreed several bilateral deals with pharmaceutical companies, the precise terms of which are confidential. However, Matt Hancock insisted to Parliament on 20 July that the UK is "working to ensure that whoever's vaccine is approved first, the whole world can have access", "we reject narrow nationalism", "we support a global effort, because this virus respects no borders, and we are all on the same side". The caveat to this, however, is that the UK is covered first and foremost - "naturally, I am determined to ensure that there is enough vaccine for the whole UK population first and foremost" (Furlong, 2020).

Policy Recommendation

Overview

This set of policy recommendations aims to find ways to mitigate the effects of the internationally sporadic response to the COVID pandemic; cooperation between nations has not been as strong as necessary for an effective response. These are some actions states and Intergovernmental Organisations could take to improve national and international vaccine distribution.

1. **Use of Smart Technology in Global Vaccine Distributions - adding a technology arm to COVAX so that nations can share expertise on how to distribute vaccines within their borders.**

2. **The United States should join the COVAX distribution network as soon as possible to strengthen international cooperation, and encourage equitable and efficient vaccine distribution.**

3. **Facilitating intellectual property rights to be shared between pharmaceutical companies, in order for them to improve the effectiveness / efficiency of vaccine creation and distribution.**

Action 1: Use of Smart Technology in Global Vaccine Distributions

Proposed policy - adding a technology arm to COVAX so that nations can share expertise on how to distribute vaccines within their borders.

Use of big data will be crucial in vaccine distribution, as having a large amount of population health data, and data on vaccine distribution will enable governments, multinational corporations, and NGOs to more efficiently distribute doses of vaccines. While COVAX and similar schemes are useful for distributing vaccines at a global level, it is crucial that nations distribute vaccines as resourcefully as possible within their borders.

Parts of an ideal technological solution already in existence and have been trailed in India's Electronic Vaccine Intelligence Network (evin); created in 2015 to monitor vaccine stocks and distribution across 12 states (Bhatia). Local officials download an app to input and monitor vaccine stocks, which can then be analyzed at a national level. Comparable systems would therefore need to be implemented by central and local governments at a national level. During the period EVIN was implemented, there was a "*4% drop in facilities reporting minimum stock of any vaccine*" *(Gurnani et al., 2020).* Not only is vaccine distribution within nations one of the most important stages of immunisation, it is also the most logistically difficult. The *last mile* problem states that an outsized percentage of supply chain costs are in the last mile of delivering any goods. This was found to be 41% of the overall supply chain costs for groceries in 2017 (Jacobs, 2019).

However, this problem is exacerbated for a product as complex as vaccines. Not only do they need to be administered by a medical professional, the storage requirements of vaccines are also extremely stringent; Pfizer's vaccine candidate needs to be stored at a temperature of -75 degrees celsius (Rahim *et al.*, 2020), which requires a complex series of equipment. Technological responses are already being utilised for the COVID-19 outbreak; the UK has implemented a *track and trace* application for citizens to download onto their smartphones, with 10 million downloads on the first day of release (Department for Health and Social Care, 2020).

Implementing a forum within COVAX for technology experts in national civil services would provide an ideal forum to aid officials in creating systems of their own; discovering efficiencies and ideal solutions from other nations and being able to mitigate potential problems before they can arise. This would not be a costly policy to implement, requiring few additional resources nations would need to contribute. Ideally, these fora could be set up very quickly (within 1-2 weeks), and as seen nations could share technological prowess which has contributed already to efficient vaccine distribution pre-covid, and a better handling of the covid crisis itself. While many informal backchannels already exist, having a public space to discuss technological innovations would provide a formal opportunity for expertise to be shared and ensure that the global public understands the tangible benefits of international cooperation. This would assist in de-fanging some of the more damaging isolationist rhetoric from populist leaders seen during the covid crisis, providing a useful counterexample to their approaches. It is a cheap, flexible, and important solution that world leaders, scientists and computer scientists would be hard pressed to oppose seriously.

Action 2: The US Joining the COVAX Scheme

Proposed policy - if the US joined the COVAX scheme it would add the moral, financial and political muscle to ensure global equity and distribution

If the USA were to join the COVAX scheme, it would result in greater co-operation between nation states, especially as the nationalist attitudes of Donald Trump's administration are gone - this will ultimately allow for a much more efficient distribution of vaccines across the globe. Although 172 countries have already pledged to join the scheme, comprising most of the globe, 71% of the world's population to be exact, the USA can provide the greatest financial and moral leadership in the scheme, considering it is the world's largest economy and a beacon for democratic values (W.H.O., 2020).

With either the discontinuation or disbanding of the Operation Warp Speed project that was established under the Trump administration in securing vaccines only for American citizens, this may encourage countries to no longer seek out bilateral trade agreements for themselves. This will have a positive effect on the global distribution of vaccines as it will prevent prices from being driven up, consequently the USA joining COVAX benefits especially the poorer countries who may not have been able to afford to strike such bilateral agreements.

Joe Biden's administration can join the COVAX scheme through the use of executive orders in particular, considering that after the 2020 election, the executive branch of government will likely be divided by a Republican controlled Senate. Especially in the age of rare bipartisanship, it is unlikely that Republicans in the Senate would back the idea of joining the COVAX scheme over Operation Warp Speed. It is therefore essential for Joe Biden to pursue executive action when joining COVAX - this will ensure a quicker process of joining the scheme, and during the current crisis, time is limited.

COVAX requires significant financial support when it comes to research and development on the vaccines, as well as supporting the mechanism of supporting lower income economies to participate in the scheme. The United States of America, being a lead country in research and development on epidemiology can provide scientific and financial aid to the COVAX scheme, especially with the CDC. Considering, also, that the USA's vaccine efforts are currently some of the most advanced in the phases of vaccine production (Pfizer's vaccine is at phase three, although it is not affiliated with the COVAX scheme, and Moderna's vaccine is also at phase three but it affiliated with the COVAX scheme), the USA may see the first working vaccine being produced and distributed from there, making their membership of COVAX essential to the global distribution of a potentially successful first vaccine

Action 3: Bringing COVID-19 Vaccine patents into public domain

A *prize for innovation* **scheme**, similar to that proposed by Senator Bernie Sanders in 2011, should be implemented for COVID vaccines multinationally to allow innovation and efficient distribution.

Patents create a monopoly on a particular innovation or product. Economists have engaged in fierce debate as to whether this encourages productivity; some argue corporations will be incentivized to innovate and create patents so they can profit while others see patents as stifling innovation, as it is substantially harder to amend and synthesize existing products to create something *new*. However, while this debate is extremely important and relevant for medicine going forward, the immediacy and global nature of the COVID-19 pandemic should be sufficient to ensure that **patents for vaccines are publicly available**.

In 2011, Senator Bernie Sanders introduced a senate bill that would ensure that patents for new medications were purchased by the government at a fair price, and then made publicly available (Sanders, 2011) in order for rival pharmaceutical companies to be able to innovate with these products. Joseph Stiglitz, Nobel prize winning economist, outlined a similar proposal he labelled *prizes not patents* (Stiglitz, 2007), in which he points out that pharmaceutical companies spend significantly more resources on marketing than research, and how this model would ensure that innovation was directed towards worthy causes.

This is a compelling model for vaccine patents and is generally thought to be a flexible model, however there are drawbacks to using it for COVID vaccines distribution; primarily pharmaceutical companies have developed vaccines with the understanding that they will be able to sell them to governments at a negotiated price rather than being compelled to release patents.

An alternative model would be the *patent pool (W.H.O, 2012)*, where 2 or more pharmaceutical companies working in a field of medicine agree to give each other access to their patents. These arrangements are usually intermediated by a third party. They have been proven to link to cheaper prices for drugs and are relatively cheap to establish and run. This would have clear benefits in the distribution of a COVID-19 vaccine distribution and COVAX, or a body created by the WHO, could feasibly step into the role of interlocutor. Pharmaceutical companies are more likely to be favorable towards this model than *prizes for innovation*, as it would limit the scope of who could benefit from patent access (they would not have to share this information publicly, only with other corporations who have faced similar costs in developing their own vaccine candidates). Indeed, this arrangement could likely be made relatively quickly, and would have tangible benefits in making vaccines cheaper and easier to distribute.

CONCLUSION

The policy recommendations all revolve around the body of COVAX and its role in ensuring an efficient, and truly global distribution of any potential COVID-19 vaccine(s). COVAX, as a global body, can set a standard for the 172 countries that are a part of the scheme that can ensure that every country receives the correct amount of vaccines for their populations, in a fair and democratic manner. The recommendations that have been suggested will further improve the readiness of a worldwide distribution supply chain - through technological means, sharing scientific expertise at a much faster rate between countries, having the USA become the leading nation of the body and providing financial muscle and moral guidance, as well as ensuring that, legally, as a public good the vaccine can be distributed much quicker than it would be as a private commodity.

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Education
The Impact of COVID-19 on Secondary Education

By Jasmine Walker and Vriddhi Khattar

Briefing Note

This briefing report will outline the challenges that the ongoing Covid-19 pandemic presents to curriculum delivery, teaching and learning, assessment, and well-being/ special educational needs (SEN) provision within a British secondary education setting. It will also provide insight into the factors which determine to what extent the approaches taken so far have been successful. This report will consider state education first and foremost.

Overview

- **Since the beginning of the national lockdown in late March 2020, the education sector in the U.K. has faced a pressure to perform to a high standard whilst adapting to the practicalities of education during the times of Covid-19 as well as navigating the Government response to the pandemic.**

- **Given the racial, class, gender, and geographical disparities between and within education settings that are already proven to determine educational outcomes, Covid-19 is highlighting and deepening these existing tensions within secondary education.**

- **The advent of online learning has led to students with SENDs (and their carers) to be struggling with a worsened mental state during the pandemic**

- **Poor academic performance and lack of adequate provisions also contribute to the struggle as these are key areas when home learning is made necessary**

Teaching and Learning

Covid-19 diagnosis and shielding reduce attendance rates, which impedes learning

- Educational attainment is strongly determined by attendance. Groups with low attendance consistently underperform compared to groups with high attendance.[67]

- The Department of Education regularly publishes national statistics which show a steady decline in attendance at state schools between September and November 2020. Updates from the 10th September 2020 showed 88% attendance which fell to 86% as of the 22nd October then, most recently, to 82.9% on the 24th November.[68] Year on year data shows that attendance is usually 96% in the autumn term.[69] The response rate to attendance data collection by the Department for Education is between 75-80% which equates to 3,141 to 3,350 secondary schools out of 4,188.[70]

- From the 16th to the 20th November, 1 in 5 secondary students missed school.[71] These absences are most highly concentrated in lower income areas; a joint report from the University of Bristol's Professor Simon Burgess and FFT Datalab, based on data collected in 2020, showed lower attendance at schools in the poorest areas of the UK, which also tend to be more significantly affected by Covid-19 measures.[72]

- Data analysed by the Times Educational Supplement shows that, as of mid-October, 2,021 staff members were reported absent for Covid-19 reasons which is up from 1,596 Covid-19 related absences recorded in the previous 30-day period.[73]

The deepening of the digital-divide jeopardises the steps taken towards increasing equality of educational opportunity

- Some students are at a disadvantage compared to others depending on a combination of their secondary school's prior integration of educational technologies and ability to adapt once Covid-19 school closures came into effect.[74] Although 'digital poverty' has been identified as a barrier to learning by the government, funding has been cut by 80% (or is precarious in cases where it remains available) for laptop allocations meant to ensure access to education for the country's most socio-economically deprived secondary school children.[75]

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- On top of inequalities in online access at school, the 2019 Lloyds Bank UK Consumer Digital Index found that 700,000 11-18-year olds (12%) had no home internet access from a computer or tablet. A further 60,000 had no internet access at home.[76] This digital-divide translates to only 4-6% of state schools considering all their students to have full internet access (for reference, 35-38% of private schools consider all their students to have full internet access.)[77]

- A synthesis by Higgins et al. of 45 meta-analyses published over the last 30 years and found that technology is most effective as a supplement or enhancement to traditional teaching rather than as a replacement for it.[78]

- Students in communities worst impacted by Covid-19 are less likely to attend school in person and less likely to have access to remote learning technologies both at school and at home. Even where students have full access to online learning, there is no guarantee that such teaching methods can replicate the efficacy of secondary school settings.

Increased remote-learning from home has shifted the role of parental involvement in education

- The Institute for Public Policy Research published a report based on data from 2020 which found that the pandemic has enlarged the scope of parents' input on what, when and how children learned. The supervisory and educational role that parents have had to improvise during the disrupted 2020-21 academic year has led to 53% of parents feeling more engaged with their children's learning compared to before the pandemic and 70% of parents wishing to maintain this increased engagement.[79](n=4864)

- The increased responsibility for education brought about by Covid-19 measures was received differently by parents depending on their own level of education. The Sutton Trust found that less than 50% of parents with only A level or GCSE level qualifications felt confident in supporting their children's learning whilst over 60% of those with an undergraduate degree and more than 75% of parents with a postgraduate degree felt able to provide support. It was also found that 47% of middle class parents compared to 37% of working class parents felt confident in supporting their children's learning.[80]

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- Some parental educational support comes in the form of providing tutors, however The Sutton Trust also found that the availability of online tutoring had decreased, leaving 66% of students who had previously received it were left without this support.[81]

- Although the majority of parents to secondary-school aged children have experienced a change in their role in their children's education, the extent to which parents feel prepared to cope with these new demands depends on their own level of education which is often determined by class, race, gender and other factors.

Covid-19 has highlighted existing funding issues, whilst creating new ones.

- The 'Stop School Cuts' campaign run by the National Education Union found that 83% of secondary schools are in a worse financial position than they were five years ago following Government spending cuts.[82]

- The government has announced a national tutoring programme aimed at the most disadvantaged pupils. Dr Luca Sibieta of the Institute for Fiscal Studies considers this programme not to be 'at a scale that will allow schools to address the inequalities that have widened during lockdown'.[83]

- The government also announced a one off £80 bonus per head for students aged 5-16 which applies to KS3 and KS4 in secondary schools. This equates to £2,400 for a class of 30 for a year which Dr Sibieta points out would cover just 10% of the cost of a teaching assistant. In this scale, the proposed government funding boosts are characterised as modest in his report.[84]

- The education sector was underfunded even before the pandemic and the funding proposed to ease the strain of the effects of Covid-19 are not sufficient to counteract the financial burden of the pandemic, let alone the effects of preceding the preceding decade of austerity.

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[84] Institute for Fiscal Studies, 2020, Larger funding cuts for schools in poor areas leave them badly placed to deal with COVID-19 challenges p.33

Assessment

The national curriculum does not reflect the changing needs of a society going through a once-in-a-generation pandemic

- Earlier this year, pre-pandemic, the government of the UK made changes to the Personal, Social, Health and Economic education guidelines as a part of its curriculum. Secondary school statutory guidance was to come into effect from September with emphasis on Relationship and Sex Education (RSE) and Health Education for State Funded Secondary schools.[85]

- According to the UN, this should be an opportunity to reimagine education and accelerate change in teaching and learning. While the pandemic limits contact hours and hence prevents access to subjects such as Art or Physical Education, it is also an opportunity in disguise which allows for focussing on providing skills for employability programmes and strengthening articulation and flexibility across levels and types of education and training.[86]

- The curriculum accounts for certain subjects that can only be taught practically such as Physics or Chemistry which involve lab-work and experiments as a part of assessments. Educational disruption caused due to COVID-19 should not result in poor academic performance and this gap should be bridged by educational reforms a propos the national curriculum. Changing the assessment and teaching procedures and formulating techniques to inculcate the same skills needs to be reflected by the national curriculum. [87]

- The UK National curriculum has not changed except for the addition of the aforementioned PSHE Education despite the need for educational reforms to ensure a more individualistic and connected approach to education.

The changes made to the 2021 exam timetables because of Covid-19 have exposed growing tensions between Westminster and the devolved parliaments of Scotland, Wales and N. Ireland

- The Department for Education has confirmed that GCSE and A Level exams in England will take place in the summer of 2021 however they will start three weeks later than normal and end at the same time as normal, effectively compressing the exam schedule. Results days for each exam series will remain the third and fourth Thursdays of August respectively.[88]

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[87] Reimers, F., 2020, "What the Covid-19 Pandemic will change in education depends on the thoughtfulness of education responses today", by Fernando M. Reimers.
[88] Department for Education, 2020, Students to be given more time to prepare for 2021 exams

- Wales has cancelled GCSE, AS and A-level exams for next summer and will instead use coursework and classroom assessments to grade students.[89]

- Scotland has also cancelled its National 5 exams for 2021 but will go ahead with Higher and Advanced Exams, starting two weeks later than normal.[90]

- The Northern Irish Department of Education has announced significant changes to assessment to take into account the disruptive effects of Covid-19 on educational progression however examinations in summer 2021 are still set to take place.[91]

Covid-19 has forced a rapid shift in assessment methods from examination to coursework and teacher-based assessment which has highlighted inequalities in both traditional and alternative assessment methods.

- The Queen's Policy Engagement group reported that the alternative systems of assessment devised for the 2020 series 'only serve to make the inequalities in examination outcomes more evident'.[92]

- The Department for Education published exam result statistics based on England only which showed that the average number of A-levels achieved per student was 2.67 (compared to 2.66 in 2019 and 2.28 in 2018).[93]

- The Government has announced that it will not publish any school or college level performance data based on any kind of assessment method for 2020.[94] This limits the possibility of monitoring the widening attainment gap between students of different socio-economic and ethnic backgrounds reported over previous years: the Education Policy Institute found that by the time they leave secondary school, disadvantaged pupils are now over 18.1 months behind non-disadvantaged pupils. And that the attainment gap has stopped closing following some slow progress in the early 2010s.[95]

- It has yet to be decided how students in England will be graded if Covid-19 should prevent summer examinations for a second year. Suggestions include teacher assessment or using mock results as back-up options.[96]

[89] The Guardian, 2020, Welsh move to cancel GCSE and A-level exams puts pressure on No 10
[90] BBC News, 2020, Scottish National 5 exams to be cancelled in 2021
[91] Department of Education (NI), 2020, Qualifications
[92] The Queen's Policy Engagement, 2020, A levels and GCSE Results 2020: a (inequality) virus in the examinations system?
[93] The Department for Education, 2020, A Level Results 2020
[94] UK Parliament, 2020, Impact of Covid-19 on Summer Exams
[95] Education Policy Institute, 2019, Education in England: Annual Report 2019
[96] Times Education Supplement, 2020, GCSEs 2021: Using mocks 'would compound disadvantage'

SEND and Well-being

Even Pre-Pandemic, Children with SENDs faced barriers to Access Education

- According to a report from May 2020, from the 1.3 million SEND students only 20% had access to Education, Health and care plans (EHCPs)

- This is considered as a golden ticket to care although this package of support is legally enforceable

Psychological effects and educational disruption due to homeschooling during the COVID-19 Pandemic

- Schools provide more than just education (nutrition, exercise, mental health services and social contact)

- School closure thus disrupts the everyday life of children and their families as total isolation could lead to depression [97]

- Children with mental health disorders are therefore more vulnerable to the pandemic

- On 1 May 2020, in response to the Coronavirus lockdown, some aspects of the law on Education, Health and Care (EHC) needed assessments and plans changed temporarily. This was to give local authorities, health and education settings more flexibility in responding to the demands placed on them by Coronavirus. The legal time frame for various processes was relaxed until 25 September so that SEND students would get the support they needed to return to school.[98]

Homeschooling poses to be a challenge due to inadequate support

- Smaller surveys targeting parents of children with neurodevelopmental disorders have shown that there are increased problems with managing daily life and aggression. In the UK, there was only about 5% of contact time with teachers and only 3.06% with peers.[99]

- Most (78.4%) SEND children received extra educational support during homeschooling. However, a vast majority (65.3%) felt that this support was insufficient and many (29.0-

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[97] The Guardian, 2020, System for children with special needs in England 'riddled with inequalities'

[98] Department for Education, 2020, Education, health and care needs assessments and plans: guidance on temporary legislative changes relating to coronavirus (COVID-19)

[99] Thorell, L. et al., 2020, Psychosocial effects of homeschooling during the COVID-19 pandemic: Differences between seven European countries and between children with and without mental health conditions, p.7

55.%) schools hadn't been in contact with parents to discuss the need for extra educational support during homeschooling. (Base=508)[100]

- Some (33.8%) parents also felt that homeschooling was putting a lot of pressure on students and was highly demanding. Some (11.6%) also reported that their ward wasn't able to completely participate in homeschooling[101]

Lack of participation during remote classes poses a spectrum of challenges

- Participation during class is crucial, especially for students in secondary education, since this is the only way that teachers analyse the nature of a student non-academically which contributes to the letter of recommendations he/she writes for college applications

- Furthermore, participation ensures that the student is engaging with the material and improving his/her argument organically. With homeschooling, this lack of engagement therefore results in poor academic performance

- The difference in the effect sizes between groups of Mental Health Challenges and not were very minute. Ill and adverse effects of homeschooling were reported in households with and without SEND children.

- However, a larger proportion of children in the MHC group was unable to participate in class which, as aforementioned, is quite problematic since it implies that SEND students received less schooling than others during the many weeks of homeschooling

- Serious concerns have been raised that the COVID-19 pandemic will lead to inadequate support and treatment for children with mental health challenges due to cancelled treatment appointments, infrequent therapy due to no contact hours and delays in titration and optimisation of medication

Well-being of care takers, therapists, teachers and households as a result is also deteriorating

- Major teacher stressors are workload and behaviour management[102]

- The first was uncertainty related to the announcement of partial school closures, navigating immediate demands, and planning for what might happen next, as UNESCO forecasted[103]

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[100] Ibid, p.7
[101] Ibid, p.8
[102] Catalán *et al.*, 2019, How should stressors be examined in teachers? Answering questions about dimensionality, generalizability and predictive effects using the Multicontext Stressors Scale. International Journal of Environmental Research and Public Health, 6(18), 3388
[103] UNESCO, 2020, Adverse consequences of school closures

- The second stressor concerned worry for vulnerable pupils and, in many instances, their families

- UK teachers have reported their schools quickly finding ways to deliver teaching using a variety of approaches to remote education, ranging from providing work packs (distributed via email or on paper) through to full days of synchronous online teaching [104]

- Several [teachers] reported serious practical challenges with online teaching, such as how to communicate with pupils who do not have access to a computer or a quiet learning space

- While dealing with the stress of navigating practical problems, teachers also reported feeling emotionally overwhelmed by the changes they were experiencing. They thus seeked to form relationships with each other to vent to each other.[105]

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[104] Department for Education, 2020, Case studies: remote education practice for schools during coronavirus (COVID-19). Retrieved from GOV.UK
[105] OECD, 2020, School education during COVID-19: Were teachers and students ready? United Kingdom

Insight

Overview

The Covid-19 pandemic has both revealed and exacerbated existing weaknesses within the UK secondary education system, as well as introducing new challenges to Teaching and Learning, Assessment, and SEND and Wellbeing provision.

Conventional secondary education relies heavily on in-person attendance at schools and colleges and depends foremost on high-stakes annual examination for externally awarded qualifications, namely GCSEs, A Levels and BTEC certificates. Whilst this system is feasible during 'peace-time', the onset of the Covid-19 pandemic and associated restrictions, such as national Lockdowns and tiered systems, has forced the education sector to deliver alternative methods of teaching, assessment and supplementary support. This sudden change has highlighted how under-prepared, under-funded and inflexible the UK education system is when put into a situation where it needs to rapidly adapt. The Government in issuing guidance and support to secondary education institutions has demonstrated a lack of resourcefulness and decisiveness when confronted with the need to maintain secondary education

Since its introduction over one hundred years ago, schools have provided compulsory education to the nation. From the 1870 Education Act to more recent changes like the raising of the school leaving age in 2015, the state has maintained a Secondary Education system. However the way in which children are taught and assessed retains many of the features which have defined education for many decades past. The classroom environments, Teacher-led learning, and the progressive institutionalisation of education have not kept pace with the changing realities of the modern world. This is particularly evident in the hesitancy of schools in adopting digital education technologies. The adherence to traditional schooling has left secondary education vulnerable to the challenges brought by Covid -19.

Within the Insight, we will examine the response to Covid-19 from UK secondary education providers with a view to understanding how this response could be improved given the continuing pandemic. In response to this analysis, we will suggest policy recommendations based on the specific needs of students, teachers and primary care-givers.

The interaction between socio-economic status and educational opportunity.

The connection between attendance and attainment has long been established within education contexts, especially at secondary level. Given that attendance is a strong indicator for attainment, the decreased rates of attendance among groups with intersecting characteristics, principally based on socio-economic circumstances which express themselves as disadvantageous within the current education system. Living in poverty and/ or suffering systemic discrimination on the basis of race or disability to name a few characteristics, places certain students at an automatically heightened risk of diminished attainment during the Covid-19 pandemic based solely on their personal circumstances. Indicators of the low-attendance-low-attainment complex are compounded by Covid-19 because structural inequalities leave the groups who are already disadvantaged the most vulnerable to the socio-economic and health impact of the pandemic.

Modern digital technology has played a peripheral role in secondary education since its introduction in the 1990s. Although uptake varies between institutions, before the pandemic, education was primarily delivered using traditional methods such as teacher-class interactions, student-class interactions, group work, and paired work. Educational technology played a supplementary role to these teaching methods in the classroom as more of a novelty than a key teaching tool, especially in the most deprived areas where reliable access to equipment and internet is not guaranteed. The digital divide therefore informs the extent to which digital and online learning is incorporated in secondary education. The less privileged an area, the less likely the schools there are to use educational technologies. This predates the Covid-19 pandemic which leaves some schools in a stronger position to adapt rapidly and smoothly to remote learning during school closures and blended learning thereafter. Schools in deprived areas do not have access to necessary funds to address this disparity therefore their students are left further and further behind in comparison to students in more affluent areas. The government had promised laptop allocations to these schools in an effort to remove this barrier to learning however they did not deliver upto 80% of the expected laptops. Failure to anticipate the general trend towards digitalisation of daily life, as can be seen from online-banking, online-shopping, and online-dating, has left students without access to a consistent standard of secondary education as the Government and education authorities have had to start from a weak position in their rush to put in place provisions for Covid-19 time education.

As well as influencing attendance and access to digital education technology, a student's socio-economic status also impacts the quality of their home environment. Even before the start of the pandemic, the home environment played an important role in determining student success (The Urban Child Institute, 2013). Given the instantaneous shift to home-learning following school closures in March 2020 and the increased time spent at home

due to Covid-19 related absences during the 2020/21 academic year, the home environment has become an even more significant factor in attainment and wellbeing at secondary education level. The Child Poverty Action Group found that 30% of school-aged children live below the poverty line which equates to 9 out of every 30 children in a classroom (The Child Poverty Action Group, 2019). The limited resources and emotional stress of living in poverty makes for a home environment which is unconducive to learning. Poverty also restricts access to tertiary education, meaning that secondary school students whose families have suffered intergenerational poverty are significantly less likely to have parents of care-givers who have graduated from university. These parents are less likely to feel less confident in supporting learning which further disadvantages students who live in poverty. Parental support and the home environment has always been an important factor in the success of teaching and learning however, the onset of the Covid-19 pandemic has placed greater emphasis on this contributory factor which has revealed a growing divide between the nations most and least privileged students.

Assessment methods risk putting students who are already at risk of lower attainment due to factors beyond their control, like race and class, at an even greater disadvantage by increasing systemic barriers to their success.

The National Curriculum has seen many changes in terms of assessment methods over the past decade, most notably with the shift from A*-U grading at GCSE to numerical grades brought in over the past two years as well as A Level overhauls including the scrapping of AS Levels. Changes to Maths and English GCSEs over the same timescale have affected content to a lesser extent. Overall the content of the National Curriculum has not varied significantly in the years preceding the Covid-19 pandemic. The restrictions imposed by this global crisis have impeded delivery of the traditional curriculum however the forced interruption to normal teaching could be taken as an opportunity for changes to the curriculum which take into account the demands of modern-day society to be introduced.

The pressures put on the established examination system by Covid-19 restrictions have been dealt with differently by Westminster and each of the devolved parliaments which has highlighted the scope for variety in solutions to future assessment. The rapid shift towards teacher based assessment and coursework has demonstrated that examination as an assessment method is not necessarily the only way to gauge student attainment and progress. The existing attainment gap began to widen again even before the onset of the Covid-19 pandemic and has been exacerbated by the discrepancies between secondary education provision in the months since. The 2020 results 'scandal' demonstrates the shortcomings of using an algorithm to assign student's grades because it was shown to be biased against students in lower-income areas, students at state-

schools, and BAME students (Katwala, 2020). The Government has yet to confirm how students will be assessed in 2021, should exams not be able to take place. It has not been guaranteed that a similar algorithm will not be used again.

SEN and Wellbeing

Pre-Pandemic barriers prevented access to education for SEND students. Even legally enforceable EHCPs which are created for the very purpose of supporting children, are not always the most accessible (Department of Education, 2020). Students are then subjected to a more generalised education system rather than a more individualised differentiated approach in line with their mental and intellectual ability to allow for a more holistic education.

Due to the lack of support through differentiated curriculum structures and insufficient support from EHCPs, students are unable to engage with the material and participate in classes. This results in adverse psychological effects and causes educational disruption. For instance, students with ADHD or other attention deficit challenges lack the ability to sit in front of a screen for extended periods of time all the while still concentrating. This means a lack of participation which results in increased aggression in some cases and poor academic performance leading to more frustration. Academic failure thus mediates the relation between ADHD and depression (Thorell et al., 2020). Even for non MHC groups, a lack of participation due to factors such as unavailability of resources or a disturbed learning environment can result in depression. This is also proliferated by the fact that contact hours of children with teachers and peers are minimised. This results in isolation in case they are unable to engage with their surroundings and have a blow on their mental well-being (Meredith, 2020).

Another drawback of the closure of schools is that social workers do not have the ability to provide external resources. There has been a lot of criticism regarding the working conditions of social workers themselves which causes immense amounts of stress. But this stress is also attributed to the lack of job satisfaction since they have a limited scope to make an impact. Due to restrictions, workers are themselves unable to continue doing what they love and the mental impact is two-fold: On the social workers themselves, but also on the children they provided relief to.

However, one aspect goes unnoticed: teachers and workers who facilitate learning are also subjected to deteriorating well-being. Workload and not being able to monitor behaviour are major components of stress but frustration most often arises when they face challenges with remote learning and aren't able to provide the best education due to technological and practical difficulties. Furthermore, they are more often than not also

concerned about home environments which prevent a student from attending classes hence making it difficult for teachers to find a suitable way to communicate. The lack of curriculum changes also poses to be a challenge since no practical experiences can aid learning and finding creative solutions to these problems causes teachers to work outside of designated working hours thus taking a toll on their well-being as a whole due to a feeling of feeling emotionally overwhelmed (Ravalier, 2018).

Conclusion

- There is a positive correlation between high attendance and high attainment. The more intersecting characteristics (such as low socio-economic status, BAME identities, and SEND) a student has, the more likely they are to have a low attendance rate which negatively impacts their attainment. Covid-19 has worsened this existing relationship which further disadvantages students from these groups.

- The Covid-19 has worsened the pre-existing digital divide which tends to put students from the above mentioned categories at an increased risk of digital exclusion from educational opportunities.

- The National Curriculum has not changed substantially to account for the pressures of learning during a pandemic. Neither has assessment which, in England, will still rely on formal examinations in summer 2021.

- Even legally enforceable EHCPs are not always the most accessible

- Academic failure mediates the relation between ADHD and depression

- The negative impact on well-being due to restricted access for social workers is two fold: On the social workers themselves, but also on the children they provided relief to

- One unnoticed aspect is the well-being of teachers and workers who facilitate learning since they get frustrated and emotionally overwhelmed due to practical and technological challenges that they face.

Policy Recommendations

Overview

1. **Funding for digitalisation of secondary education must be prioritised and allocated based on need**
   a. The laptops and 4G wifi routers promised by the Government to be delivered to all eligible students as a matter of priority.
   b. Eligibility criteria to be expanded to include more disadvantaged students across all year groups.
   c. This should be implemented by January 2021.

2. **The 2021 exam season should be cancelled and replaced with alternative assessment methods**
   a. Exams to be cancelled nationwide.
   b. Teacher assessed grades to replace exams.
   c. Peer moderation of teacher assessed grades to maintain expertise and experience.
   d. Commitment to this alternative assessment method by the start of spring term 2021.

3. **Reforming the current learning environment through EHCPs**
   a. Should be automatically granted to those in need
   b. Quality and content of EHCP needs to reflect needs of society, especially during COVID
   c. Testing and assessment systems
   d. Increased differentiation of education to account for diverse abilities (Individualisation)
   e. Streamline acquisition procedure to make EHCPs more accessible
   f. Closer integration of agencies (NHS, Social care, Education) increased multi-agency cooperation

Action 1: Funding digital education technology

The government must **comprehensively fund digital education technology** as a matter of urgency. Given the negative economic impact of the Covid-19 pandemic, funding is limited and should therefore be **prioritised for disadvantaged students first**. These include children in receipt of free school meals, living in deprived areas, experiencing SEND, or otherwise being left behind by current Covid-19 educational provisions.

The Government has already implemented a policy which provides for the allocation of laptops, 4G routers and tablets on a limited basis however this scheme only applies to children in years 3-11. The scheme needs to be **expanded to include all year groups, particularly KS5 students in their final two years of secondary education.** There have been persistent issues with delivering on promises made to individual schools. Some headteachers report only receiving 20% of the laptops for which they applied, leaving many eligible students without the necessary technology for learning (Stubley, 2020).

Funding guidelines need to be expanded beyond the current narrow eligibility criteria which only provided for the extreme cases of digital deprivation. Many students living on the poverty line, or living in precarity due to factors like domestic abuse, caring responsibilities, or family illness, do not qualify for government help. At the schools level, free access to online learning technologies for educators to use in their general teaching practise needs to be provided in order to ensure parity in access to the online learning facilities necessary to secondary education during a pandemic. These technologies include learning platforms, subscriptions to online learning packages and programmes, and software for video-conferencing or online chatting.

Given that students currently in years 11 and 13 are expected to sit exams in summer 2021, this policy needs to be **implemented at an accelerated time frame** so that students can experience the benefit for the maximum amount of time before assessment. All digital support packages should be available for students at the start of the spring term in January 2021.

This policy would work to mitigate the negative impact of limited attendance caused by pre-existing societal conditions as well as the ongoing Covid-19 pandemic. The allocation of digital education technologies would also relieve some of the burden from parents and teachers alike who are having to improvise teaching methods without the necessary funding or training for new remote teaching methods.

Action 2: Replace exams with teacher-based assessment for summer 2021

Exams have already been scrapped in Scotland and Wales, with significant changes being made to examination in Northern Ireland. England is the only country in the UK still insisting on exams in summer 2021. This places students under different standards of assessment depending on where they live in the UK which contributes to inequality of educational opportunity and outcomes in terms of assessment preparation. Furthermore, the unpredictability of the Covid-19 pandemic jeopardises the summer 2021 exam season so **the Government should cancel these exams in England and implement alternative assessment in line with Scotland and Wales**.

Standardised testing places students who have received a substandard quality of education throughout secondary school as well as during the Covid-19 pandemic at a significant disadvantage compared to students whose learning has been less detrimentally affected by the pandemic.

Instead of exams, **students in years 11 and 13 should be awarded grades by their teachers**, who are in the best position to assess their achievements and progress given their close professional relationship and educational expertise. These **grades should be subject to community moderation** rather than being moderated based on general trends. Schools should be able to **peer review** other schools' grade allocation to ensure that consistency is maintained.

The Government needs to finalise alternative assessment and marking methods by early 2021 to give teachers and students enough time to adequately prepare. The u-turns of summer 2020 proved to undermine confidence in state provision of secondary education, as could be seen from student protests following results days. To this end, there needs to be a **definite commitment to teacher based assessment** so that schools have enough time to compile student profiles and assess students over the year.

Secondary school students in traditional exam years would benefit from the certainty of a fairer assessment system which would positively impact their immediate prospects in terms of further/ higher education and employment. Students in KS3 and year 12 who aren't traditionally externally examined would also benefit from the reduced stress on teachers, their educational administration, and parents afforded by cancelling unnecessary and unfeasible exams in 2021.

Students were eventually awarded their teacher assessed grades in summer 2020 which proved to be more accurate that algorithm generated grades when compared to predicted and projected grades.

Action 3: Reforming the Learning environment through EHCPs

One of the most notable problems with SEND children is their **access to education**. The UK Government does have schemes such as EHCPs (Education and Health Care Packages) in place. However, the accessibility of such support packages is limited in its scope due to which it has been dubbed as a 'Golden Ticket'. It is important to reform the procedure for the access of such packages since it proves to be quite a cumbersome process for those who are even guaranteed this right.

EHCPs should automatically be granted to those in need. This can be done through the application of Lewinian theory of change with the lock and freeze model. From the moment when the problem is first recognised by medical authorities, the records of the child must be updated to indicate a need for the packages. On the same date every year, the need for the package must be updated in line with recommendations made by the doctor. This is done to ensure that government resources aren't being exploited unnecessarily.

On the question of the EHCPs themselves, **the quality of the packages must reflect the needs of society**. Although a good amount of people mentioned that they received extra educational support from the government, they were dissatisfied with the quality and deemed the support to be insufficient. A major issue with education and curriculum in particular is the lack of differentiation in teaching strategies. An intellectually gifted student, for example, would have different needs as opposed to a student with SEN. A more generalised education would not accurately challenge either group and hence lead to a general dissatisfaction with oneself and hence cause a poor state of well-being. **An individualistic approach in line with a child's ability on the spectrum combined with the learning style which caters most to him/her** will be most fruitful. Modifications can be made in ways such as but not limited to: (i) By **making test papers with difficulty proportional to intellectual ability**. This would ensure that every student is sufficiently challenged and would also develop his/her critical thinking ability (ii) By having **different types of assessments that would ensure a more holistic education**. Visual learners may do better at diagrams and graphs while auditory learners may be better at oral presentations. For children with different learning needs, it is important to teach them in the way that they will understand it, and test them on similar grounds. Ultimately, learning is about acquiring knowledge, no matter which form it may be in.

These **changes could be made by Special educators and Learning Support Assistants (LSAs) working with schools** so that the EHCPs are appropriately interpreted by the school team themselves since they have an idea about the ability that a child possesses and how that ability is challenged appropriately. This would also ensure that there is a **closer integration between agencies like the NHS, Education and Social Care** thus leading to an increased multi-agency cooperation which would streamline the process for the acquisition of EHCPs themselves.

CONCLUSION

It is almost inevitable that education will become increasingly digitised over the coming years given the steady integration of digital technology in all aspects of life. Shopping, banking and even dating are just some of the everyday actions which are becoming ever more connected with computers and the internet. It is highly unlikely that education will not follow this trend. Covid-19 will likely constitute an accelerant in the digitisation of education. To this end it is important that the government ensures that this process of digitisation does not widen the gap between the nation's least and most privileged students. Instead, the digitisation of education should be taken as an opportunity to close this gap and leave no child behind in post-covid society.

Teacher based assessment has previously proven effective in summer 2020. Should the government opt to use this assessment method instead of exams again for 2021, there is a strong chance that students would be more fairly assessed than if they are made to sit exams following two years of Covid-19 disruption and increasing social inequality. It is unlikely that the Government will opt for teacher assessed grades because they have publicly committed to holding exams in England and another U-turn would further embarrass the Minister for Education. Should the government be forced into using teacher assessed grading as a result of another Lockdown and schools closure, teacher assessed grades would be the best alternative.

Given that EHCPs are already in place by the UK government, it is all a matter of reorienting the support packages in order to reflect the need of society at a time such as this. It is more feasible to change certain aspects of schemes in place in order to ensure that they are more adapted to a certain situation and the juxtaposition that the dynamic nature of society provides to the structure of policy is a good example of that. Implementing this policy recommendation would mean killing two birds with one stone as the social worker employability problem is solved in addition to a more individualistic and holistic differentiated curriculum that aids the future leaders of the world to become better versions of themselves.

Multi-agency cooperation through the above mentioned policy recommendations would ensure that there is no discrepancy in the implementation of policies and would hence account for a more well-rounded education by ensuring not only the quality of education, but also the quality of life with regards to health and support in general.

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Healthcare
Controlling Covid-19 & Keeping Hospitality Sector Thriving: Possible?

by Venus How & Thomas de Monchy

Briefing Note

The aim of the policy-report is to allow the hospitality sector to thrive whilst keeping COVID-19 under control. In the Briefing note, we will be describing how the hospitality sector has been affected by the pandemic, by exploring the impact on key stakeholders - employers, employees and customers.

Overview

- **The hospitality sector has experienced severe economic loss as a result of the pandemic despite the uncertainty regarding the relationship between an open hospitality sector and the resurgence of COVID-19.**

- **Flexible and home working is not a realistic option for businesses in this industry, contributing further to their economic losses, and some employers fail to follow COVID-19 safety guidelines.**

- **The negative consequences of COVID-19 safety guidelines have been recognised. For instance, the introduction of lockdown has led to an increased risk of redundancy due to business closures. Further, the need for mental health services has been emphasised amongst employees who are no longer working within the hospitably sector.**

- **The implementation of a second lockdown has led customers to breach COVID-19 legislation. Additionally, not being able to socialise has had a negative effect on customers' mental health. However, the alcohol intake reduces the likelihood of customers adhering to social distancing guidelines.**

Employers

Employers in the hospitality sector fail to follow COVID-19 safety guidelines.

- Public Health England's report[106] (for the week ending 6 September 2020) documented that of the 246 incidents reported, 38 were from the hospitality sector compared to (21 the previous week and 11 the week before that), 34 of which had at least one linked case testing positive for Covid-19.

- Public Health England's report[107] also states that "Media reports have covered multiple high-profile cases of establishments not adhering to Covid-19 secure guidelines that have subsequently been linked to outbreaks (e.g., in Manchester and Preston)."

- Coventry City Council threatens to shut down[108] businesses within the hospitality sector that breach Covid-19 legislation after a rise in the number of complaints regarding illegal Covid-19 practices in some bars and pubs across the city.

Despite rejection of the argument from the hospitality sector, authorities have proof regarding the relationship between the opening of the hospitality sector and the resurgence of COVID-19.

- The UK's health authorities' statement that the normalisation of eating out and drinking in pubs has contributed to the UK's second wave of Covid-19 has been rejected by the hospitality sector, which emphasises the seeming lack of evidence supporting this claim[109].

- In its weekly surveillance reports[110], Public Health England has claimed that those who tested positive were more likely to have eaten out two to seven days prior to symptom onset.

Flexible and home working is not a realistic option for businesses in the hospitality industry.

- Only 6.5% of the business in the accommodation and food industry have staff working from home as a result of the pandemic[111].

- Only 0.4% of those businesses see flexible/home working as a permanent business model and almost all of them claim the reason for that is that it is not suitable for their business/sector[112].

[106] Dodd, Vikram, 2020, Police in England to enforce Covid pub rules with fines and arrests
[107] Dodd, Vikram, 2020, Police in England to enforce Covid pub rules with fines and arrests
[108] Cole, Oliver, 2020, Rising Complaints About Coventry Pubs And Bars Not Following COVID-19 Guidance
[109] Giles, Chris et al., 2020, Pubs and restaurants take blame for UK's Covid spike
[110] Giles, Chris et al., 2020, Pubs and restaurants take blame for UK's Covid spike
[111] Office for National Statistics, 2020, Business Impact of COVID-19 Survey (BICS) results
[112] Office for National Statistics, 2020, Business Impact of COVID-19 Survey (BICS) results

The hospitality sector has experienced severe economic losses during the pandemic.

- 17% of businesses in the accommodation and food service sectors are at severe risk of insolvency[113].

- The Office of National Statistics found that[114] hotels and accommodations recorded a growth of 84.4% in August, but the output was still 22.1% less than in February.

- In an economic update by PwC[115], the scenario of 'contained spread' the growth rate of the GVA in the food service sector would shrink by 31.2% and for hotels 64.9%.

[113] Office for National Statistics, 2020, Coronavirus and the economic impacts on the UK: 22 October 2020

[114] Office for National Statistics, 2020, Coronavirus and the impact on output in the UK economy: August 2020

[115] PwC, 2020, UK Economic Update

Employees

Employees in the hospitality industry are at higher risk of getting Covid-19.

- Hosts, bartenders, servers and any other front-of-house workers take the greatest risk[116] by sharing indoor space with customers, who may or may not show symptoms regardless of whether they have contracted the virus.

- The lack of ventilation and airflow make restaurants and accommodation a greater source of covid-19 spread.[117]Although the risk of covid-19 can be decreased by outdoor seating, employees working in kitchens and bars still face the likelihood of catching the virus. (Eater, 2020, Who Is Most at Risk in a Restaurant? https://www.eater.com/21335846/who-is-most-at-risk-in-a-restaurant-staff-safety)

Following business closures in the hospitality sector redundancy risk has skyrocketed amongst employees.

- Around 7.6 million jobs, or 24% of the UK workforce were at risk because of pandemic-related business closures. They estimated that in the weeks from April 6 to 19, 2020, approximately 22% of the UK's working-age population had been furloughed.[118]

- On 5th November 2019 35,933 jobs were lost in the hospitality sector due to pandemic related closures.[119]

Lockdown has increased the risk of domestic abuse, inevitably affecting individuals within the hospitality sector.

- ⅔ of women in abusive relationships have suffered more violence from partners during pandemic. (Guardian, 2020, Domestic abuse surged in lockdown, Panorama investigation finds, https://www.theguardian.com/society/2020/aug/17/domestic-abuse-surged-in-lockdown-panorama-investigation-finds-coronavirus)

- ¾ of victims say lockdown has made it harder for them to escape abusers. (Guardian, 2020, Domestic abuse surged in lockdown, Panorama investigation finds, https://www.theguardian.com/society/2020/aug/17/domestic-abuse-surged-in-lockdown-panorama-investigation-finds-coronavirus)

- During first 3 months of lockdown in March more than 40,000 calls and contact made to National Domestic Abuse Helpline - most by women seeking help. (Huffpost, 2020, Lockdown Was Fatal For Women And Girls. We Cannot Let This happen Again, https://www.huffingtonpost.co.uk/entry/domestic-violence-lockdown_uk_5f86e7f9c5b681f7da1d95ce?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAHQU_KicPBak1cObe9lrJx7unIzmB41Y6V1fHrpunyBSTxKbUzBiLBONrGOu_eLJLf2ozjWx-

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[116] Bitel-Mancall, Nick, 2020, Who Is Most at Risk in a Restaurant?
[117] Bitel-Mancall, Nick, 2020, Who Is Most at Risk in a Restaurant?
[118] McKinsey&Company, 2020, COVID-19 in the United Kingdom: Assessing jobs at risk and the impact on people and places
[119] Sky News, 2020, COVID: Job Losses

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Post-lockdown the need for mental health services has been exacerbated amongst employees in the hospitality sector who are no longer working.

- The economic vulnerability caused by lockdown and the closure of businesses has had a profoundly negative impact on the mental health of individuals.[120]

- A 2017 survey on those in the lowest socio-economic class commissioned by Mental Health Foundation found that 73% of people living in the lowest household income bracket (< £1,200 a month) reported having experienced mental health problems during their lifetime, compared to 59% in the highest household income bracket (> £3,701 a month).[121]

- Past pandemics such as Swine Flu and Influenza have been associated with mental health issues including anxiety, post-traumatic stress and depressive disorders.[122]

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[120] Kousoulis, Antonis, et al., 2020, The COVID-19 pandemic, financial inequality and mental health
[121] Kousoulis, Antonis, et al., 2020, The COVID-19 pandemic, financial inequality and mental health
[122] Peterman, Amber, et al., 2020, Pandemics and Violence Against Women and Children

Customers

The intake of alcohol in the hospitality sector makes it less likely for people to adhere to social distancing guidelines.

- The World Health Organisation draws attention to the fact that places of hospitality such as bars, casinos, nightclubs and restaurants where alcohol is served only increase the risk of transmitting the virus as it is clear that drunk people will not socially distance.[123]

- Public Health England and the CDC have shown a relationship between the hospitality sector and covid-19 cases with the latter reporting that adults testing positive were twice as likely to have gone to a restaurant than adults testing negative for the virus.[124]

- The intake of alcohol has further negative consequences in relation to the pandemic, as 'people with an alcohol use disorder are at greater risk of COVID-19 not only because of the impact of alcohol on their health but also because they are more likely to experience homelessness or incarceration than other members of the population.'[125]

The hospitality sector remains a common place for Covid-19 spread.

- 'Official data found a trebling of outbreaks linked to food outlets and restaurant settings, and there is a huge concern in government at rising coronavirus infection rates.'[126]

- Public Health England published weekly data on acute respiratory incidents reported to health protection teams. In the report for week ending 6 September 2020, of the 246 incidents reported, 38 incidents were from food outlet/restaurant settings (compared to 21 the previous week and 11 the week before that), of which 34 had at least one linked case that tested positive for Covid-19.[127]

- 'In its weekly surveillance reports, Public Health England has noted that for those testing positive, eating out was the most commonly reported activity in the two to seven days prior to symptom onset.'[128]

Customers breach COVID-19 legislation before the second lockdown is imposed.

- 'Reports of Covid-19 restrictions breaches have increased in parts of the north of England in the run-up to stricter local lockdowns being announced'[129]

- 'Greater Manchester police said it issued 70 fixed penalty notices (FPNs) on Saturday and Sunday for rule breaking, including a student house party of up to 100 people and a lack of social distancing in pubs.'[130]

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[123] World Health Organisation, 2020, Alcohol and COVID-19: what you need to know
[124] Centers for Disease Control and Prevention, 2020, Morbidity and Mortality Weekly Report
[125] World Health Organisation, 2020, Alcohol and COVID-19: what you need to know
[126] Dodd, Vikram, 2020, Police in England to enforce Covid pub rules with fines and arrests
[127] Dod, Vikram, 2020, Police in England to enforce Covid pub rules with fines and arrests
[128] Financial Times, 2020, Pubs and restaurants take blame for UK's Covid spike
[129] Walker, Amy, 2020, Police report rise in Covid rule breaches in north of England
[130] Walker, Amy, 2020, Police report rise in Covid rule breaches in north of England

- A Birmingham pub was fined £10,000 for holding lock-in with dozens of drinkers after the government announced an incoming second lockdown. Officers were told the gathering took place because people were expecting the pub to have to shut within days.[131]

Not being able to socialise with friends within the hospitality sector has had a negative impact on customers' mental health.

- Mental distress (GHQ-12) was 8.1% higher in April 2020 than between 2017-2019. https://www.gov.uk/government/publications/covid-19-mental-health-and-wellbeing-surveillance-report/2-important-findings-so-far

- Mental distress in April 2020 was 0.5 points higher than expected (GHQ-12 scale), after taking into account trends in mental distress since 2014.[132]

- The proportion of adults reporting a level of psychological distress above a set threshold increased from 24.3% between 2017 and 2019 to 37.8% in April 2020.[133]

- The proportion of people experiencing sleep problems increased from 16% before the pandemic to 25% in April 2020.[134]

[131] Martin, George, 2020, Birmingham pub fined £10,000 for holding lock-in with dozens of drinkers

[132] GOV, 2020, Health and wellbeing during coronavirus, important findings

[133] GOV, 2020, Health and wellbeing during coronavirus, important findings

[134] GOV, 2020, Health and wellbeing during coronavirus, important findings

Insight

Overview

This section of the report will focus on the reasons for the issues at heart of the rising tensions between the healthcare sector and economy.

A primary source of weakness stems from the issues found in policies implemented to combat the pandemic. Policies that were too relaxed had negative consequences on the healthcare sector, with cases rising as a result of individuals failing to abide by the covid-19 safety measures. This ultimately led to the implementation of a national lockdown, which, whilst managing to decrease the number of cases, resulted in a rise of domestic abuse and severe mental health issues. Such issues are the product of policies lacking nuance as policy-makers sought to handle the current situation without thought to the consequences of their policies. The consequences of covid-19 safety measures extended from mental health issues to economic vulnerability within the hospitality sector and a subsequent rise in redundancy amongst employees.

The failures of these policies can be attributed to key themes, which will be used to explain the current state of affairs. The themes are as follows:
1) The layout of covid-19 in the hospitality sector and the consequences of relaxed policies on the healthcare sector and strict policies on the national economy.
2) The consequences of the lack of thought about the anti-virus policies on employment and mental health.
3) A lack of understanding on the virus and its impact on policy making.
4) Fear of the virus and its effects on policy making in addition to the negative consequences on a population that suffered from the sudden and drastic changes imposed upon their lifestyles.

The layout of Covid-19 in the hospitality sector
Policies that were too lax or policies leading to economic loss

The first major that covid-19 policies have negatively impacted public health aims is through the implementation of lax measures within the hospitality sector (those that poorly tackled the pandemic) . For instance, the policy of social distancing did little to keep the virus at bay and this can be attributed to the lack of adherence to the policy. On an appearance on the Andrew Marr Show back in October, the Secretary of State for Health and Social Care, Matt Hancock, stated that the UK was at a 'tipping point' and that 'if everybody follows the rules then we can avoid further national lockdowns.' (BBC, 2020) He went on to say that 'the first line of defence is people's behaviour. But then, after that, local lockdowns are necessary.' (BBC, 2020) Based on Hancock's comments it is clear that the policy was too relaxed as individuals struggled to abide by social distancing laws, leading to tougher restrictions.

The lack of adherence can be explained by the hospitality sector, like the alcohol making it less likely for people to adhere to social distancing guidelines. The World Health Organisation stated that physically distancing from others would prevent the virus from spreading too rapidly. However, places of hospitality such as bars, casinos, nightclubs and restaurants where alcohol is served only increase the risk of transmitting the virus (World Health Organisation, 2020) as it is clear that drunk people will not social distance (BBC, 2020). Both Public Health England and the Centers for Disease Control and Prevention show a relationship between the hospitality sector and covid-19 cases (Financial Times, 2020) with the latter reporting that adults testing positive were twice as likely to have done to a restaurant than adults testing negative for the virus (BBC, 2020). This illustrates that the government's relaxation of lockdown rules and subsequent reliance on social distancing is a policy that is too lax a method of controlling the pandemic.

In a bid to control the rising covid-19 cases and reduce pressure on the healthcare sector, the government adopted a stricter approach and implemented a national lockdown. However this policy had a negative economic impact on the hospitality sector with businesses suffering major economic losses. The Office for National Statistics published a report highlighting the impact of covid-19 on the output of the UK economy. It stated that the economy was in a recession following a record fall of 20.4% after Quarter 2 (April to June) 2020. Upon the easing of social distancing and lockdown measures some businesses were able to increase output however some services sectors continued to be 'severely affected' as many businesses remained closed; namely businesses within the hospitality sector which were unable to adopt flexible working schemes the way many businesses in other sectors were able to (Dunn et al. 2020) Another report by the Office for National Statistics (2020) showed that 17% of businesses in the accommodation and food service sectors were at severe risk of insolvency. Supporting this is a report by PWC (2020) which suggested that in a 'further outbreak scenario' (the most relevant to this report as the UK has experienced a second wave) a decline of 47.9% for food service and 65.5% for hotels was expected, the two sectors being the hardest hit of the economy. The report goes on to indicate that restaurants and hotels have experienced a deflation of 2.6% between January and August this year and for food and beverages the change in prices is 0%. Both statistics are far below the

general European objective of 2% inflation. Evidently, the focus on introducing policies aimed at supporting the healthcare sector has taken a toll on the nation's economy.

A further consequence of lockdown was the rise in redundancy amongst employees working within the hospitality sector, with many having to survive on the furlough scheme (later the job support scheme). Trusted advisor and counsellor to many of the world's most influential businesses and institutions, McKinsey & Company (2020) report that around 7.6 million jobs, or 24% of the UK workforce were at risk because of covid-19. They estimated that in the weeks from April 6 to 19, 2020, approximately 22% of the UK's working-age population had been furloughed and that at that time less than 1% of businesses reported ceasing to trade permanently or having laid people off. In an official report published by the government as of August 2020 it is documented that 58,900 employers within the accommodation and food services were furloughing staff with £2.1 mill worth of claims being made for periods to August 2020 (GOV, 2020). In another report by YouGov (2020), figures show that the likelihood of losing a job comes hand in hand with the decreased likelihood of finding a new one as just one third of hospitality workers made redundant having been on furlough able to find new jobs. The hospitality sector has an inherently fluctuating turnover rate but it has taken a severe hit with the government's focus on controlling the pandemic, leading one to question whether it is possible for policy-makers to control covid-19 whilst supporting the economy.

Lack of thought about the consequences of anti-virus measures
Negative effects of covid-19 policies

The lack of thought about the consequences of anti-virus measures is reflected in the increase of domestic violence because of lockdown, inevitably impacting employees within the hospitality sector. Two thirds of women in abusive relationships suffered more violence from their partners during the pandemic (McDonald, 2020); three quarters of victims state that lockdown has made it harder for them to escape abusers (McDonald, 2020). During the first three months of lockdown in March more than 40,000 calls and contact made to the National Domestic Abuse Helpline – most of which were women (Williamson, 2020). Furthermore, within these first months of lockdown 16 women and girls were killed in suspected domestic homicides, and at least ten more women and girls have lost their lives in the ten months since (Williamson, 2020). Despite the government's pledge to give an additional £2 million to domestic abuse helplines, in addition to launching a social media campaign to raise awareness, organisations have argued that the funding is not enough and the nineteen days it took to introduce such measures was too long for those in vulnerable positions.

It appears that whilst lockdown has been successful in controlling the spread of covid-19, it has led to negative social, economic and psychological consequences (Gelder et al. 2020). The elements comprising abusive relationships overlaps with the anti-virus measures implemented to tackle the pandemic. For example, victims are isolated from support systems whether it be family, friends, co-workers or employers. Abusers will now find it easier to physically and mentally cut off

their victims, who are no longer able to seek help from those they may have otherwise been frequently in contact with. Places of work often provide a safe place for employees, but the implementation of lockdown has removed a vital source of protection from victims. A research paper by the Centre for Global Development on the effects of pandemics on women and children suffering abuse states that 'quarantining and other social distancing measures limit both social mobility and potentially increase economic vulnerability among women experiencing interpersonal violence.' (Gelder et al. 2020). Social distancing promotes emotional isolation in addition to exposing the personal and collective vulnerabilities within a relationship whilst limiting accessible and familiar support options (Gelder et al. 2020).

The call for greater mental health support is another indication of the lack of consideration about the consequences of anti-virus policies. The hospitality sector forms a significant source of relief for consumers, enabling them to socialise with friends and family and strengthen such support systems. With the implementation of quarantine individuals experience a sudden form of extreme isolation spanning over several weeks. A research paper on the social and psychological effects of pandemics highlights that past pandemics such as Swine Flu and Influenza have been associated with mental health issues including anxiety, post-traumatic stress and depressive disorders (Gelder et al. 2020). A reason for this includes the well-versed hypothesis that people living in financial hardship are at an increased risk of mental health problems and lower mental wellbeing (Kousoulis et al. 2020). This has a direct link to the lockdown policy which saw the hospitality sector slow to a near complete halt. Not only do individuals within the hospitality sector experience a greater sense of isolationism, they are also more likely to feel economically vulnerable, leading to an increase in anxiety as they struggle to overcome these problems without their support systems. It appears that whilst the anti-virus policies were adopted in a bid to protect the nation's physical health the underlying consequences had a significant impact on individuals, leading one to question the effectiveness of covid-19 safety measures if the physical aspect health is prioritised at the expense of mental health. It could be argued that this policy was too strict as it forced the population into sudden isolation without providing a support system for the shock the nation's system experienced.

Lack of information on the virus
In what way did the lack of information on the virus shape government policies and decisions?

The lack of information on this roughly one-year old virus is one of the main reasons why the government and health services have had such difficulty in battling Covid-19 (Nickson, Thomas, Mullens-Burgess 2020, 8).

Although there is no academic evidence for the cause-effect relationship between the Covid-related knowledge gap and the sheer contrasts between different countries' policies, it is self-evident that the two issues relate. This can be deduced from the fact that there is no scientific consensus regarding the virus, and that illnesses are treated relatively equal in the world if there is a scientific consensus for it. For example, cancer treatment in Nordic countries is extremely similar (Glimelius, 2002), which is the result of centuries of scientific research on the disease

(Weinstein, 2008). On the other hand, the scientific community has only had a year to figure out a solution to the Coronavirus pandemic. The disagreement on the battle against Corona is clearly visible in the contrasting approaches of Norway, where a national lockdown was put in place, and Sweden, where the country remained relatively open (Conyon, et al. 2020). Thus, it can be argued that there is most likely a causal relationship between the lack of information regarding the virus and the different approaches to it. The knowledge gap mainly concerns the spread of Covid-19.

The spread of the virus is a heavily debated topic. Social distancing and wearing masks as preventative measures are key topics in this debate. There is a significant amount of uncertainty about the appropriate, safe distance people have to keep (Jones et al. 2020). Some governments have implemented a one metre distance rule while citizens of other nations have to keep one and a half or two metres distance. The WHO claims one has to keep at least one metre distance but the further away the better (WHO, 2020). However, these guidelines are all based on outdated data and assumptions. The more nuanced model of physical distance looks at masks, if it's indoor or outdoors, how loud people speak, duration of contact, and how many people are present (Jones et al. 2020). Information of the effectiveness of face masks is not crystal clear either. Some nations obligate the use of them whilst others claim they are not effective at all. Other governments have changed their stance (Feng, 2020). Just like with physical distancing there is not enough information, data, and, therefore, evidence to form a scientific consensus and offer policy proposals on that front. Governments have to take action and make decisions without proper scientific proof, which could mean that shutting down the hospitality sector is excessive and necessarily harmful to the industry.

Fear of the virus
How did fear of the virus influence government policies and decisions?

It must be reiterated that there is surprisingly little research about the reasons behind the UK government's decisions in the Covid-19 pandemic. An overshadowed issue is fear on the Government's part. Aggravated by the lack of information on the new virus, the Government is scared. It may be an institution, but the decisions are made by people. People who know they could be responsible for thousands of deaths, overwhelmed health services and a collapse of the economy. Fear of the virus as a cause for perhaps excessive anti-Covid measures can be argued through two human instincts, explained by Swedish professor, Hans Rosling, in his book *Factfulness*.

Two of the ten human instincts that make us irrational (Rosling, 2017), relate to the Covid-19 crisis: the fear instinct and the urgency instinct. The fear instinct makes us take irrational decisions. We have a natural fear of contamination and the world looked like it was heading towards a worldwide disaster in March and April. Normally, with such fears Rosling advises us to take a step back, look at the risk (danger x exposure) and get calm before we carry on. However, with Covid-19 the government did not have the information to calculate the risk which makes it incredibly difficult to act rationally and prevent the decisions from being controlled by fear.

The government also did not have the time to remain calm and make rational decisions, which relates to the urgency instinct. It makes us feel like we do not have time to think about our decisions and we lose all sense of rationality. We believe it is now or never. Although never admitted, the Government must have felt that way during the beginning of the crisis. To stop this from happening one needs relevant and accurate data, according to Rosling, which governments did not have in the beginning and still not completely.

The result of these two instincts is one we recognise in our current society: the negligence of side effects. Shown in the enormous economic losses in the hospitality sector, mental health problems and domestic abuse, the Government has clearly focused too much on the virus and paid too little attention to the side effects of its measures.

Conclusion

- The government has implemented measures that could be seen as too lax and others that could be viewed as too strict. Social distancing rules proved to be ineffective and alcohol serving services are positively associated with the increase of Covid-19 cases. On the other hand, the lockdown was financially detrimental to the hospitality sector. Insolvency and redundancy increased incredibly.

- There are two other negative consequences of strict anti-Coronavirus measures: an increase in domestic abuse and worsened mental health problems. People are not able to go to work or other support systems, which is disadvantageous for both these issues.

- It can be logically argued that there is a cause-effect relationship between the lack of information on the virus and the contrasting stances of different governments. This knowledge gap is also one of the main reasons why the government is facing such difficulty in tackling Covid-19. It takes measures without full scientific proof, which could mean that the limitations on the hospitality sector are excessive.

- Both the fear and the urgency instinct result in the government taking irrational decisions without properly reflecting on the implications of those measures. The government needs to look at more data, which is currently unavailable, to prevent these instincts from taking over policy. This shows the importance of more research into the virus.

Policy Recommendation

Overview

It has to be said that these times of crisis are incredibly challenging for the Government and that flaws in their reaction to the virus are understandable. This report suggests policy proposals regarding the hardest hit sector in the crisis: the hospitality sector. It is both one of the main spreaders and one of the main victims of the virus. These policy recommendations aim to improve legislative decisions that affect the sector. The recommendations do not just concern the (financial) support of the industry, but rather try to find a balance within the growing tensions between Covid-19 and the economy.

The recommendations are as follows:

1. **Apart from the current medical task forces that advise the government on its Covid-19 response, the 'roadmap' or covid-exit mini-task forces have to be more prominent and there has to be a task force on the negative side effects anti-covid policy, such as mental health problems and domestic abuse.**

2. **All Coronavirus-related health measures have to go through a test on its practical implementation and long-term effects before being put in place.**

3. **There must be a nation-wide scientific research into the ways in which the hospitality and entertainment industry can stay open in a Covid-safe manner.**

4. **A help out scheme with strict covid-measures will encourage consumers to go to food and drink services (e.g. restaurants and bars) and accommodation services (e.g. hotels).**

Action 1: Apart from the current medical task forces that advise the government on its Covid-19 response, the 'roadmap' or covid-exit mini-task forces have to be more prominent and there has to be a task force on the negative side effects anti-covid policy, such as mental health problems and domestic abuse.

The government is currently **constantly advised by medical experts** (SAGE, 2020) on its Covid-19 response. Although such scientific consultancy is crucial in the battle against Covid, it also shows the state's tunnel vision on the virus. Other groups, such as representatives of businesses or mental health experts, will be brought to the negotiating table **only when deemed necessary**. However, information in those fields is **just as crucial** if not more important for the tackling of the virus in the long term. Therefore, we find it necessary for there to be **other prominent task forces**.

The first task force comprises **representatives of the hardest hit sectors**. There are five mini-task forces on the roadmap and exit strategy of the government (Cabinet Office, 2020). These include 'pubs and restaurants', 'non-essential retail', 'recreation and leisure', 'places of worship', and 'international aviation'. However, they have not been active after June. These task forces need to **negotiate** with the medical consultants, relevant ministries and the other task forces (explained in the next paragraph), on medically responsible ways to stimulate their sectors. They also should **not be ministerially-led**, but rather be independent consultants.

The second task force consists of representatives of other affected people. These include mental health and domestic abuse experts. They will negotiate with the other aforementioned actor , and give their view on the proposed measures.

The task forces and government officials **should meet every week**, and **no legislation should be implemented without consultation** of and feedback from the task forces. The task forces themselves meet twice a week. Once to reflect on the proposed policy of the government and once to come up with proposals for the government. As Covid-19 is affecting so many people, it is reasonable to assume that experts are willing and even happy to participate in this and help the groups they represent. The timeframe of implementing the two task forces **will be a month**. They have to be **ready to start in 2021** and give their first advice to the government.

This policy recommendation would affect almost every UK citizen. Millions of people work in the hardest hit sectors and almost everyone is a consumer. Mental health and domestic abuse are also issues for millions of citizens. Two task forces that would be in constant dialogue with the government are in a better situation to help the affected people than experts who are occasionally called upon if the government feels like that is necessary.

The policy has never been implemented in the sense that the other task forces are just as important as the medical ones. This would be a pioneering action.

Action 2: All Coronavirus-related health measures have to go through a test on its practical implementation and long-term effects before being put in place.

This policy proposal is based primarily on the findings of the Institute for Government (Nickson, Thomas, Mullens-Burgess 2020, 8), the leading research think tank on government effectiveness . They claim that some Covid-focused measures, such as the economic support package, have clear long-term objectives and a short-term implementation plan. However, other measures like the 100,000 tests per day plan were put in place to relieve the government from some public pressure. They did not thoroughly plan out the **implementation of the plan** and the l**ong-term objectives** of it.

It is absolutely necessary for the Government to move away from chaotic action in this phase of the pandemic, where the immediate panic is behind us. In order for the government to implement well thought-out legislation, those **measures need to go through a test**. All Covid-related health measures, put in place by the national government, need to **link to long-term strategies** and need to be **supported by an already coordinated implementation plan** before being put in place.

The relevant ministry should **have to write a report** on these two overshadowed factors, which will be discussed with the task forces. This policy proposal can be implemented immediately, but the report can only be discussed with the task forces once they are set up in January. This will not have a direct impact on the public, but it will **improve the effectiveness of government decisions**. Going back to the fear instinct in the Insight, this forces the legislators to take a step back and reflect on their decisions.

The **main hindrance for effective government policy is the lack of information** on the virus. Therefore, this may be the most important policy recommendation for the Coronavirus and future pandemics. Information on the spread of the virus in **Government guidelines are outdated and non-existent** regarding the hospitality sector. The Government is making decisions based on correlations, not on hard facts, as many representatives of the industry argue.

Therefore, it is crucial that the Government launches a **nation-wide research** into the spread of the Coronavirus in the hospitality sector. It has to be investigated in what ways restaurants, hotels, pubs, and other businesses in the industry can stay open in a Covid-safe manner.

The research will be **conducted by major universities and other scientists** in the United Kingdom. There needs to be an emergency **report by the end of March** and further investigation in 2021 to set up guidelines for the hospitality sector for a potential next wave and pandemic. The goal of the research is not to just show how safe the sector is, but how it could operate in a safe way.

The results of this research should influence government policy and could make a difference for almost all UK citizens, just like all the other policy proposals. A **similar project has been undertaken by German scientists**, who investigated the possibilities of organising concerts safely (Kwai, New York Times, 2020). They found out infection rates were low as long as the hall was well ventilated. Skepticists asked for more research before we can draw any conclusions, which is what this policy recommendation is for.

Action 4: A help out scheme with strict covid-measures will encourage consumers to go to food and drink services (e.g. restaurants and bars) and accommodation services (e.g. hotels).

The Government implemented an Eat-Out-Help-Out scheme to encourage consumers to go to places where food was sold for immediate consumption after the first lockdown. Although this helped many businesses, there were **two main flaws** with it. The first one is that **Covid-19 guidelines were disregarded** in such a manner that it could be seen as one of the reasons why cases spiked and the Government put in place a second lockdown. The second issue was that **accommodation services**, who are also suffering a lot from the pandemic, were **not included in the scheme**.

This policy recommendation proposes **a similar help out scheme for the whole hospitality sector**. However, customers who do not adhere to the safety guidelines have to pay a **considerable fine**, and the restaurant **will lose its right** to the scheme if it purposely neglects the rules.

The policy would have to be **implemented by both the HM Treasury and the Ministry of Justice**. The role of police officers, patrolling these rules, is incredibly important. The scheme should **start on 20th December and last until 20th January**. This gives the Government a small month to prepare for it. This will help a lot of businesses, just like the last time.

CONCLUSION

In order to judge the likelihood of the policy recommendations being implemented one has to look at the expense of the proposal, the complexity of its implementation, and to what extent it fits the government's views. The latter is the least important one as governments have been forced to act largely pragmatic and listen to science in this crisis. These three factors have to be weighed against the potential benefits of the recommendation.

Firstly, the set-up of the task-forces will not be highly complicated, as the Government has already done this before. The structure will be roughly the same, but it will just consist of different people. It will **cost some money to compensate the experts for their contribution** and to facilitate the meetings. The government often uses advice from consultants and specific experts, which means that this recommendation is not that different from the usual procedure. This policy would benefit millions of people in the hospitality industry, suffering from mental health problems and/or victims of domestic abuse.

Secondly, the test of the long-term implications and short-term implementation plan of measures will not be complicated at all to put in place. It just forces ministries to properly think through their measures before quickly implementing them due to the amount of public pressure. The only costs that come along with it are the labour hours necessary to write the report. This is already the case in some ministries, which means that it doesn't oppose the general stance of the government. It protects them from making rash decisions. The benefits of this recommendation are not immediately visible but can be deduced from the improvement in the effectiveness of the government's measures. It is highly likely that this proposal will be implemented.

Thirdly, the scientific research into Covid-19 in the hospitality sector on a national scale is both complex and costly to put in place. One has to get together dozens of scientists and thousands of experiment participants. The government has not done this on such a scale before and there is no guarantee this will actually help the hospitality sector. It could be concluded that there is no way for restaurants and pubs to remain open in a safe manner, which would be detrimental for the industry. On the other hand, such scientific evidence should be available for the next pandemic, as it would either spare the industry from severe economic losses or spare the country from an excessive amount of deaths. It is likely that scientific evidence on this topic will increase, but most probably not right now or on a national scale.

Fourthly and lastly, the help out scheme will cost a lot of money but has already been implemented before. The structure will be the same apart from the fact that it now also counts for the accommodation services. The most complex part is making sure that Covid-19 guidelines are followed this time and making sure the police is able to safeguard that. As the government has done it before, the recommendation fits its views. The benefits of this measure are enormous. The hospitality sector is barely holding on and this would give them the boost to improve their financial situation. It is likely that this proposal will be implemented.

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Technology
The Global Impacts and Hazards of Big Tech

By Lucy Young and Aarthi Raguraj

Briefing Note

This briefing will provide cognisance relating to the power and influence of Big Data giants, how national executives have relied upon their innovation since the start of the century, and why they are becoming increasingly skeptical over their global dominion.

Overview

- **The 2016 U.S. general election was bolstered by foreign interference and Cambridge Analytica; if a digitalised Western world can be so easily manipulated, we look at algorithmic utilisation's influence on Europe and the Global South.**

- **Algorithmic accountability is allowing big tech to monopolise the state. We will look at how governments allowed this to happen, how heads of state used this influence to their advantage, and why they're now straining to hold onto the reins.**

Algorithmic Manipulation in the West and Global South

Social Media Platforms are influencing electorate behaviour

- Mechanisms readily trackable on Twitter include 'Superconnectors', forming up to 2.5% of the interface population (highly networked accounts that can spread messages effectively and quickly) and trolls (fake personas spreading a variety of hyperpartisan themes).

- RAND data[135] surrounding the 2020 US election has already been analysed based off of Russian 2016 election tactics (Frenkel and Barnes, 2020 - preference for Trump's campaign throughout interference). 2,752 Twitter Bots were named and listed by the U.S. Congress post-2016 election.

- This year, Facebook finally banned false ads in 2019, and continue to improve their fact checking system implemented in 2016. Trump spent $44M dollars on promoting misleading content on Facebook and Instagram in 2016 - and the Conservatives did the same during the Brexit referendum.

- Facebook, one of the biggest contributors to public advertisement, was able to assist in the accomplishment of such great feats through the purchase of Atlas from Microsoft in 2013[136]. Atlas captured data to track conversions through clicks and impressions.

Other nation states acted in a similar nature to influence voter behaviour - this created a right-leaning electorate, and aggravated political systems.

- Italy: Concerns regarding data exploitation and disinformation campaigns shared through social media influencing the result of the Italian election in 2018. During the election, the 25 most shared Facebook posts in the two months leading up to the election were videos, live broadcasts or photos from either Salvini, or Di Maio[137].

- Salvini and Di Maio also secured 7.8m Facebook likes and shares each during the two-month campaign[138].

- Disinformation campaigns with fake stories shared through the press or on social media. Such misinformation was deemed[139] to be intentionally fabricated and published on social media noninstitutional outlets and many had a political target.

- The second-most shared online news in the database, published on the day before the election, received more than 140,000 interactions, mostly on Facebook, which was then found to be based on unsubstantiated, unreliable information.[140]

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[137] Ammar Kalia, 2018, Revealed: how Italy's populists used Facebook to win power

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[139] Francesco Pierri et al., 2020, Investigating Italian Disinformation Spreading on Twitter in the Context of 2019 European elections

[140] Michele Cantarella, 2020, Does Fake News Affect Voting Behaviour?

- In the lead-up to the 2018 general election, the majority of 'non-institutional' websites and news sources were biased in favour of Lega. This raises concerns surrounding the link between the spread of false information in the electorate and the support for Italian populist parties and their policy stances.

- <u>UK</u> - The Coalition for Reform in Political Advertising says at least 31 campaigns from across the party spectrum have been indecent, dishonest or untruthful and it is vital to consider the effects such political advertising has on voters[141].

- The Conservative party were responsible for 10 out of the 31 campaigns - link to how it is common for parties to influence voter behaviour to create a right-leaning electorate

The Global South is in a vulnerable position; Policy change, and the influence of global organisations in assisting and reassuring citizens.

- The Global South is still catching up with technological advancements of the Western world, which has resulted in various technical issues, like innovation 'leapfrogging' - where the deprived nation state introduces a pivotal piece of tech, without having the natural development and cybersecurity in place before doing so. This results in severe vulnerabilities in malware, causing volatility with citizens private property and data.

- Can the Western world help? The Chicago School of Economics once tried to create a 'shockwave' throughout Chile and the rest of South America by reinforcing neoliberal capitalist values - developed states could provide similar assistance with tech and innovation policy (as seen already throughout Africa)

- The Pathways for Prosperity Commission (2018-2020) claims that[142] at least 3 billion people are predicted to remain offline in 2023. They claim that local economic and social ecosystems make a vast difference in the health of the market

- With many specialists claiming that the Fourth Industrial Revolution is upon us, it is evident that Western policy will be educating on this basis (i.e. Ethiopia is working with Cardano Foundation (Swiss-based) to enhance blockchain trade on Ethiopia's largest export item - coffee beans.

The Chinese Communist Party, its heightened national security networks and localised data framework - what does this mean for citizens and how their data is used?

- China's Cybersecurity Law (CSL) became the region's first national-level rules to address cybersecurity and data privacy protection. The law was initially passed to provide guidelines for maintaining network security, protecting the rights of individuals and promoting the secure development of technology, however, the regulations fail to safeguard citizens' privacy and instead provide the government subjectivity in the way laws are interpreted, thus increasing power within the Communist Party of China.

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[141] BBC News, 2019, *General election 2019: Ads are 'indecent, dishonest and untruthful'* ,
[142] Pathways for Prosperity Commission, 2020, Charting Pathways for Inclusive Growth

- The various amendments to China's data framework have increased the amount of control the Chinese government has over its citizens' online activities and consequently raises concerns regarding their right to privacy and freedom of expression.

- In China in 2020, 468 million pieces of personal data had been sold to small financial lenders. Such data leaks and the lack of protection of consumer's personal data violate both citizens' right to data privacy and heightens distrust between consumers and companies[143].

- Policymakers in China are placing insufficient emphasis on the nation adopting more defined, clearer policies in order to achieve China's aim of being a global leader in technology development.

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[143]Center for Strategic & International Studies, 2020, "Who Benefits from China's Cybersecurity Laws?"

Algorithmic Accountability and Monopolisation of the State

Big tech has grown and developed streams of revenue across a multitude of networks which has created antitrust and competition regulation issues.

- In 2019, the U.S. Census Bureau estimated e-commerce retail sales to be about $600 billion [430 Press Release, U.S. Dep't of Commerce, U.S. Census Bur., Quarterly Retail E-Commerce Sales 4th Quarter 2019], with COVID only pushing online sales further.

- EU Commission's 10th November 2020 press release highlighted antitrust breach through Amazon's use of dual platforms, with strong market yield. Executive VP Vestager claims 'a fair and undistorted access to consumers online is important for all sellers'. Around 44% of adult Americans have an Amazon Prime membership, and over 2.1M sellers on Amazon Marketplace (compared to the next best competitor, Walmart, who have only 54,000)

- The Commission has found that non-public seller data is available to those using Amazon's retail business, allowing Amazon to create targeted ads. This allows for heightened leverage with data they shouldn't have access to (an infringement of *The Treaty on the Functioning of the European Union (Article 102)*)

- Facebook garnered over $70B in revenue from 2019 - generally made through advertisements. "Facebook has a monopoly of power in online advertising in the social networking market".

Big tech and its relationship with international governments (including outlier: China)

- The United Kingdom's Competition and Markets Authority (CMA) found in July 2020 that Facebook and Instagram generated over half of display advertising revenues in 2019 [Competition & Markets. Auth. Report at 10.] This demonstrates their overwhelming ability to reach a mass Western audience.

- June 2019: Australian Competition and Consumer Commission (ACCC) said Facebook has "substantial market power in the supply of display advertising in Australia". Another issue of competition lies within the media and news industry of Australia, with Facebook and Google using Australian sources and not providing financial support[144]

- The United States has released various subcommittee papers (including the most pivotal, 'Investigation of Digital Markets') which have analysed each digital platform and its contribution to the national economy. Whilst the subcommittee accepts the innovative and transformational powers that such platforms have, there are also many detrimental and security issues that come into play, as well as serious competition and antitrust breaches.

- This reliance on big tech companies to produce a willing and subscribing audience to advertisements demonstrates governmental ability to reach millions more civilians than they would with traditional political campaigning or television.

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[144] France 24 (2020) "Australia targets Big Tech: Could Google and Facebook be made to pay for news?".

China drafts new anti-monopoly guidelines aims to prevent monopolistic behaviour of tech giants in order to regulate online economic activities and promote fair competition in the market while safeguarding consumer interests

- China's bureau of regulating monopolies - the State Administration for Market Regulation (SAMR) issues draft rules to stop anti-competitive practices in the internet space.

- The new rules have widened the parameters for determining market share, and under the new guidelines factors such as transaction volume, user base, and page views are considered.

- Big tech companies in China have been accused of treating customers differently based on their spending habits and setting algorithm-based prices favouring new users.

- Alibaba and JD.com dominate the online retail market in China, together accounting for roughly 75% of Chinese e-commerce. Share prices for dominant Chinese tech companies plummeted after the draft was issued by SAMR (Hong Kong-listed shares of Alibaba plunged 9.8% on Wednesday, while JD.com saw its stock plummet 9.2%)[145]

- Bloomberg estimated that the shares slump wiped out $280 billion of value from Chinese tech companies.

- The lack of detail in these proposed rules raise concerns regarding the extent to which consumers' rights will be safeguarded or whether this is another move from the Chinese government to gain more power.

How governments were once dependent, but are growing to be sceptical, of big tech practices.

- Especially in the West, national governments are starting to realise the scope of control in which these big platforms yield. So much so, that officials are starting to legislate against them in order to maintain their authority over general society.

- Stifle competition, especially for small businesses as many big tech practices are simply buying every potential growing competitor

- Governments against the way in which big tech practices abuse their power to avoid tax - Examine:

    a) Google Facebook and Microsoft avoiding corporation tax in developing nations[146] -The technology giants of the United States evading almost $2.8bn tax a year in developing countries by using the flaws in the global tax rules[147]

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[145] Allen Daniel (2015) "Alibaba and JD.com battle it out for China's e-commerce business" Intheblack, Australia.

[146] Red Herring (2020) "Big Tech Avoiding Almost $3bn in Developing-World Tax". United States, California.

[147] WION Web Team (2020), "Facebook, Google and Microsoft avoiding $3bn in tax in poorer nations", New Delhi.

-Potential taxes raised from these three 'Big Tech' companies alone could address the World Health Organisation's (WHO) estimated shortages of more than 1.7 million nurses in these countries within just three years.[148]

b) EU Commission accusing Apple of avoiding tax on EU revenues

-The European commission is appealing against a court ruling that said Apple did not have to pay €13bn (£11.9bn) in alleged back taxes to the Irish government, reopening a landmark battle in the EU's campaign to stop sweetheart deals for multinationals.

This is how big tech is starting to monopolise the state - and how nation states are beginning to enforce boundaries upon them as a result.

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[148] ActionAid (2020), "$2.8bn 'tax gap' exposed by ActionAid research reveals tip of the iceberg of 'Big Tech's big tax bill' in the global south"

Insight

Overview

Westernised society heavily depends upon the use of technology to work, relax and conduct day-to-day tasks. This technology, whilst it has its uses, is seeping into the cracks between citizen and state through the influence it yields via big data companies, like Apple, Amazon and Alphabet (Google's parent company). They are household names, but they also hold great power over the influence of various nations, and it is this monopolisation of the state that is most dangerous of all.

In its early days, artificial intelligence (AI) was used to predict human behaviour through the adoption of algorithms, but it is these same predictions that allow for algorithmic manipulation of digital users. Within this section, we are looking to observe and understand how big tech giants have gained so much legitimacy and vigour over the decades, and how they continue to grow their influence today, despite competition and antitrust concerns. In response to these growing concerns, we will also provide policy solutions, with a global perspective in mind.

Influence of big data organisations and governments' growing scepticism of big tech practices

The U.S. House of Representatives released a subcommittee report entitled, 'Investigation of Competition in Digital Markets (The House of Representatives Antitrust Subcommittee, 2020) that pinpointed the sheer velocity of power that certain platforms yield in particular markets. An example of this is Android devices coming pre-installed with Google as the default browser. The European Commission recognised this trend in 2011, fining Google €4.34 billion for imposing illegal restrictions to ensure dominance via manufacturer pre-installation (European Commission, 2018). Essentially, 'Big Tech' companies are able to access and maneuver data as a result of swaying the masses to use their platforms.

The way we understand Amazon is rather simplistic - it's a platform for buying and selling. In actuality, the brand of Amazon has acquired Twitch, Zoom and Kiva Systems (which is now known as Amazon Robotics). The last U.K. governmental report relating to anticompetition investigation was concluded in 2013, on grounds of priority allocation. Earlier this year, and despite growing concerns of the European Commission, the government has extended $8.5M for a "flexible hosting environment for digital products"; this contrasts with the decision of the U.S. DoD, who avoided Bezos overtly, favouring contractual relations with Microsoft. It is evident that social media and big data engines are capable of harnessing data for specific purposes - as seen with the classic example of Cambridge Analytica during the 2016 presidential election, as well as the Brexit referendum. AI use, especially through platforms like Facebook and Twitter, is also seeping into other aggravated political systems, like during the 2018 Italian election and the 2017 French election.

With an understanding that the Western world is affected in numerous ways by the competition of AI technology adopted by big tech, it's also important to acknowledge its effects in the global south, as well as isolated and localised networks like China and India. China's State Administration for Market Regulation (SAMR) has issued regulations to avoid this heightened level of competition in the nation's technological borders. Researchers have begun coining innovative advancements in Africa as technological colonisation by the West. AI is finding its place within these nations, but manufacturers and users alike are having to 'leapfrog' past crucial steps of cybersecurity and reinforcement (Birhane, 2020). Overall, the Oxford Internet Institute of Research discovered that 52 countries suffered the fate of disinformation and manipulation of posts in order to mislead users. Computational propaganda is a growing issue, especially now that we see the vast majority of voters using social media to remain informed (Oxford Internet Institute, 2019).

The growing use of computational tools and disinformation campaigns to influence electorate behaviour, thus creating aggravated political systems.

Data collection is the processing of collating information from a multitude of sources to gauge an accurate picture of an area of interest. Though data collection has become more efficient due to the seismic shift into this fourth industrial revolution which is dominated by technological advancements, there are concerns surrounding the adoption of computational tools to disrupt the accurate collection and portrayal of data. Computational tools such as troll accounts or social bots have been designed and developed to emulate the activity of human users. Such technological bots have disrupted the running on social media platforms which consequently are influencing electorate behaviour and creating political bias. For example, in the 2012 presidential election

Barracuda Networks found that 31.7% of Romney's followers and 42.6% of Obama's followers were fake accounts called bots, which were created by software programs (McMillan,2012). This highlights how such technological advancements have existed within national elections for several years, further stressing the need for the issue of social media manipulating political communication. The rest of this section will examine this in more depth, concentrating on the 2016 US election, the 2018 Italian election and the 2019 UK election.

Following a study of the 2018 Italian general election, it was found the two front runners Matteo Salvini and Luigi Di Maio took advantage of Facebook's live broadcast services to divert the mainstream media. The two populist leaders were struggling to command the attention of traditional media outlets and thus exploited social media platforms, such as Facebook, to directly promote their campaign to the public, with a total of 7.8 million Facebook likes during the two month electoral campaign (Milan, 2019). The main concern with the exploitation of social media outlets is that platforms such as Facebook have a prioritisation algorithm which controls the ordering and presentation of posts and adverts, so users see what is most relevant to them. An investigation by Avaz revealed the existence of a plethora of Facebook pages and automated accounts which spread inaccurate and unreliable inflammatory content in support of the populist leaders to over a million users. Following the investigation these pages were shut down by Facebook for violating the social media platform's terms of use, however they were very much active in the run-up to the Italian election (Ceri, 2020). The overriding issue with dealing with fake news stories or disinformation campaigns is that flagging up inaccurate content often draws even more attention to it. European governments are increasingly concerned about the impact of disinformation on politics and consideration needs to be given in how to deal with using social media outlets to manipulate political communications.

Algorithmic accountability of big companies, and governmental indecision - specific focus on the U.K. and the U.S.

The US Congress investigation of Russian interference in the 2016 US election campaign is a prime example of how social media can be manipulated to increase political and social discord within a nation. The Russian government was accused of using automated accounts to spread disinformation campaigns and politically biased news, thus boosting the candidacy of Donald Trump and the Republican party. The overriding issue in this investigation of the Russian government is the difficulty in defining what constitutes fake news and how to separate a light exaggeration from deliberately misleading, inaccurate information. Fake news has been defined by Rumman as "intentionally false information or propaganda published under the disguise of being authentic", which aligns to the notion that fake news can act as a propaganda machine and sway public opinion to cause political disharmony (Asresu, 2018). The adoption of devices which spread fake news can cause distrust among the public , especially with the magnitude of this issue after it was found 3.814 Twitter accounts were run by Russia's Internet Research Agency, along with an additional 50,258 automated accounts also run by the Russian government (Hindman, 2018). It was found the content spread by Russian trolls was mainly concerned with promoting pro-Trump matieral, further demonstrating the role of automated accounts in the electoral process.

The campaigns during the UK general election faced copious amounts of criticism regarding disinformation campaigns which were filled with half- truths and false assertions. The Coalition for Reform in Political Advertising says at least 31 campaigns from across the party spectrum have been indecent, dishonest or untruthful and it is vital to consider the effects such political

advertising has on voters (BBC, 2019). Since political advertising is regulated outside of the Advertising Standards Authority and under the House of Commons library there is no requirement for claims in political campaigns to be truthful or factually accurate, this means political parties have great leeway in their ability to manipulate social media to their advantage. Out of the 31 flagged campaigns, the Conservative party were responsible for 10 and this is in addition to the party posting a doctored video of Keir Starmer and an advert of edited footage of BBC reporters. The Conservative party have evidently attempted to mislead the public on several occasions and it appears to be common for parties to influence voter behaviour to create a right-leaning electorate, as seen in the aforementioned nations and their respective elections.

Policy Recommendation

Overview

In understanding the potential for global digital policy, we'd like to begin inside the confines of the United Kingdom, and through the lens of the majority Conservative government. With the ongoing challenges of COVID and the recent power struggle in No.10, we believe that the current cabinet is on its last legs. Brexit negotiations are still making vital strides in the final few breaths we seem to have left within the European single market, whilst grappling onto the few bargaining chips we have at play. Von Der Leyen, within European Parliament, expressed her exasperation with the ongoing talks and displayed her reluctant acceptance of a likely no-deal exit. Cross-border, the president-elect Biden adamantly clarified his trepidation in entering any kind of trade deal with the U.K. if they had not secured a deal with the E.U. first. Biden's issue, of course, concerns the hard border in Ireland and Boris's breach of international law.

This being said, Ireland plays a bigger part of our discussion today, with foreign policy aside. Ireland is one of the largest tax havens for big tech and data companies, such as Apple, Alphabet, Amazon and Facebook, with one of the lowest effective tax rates in the Western world. Tax avoidance on a mass scale is just one piece of the puzzle towards explaining how big tech is monopolising the masses and the state. Within our policy considerations, we will look at how big tech firms and companies are able to expose and manipulate data for the financial retainment of themselves and governmental bodies, as well as how the state is beginning to hold these companies algorithmically accountable for using the abilities afforded to them by their own policy writers.

The following policy recommendations will be made:

1. **Adopt a new framework for political advertising through social media platforms, as currently this is not regulated under the Advertising Standards Authority**

2. **Increasing transparency between big tech practices by pushing more data companies to adopt Open Data Initiatives**

3. **A greater focus on establishing grounds of liability and accountability for data organisations in the way they collate and use data by developing the role of the UK Council of Data Ethics and Innovation**

Action 1: Adopt a new framework for political advertising through social media platforms, as currently this is not regulated under the Advertising Standards Authority

In explaining these vast areas of discussion, we will be observing through a globalised and holistic lens. Not every electoral smearing campaign or spat of bots on social platforms is targeted at U.S. presidential candidates, as you will come to understand. We will be exploring the Italian presidential campaign in 2018, as well as the Brexit campaign and U.S. general election in 2016. Through use of these impactful social events, we will observe the use of social media platforms and AI advertising to influence the masses. We will compare this with other international standards of digital technology, including closer inspection of China's cybersecurity law, and the southern hemisphere's attempt to adopt digital policy - cryptocurrency is our tunnel vision focus in this region.

In assertion, we believe that adopting a new political advertising framework, oriented towards social media platforms, could create a safer environment during general elections and referendums. Specifically in the U.K., the Advertising Standards Authority (ASA) does not involve itself with political advertising, due to different restrictions of truthfulness and transparency. But, of course, this only applies to television and broadcasting authorities; mass broadcasting also happens through social media platforms that remain barely regulated by the overriding governmental state. Whilst British governments will act in accordance with powers devolved to them, Scotland, England and Northern Ireland are all making waves in the labelling of paid and unpaid election ads, and they aim to introduce larger sanctions for those who break the rules. The U.K. government is still working through the Online Harms White Paper, so there is still a stretch to go before we see any legitimate regulation enforced.

In the lead up to the 2016 presidential election, $81 million was spent on Facebook political advertising by both electoral candidates, with no attempt of factual verification by the platform. In the States, a pre-existing protection Act, the 'Customer Online Notification for Stopping Edge-provider Network Transgressions' or 'CONSENT' Act[149], could be adopted as a regulatory structure by these big tech companies. This would ask for greater transparency from the social platforms, regarding user data and where it's going - this would also allow users to opt out of this type of data mining. Although making the environment safer for users, it could prove detrimental for the business model of these platforms. Other house representatives have recommended the creation of an overriding protection agency, or adopting something similar to the European GDPR.

The main concern with big tech companies is the fact that they are private organisations, therefore they don't get an input within national democracy. This means that political commentary is not for them to legitimise or criticise. In consideration of this, it's more important than ever to emphasise the European Code of Practice on Disinformation (2018)[150]. The main objective here is to address fake bot accounts that continue to cause a skew in data demographics, as well as empower consumers to report disinformation and make advertising more transparent. This Code is not mandatory for social platforms to follow, thus making it quite fallible and flimsy. In respect of this, we'd recommend further stages of licitidy to provide the framework with a stronger leg to lean on. At the moment, it is a self-regulatory code with little oversight, and will most likely not apply within U.K. jurisdiction.

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[149] U.S. Senate (2020) "Customer Online Notification for Stopping Edge-provider Network Transgressions [CONSENT] Act", United States, Washington.
[150] European Commission (2018) "Code of Practice on Disinformation" [News Article], Brussels.

This Code of Practice is beneficial for nations like Italy and France, who have dealt with various right-wing extremist digital campaigns on social media throughout the past few years. 25 of Italy's most shared Facebook posts in 2018 related to the Five-Star and Lega populist figures Salvini and Di Maio. Most posts contained fake stories and ill-informed fabrications that flew under the radar. With the majority of non-institutional news sources holding bias in favour of Lega Nord - an extremely far right movement that is currently in coalition with the Five-Star movement. Something similar can be seen closer to home, with the Conservative Party rolling out 10 'indecent, dishonest and untruthful' digital campaigns during the Brexit referendum. This was done with the aid of Cambridge Analytica, a for-profit and unbiased private company that relied upon algorithmic predictions of human behaviour online.

To conclude, we believe it would be beneficial to have a uniform, universal system that would apply to institutions on a global scale - regardless of jurisdiction and territorial borders. The models aforementioned could prove to be a beneficial framework for a model of this scale.

Action 2: Increase transparency between big tech practices by pushing more data companies to adopt Open Data Initiatives

Due to the increasing dependency of western society on the use of technological advancements, Artificial Intelligence and automated services, it is imperative there is clearer transparency between big tech practices and the public. Trust is a vital asset in maintaining public harmony, and this is contingent upon whether individuals feel safe in the way in which big tech practices use their personal data. Therefore, a shift to encouraging big tech companies to adopt Open Data Initiatives (ODIs) is likely to push such practices to provide explanations that people can understand in terms of how their data is being used and thus provides citizens with the ability to challenge these if they deem it unfair.

Microsoft partnered with Adobe and Sap in 2018 to develop an Open Data Initiative. The aim for thisODI was to "reimagine customer experience management" (Foley, 2018), and ultimately integrate various databases, product usage, sales and other data into a single view which works across devices. The objective of integrating these database platforms was to create a single view of customers data which the customers, not the vendors, will control. Therefore, if an ODI is adopted across other big tech companies, namely the other Tech Giants (Amazon, Apple, Google, Facebook), this could help reduce the barrier between such organisations and the public.

Action 3: A greater focus on establishing grounds of liability and accountability for data organisations in the way they collate and use data by developing the role of the UK Council of Data Ethics and Innovation

Due to the increasingly monopolistic nature of tech companies, particularly the Tech Giants, it is necessary for there to be a greater focus on establishing grounds of liabilities for the ways in which such companies collate and use consumers' data.

The UK Government's establishment of the Council of Data Ethics and Innovation is undoubtedly a step in the right direction for addressing the aforementioned issue, however it could be further developed to eradicate the concerns raised in the Insight Report. The CDEI is led by an independent board of expert members and its main aim is to operate as an independent advisor to the government. One of the core functions of is to article best practice such as codes of conduct and standards that can guide to ethical and innovative uses of AI, however there Western governments still have a lack of power in maintaining authority over the ethical operating of big tech practices (Centre for Data and Innovation, 2018. This is evident through Apple winning the case against the European Commission over a dispute concerning 13 billion euros in Irish taxes. The fact that the EU general court decided it was not proven that the Irish government had given Apple a tax advantage, is suggestive of the power and control of these tech giants and their ability to not only use data unethically but also operate in an unethical manner through avoiding taxes.

It is recommended a framework be put in place by an impartial, independent body which establishes stricter grounds of liability and accountability for data organisations and big tech companies which use and collate data unethically.

CONCLUSION

The likelihood of the aforementioned recommended policies being implemented is contingent upon a plethora of factors, namely the extent to which it affects the relationship between the government, the public and big tech practices. Tech is expanding 2.6 times faster than the rest of the UK economy, with the digital tech sector contributing nearly £184 billion to the UK economy(Ismail, 2018). Therefore, it appears the biggest limitation to the policies being successfully implemented, especially the recommendation of adopting a new framework for political advertising outside the ASA, is the government's fear of limiting the contribution of big tech practices to the UK economy. Though the government is shifting its focus to address issues regarding the monopolisation of big tech practices, there is a fear of enforcing a framework which incentivises tech practices or data organisations to relocate to jurisdictions with more lenient measures.

The inextricable link between freedom of speech and the condemning of misleading advertising will play a significant role in the likelihood of many of the policies being implemented, particularly the development of the role of the Council of Data Ethics and Innovation. The biggest limitation of adopting measures which report fake new stories, is whether it violates freedom of expression, which is Article 10 of the Human Rights Act 1998. This policy will only be effective and imposed if a balance can be found between an individual's access to free speech and their access to information with truth.

A further limitation on such policies being adopted more broadly, is the European Commission's fear of different nations adopting varying initiatives. For example, with France drafting a 'hate speech law' and Germany introducing proactive obligations for social media companies to seek out fake news, the European Commision is concerned that different national approaches to content regulation will damage the EU's Digital Single Market (Baxter, 2020).

Nevertheless, despite these challenges there is a strong chance of the policies being successfully implemented, not least due to the government's recent push and focus to protect consumer's privacy rights. There have already been a multitude of policies adopted internationally, with a similar aim of increasing transparency for consumers, therefore it is likely the above recommendations will be implemented to address the overarching issue of the monopolisation of big tech practices while safeguarding consumers' privacy and data rights.

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Energy & Environment Covid Impact on Green Transition

Manisha Balkissoon & Mariam Dunseath

Briefing Note

The state of oil and gas in the market before the impacts of Covid-19 was in decline and prone to uncertainty. The renewable energy market, while still experiencing uncertainty, achieved significant momentum with supply and demand but still inconsistent levels of investment. The Covid-19 hit revealed the weaknesses in the oil and gas industry and the absolute need to accelerate the transition, rethink business models and engage with relevant stakeholders.

Overview

- **Renewable energy appears to be the future path for the global energy industry because of the cost-effective nature and the environmental benefits**

- **The renewable energy market still faces obstacles like the variable nature of wind and solar energy. But solutions can be found with more investment, research and development and global cooperation.**

- **Currently, oil and gas companies are playing an active role in the transition to renewables.**

- **Before the pandemic, governments (focusing on the United States, United Kingdom, China) adopted steady approaches in their investment and financing strategies, policy making and legislative frameworks to support the renewable energy transition. However, it is expected that these actions will accelerate to reach their respective global warming targets to comply with the Paris Agreement.**

- **The future of the energy industry appears to be one where there is holistic engagement between governments, private sector and consumers to advance innovation, investment and international, regional cooperation for renewable energy supply chains, distribution and storage capacities.**

- **Oil and gas companies are not only tasked with rethinking models but adapting fully to the new green era ahead where their capabilities and resources support renewable energy.**

The Pre-COVID Energy Market

The state of oil and gas was in jeopardy even before Covid-19

- In April 2020, oil prices fell below zero[151], an unprecedented decline. However, even before the Covid lockdowns across the globe, market conditions indicated an uncertain path in terms of supply, demand and price of oil and gas according to PwC and the International Energy Agency.

- The fluctuations in price, according to PwC, allowed the resource floor price to be extremely unpredictable as seen in the first half of 2019 with Brent crude averaging $66 per barrel as opposed to 2018's $71 per barrel. A significant increase can be noted from 2018 to 2019 however, volatility continued with the price decreasing to $57 in August 2019.[152]

- A continuous decrease in gas prices can be seen in the first half 2019 caused by an increased supply but lower demand which led to negative pressure on price. In the first half of 2019, the UK National Balancing Point (NBP) price was one third lower than the NBP average in 2018.

- The demand for oil prior to the Covid-19 pandemic was declining with the lowest numbers recorded since 2008 (520,000 barrels per day) in May 2019. The demand decline from 2018's 1.5 million bpd to 2019's 1.1 million bdp[153] is expected to continue in the coming years as investors look towards the economic viability and increasingly positive market perception of renewable energy.

- Regarding supply, oil producers gauged the fluctuations of price and adjusted their supply accordingly. But the IEA estimates that the current amount of oil and energy is expected to endure for possibly 10 more years before the industry faces an established supply crunch.

However, the renewable energy (solar, wind, hydro, tidal, geothermal, biomass) boasted a rising position (compared to oil & gas) before covid-19 pandemic

- There was still notable distrust from investors and the energy market in the economic viability of renewable energy although price, demand and supply positions saw remarkable improvement over the years.
- The International Energy Agency has predicted slower growth in global oil demand from 2025 as there is a continuous rise in investment into renewable energy.[154]

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[151] Iea, Oil Market Report - April 2020 – Analysis. *IEA*. Available at: https://www.iea.org/reports/oil-market-report-april-2020 [Accessed November 28, 2020].
[152] Morrison, R. et al., 2019. PwC.
[153] OGUK, 2019. The UK Oil and Gas Industry Association Limited.
[154] Sheppard, D (Financial Times), 2020, Pandemic crisis offers glimpse into oil industry's future

- Prior to the pandemic investors were planning to slowly leave the oil and gas sector as firms were looking to become more sustainable and make more ethical decisions towards their business models.

- BP had predicted in their 2019 energy outlook that it will become the single largest source of global power generation by 2040. As shown in BP's 2019 prediction of renewables share of power generation by source in the 2019 BP Energy outlook .[155]

- Moreover, before and after Covid-19 the EU had continued to lead the way in terms of the enforcement of renewable energy as BP projects that the share of renewables will increase to over 50% by 2040.[156]

- However, the growth of renewables is dominated by China, India, and other developing Asian nations as they will account for about 50% of the growth in global renewable power generation by 2040.[157]

- With the increased investment , supply of renewable energy is forecasted to increase across the globe. World primary energy demand is expected to grow by 7% in 2040 from demand levels in 2017.[158]

- Looking at investment in renewable energy, over the last few years there has been a global slowdown as according to Bloomberg New Energy Finance, global investment in renewable energy had hit its peak in 2017 with $326.3 billion and declined in 2018 by 11.5 % to $288.9 billion[159]

[155] British Petroleum Company Limited, 2019, BP Energy Outlook 2019 edition, pg. 104-109
[156] Ibid
[157] Ibid
[158]

[159] Zhai, Y (World Economic Forum), 2019, Investment in renewable energy is slowing down. Here's why

COVID-19 Plummets Oil & Gas Markets

Covid-19, in just the first few months, has sent a third of global oil demand down as countries around the world were forced into lockdown

- In May, US oil production plummeted by nearly 2 million barrels a day, the sharpest monthly decline seen since 1980.[160]

- The International Energy Agency (IEA) said that they expect the decrease in oil demand in 2020 to be the greatest in history as for the first time in history, oil prices in the US went below zero on the 20th of April (a barrel of oil had plunged to -$38 after never having been worth less than $10 a barrel).[161]

- Prices of barrels going negative was a consequence of the pandemic, a global excess supply of oil, storage shortages, a poor OPEC deal, and oil traders being unable to find buyers in May.

- The May crude oil contracts (usually 10,000 barrels in size) under normal circumstances would've been sold to other spectators or passed down over time but in this case they were unable to sell their barrels leaving them to pay expensive storage fees. [162]

- Moreover, the IEA's September report projected that there would be a further decline in global oil demand by more than 8.14 million barrels a day. [163]

This year, energy companies have also taken a great toll during the pandemic as many of them have filed for bankruptcy

- According to the law firm Hayne and Boone, 47 firms in the first half of 2020 had gone bankrupt, this include firms in oil and gas production, oilfield services, and midstream services

- The largest bankruptcy so far belongs to Oklahoma-based oil exploration company Chesapeake Energy after losing $8.3 billion in the first quarter of this year and it listed $8.62 billion in net debt.[164]

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[160] Cho, 2020, Will the Pandemic Spell the End for Oil and Gas?

[161] World Economic Forum,2020, What the future may hold for oil amidst Covid-19

[162] Cohen (Forbes), 2020, Oil plummets over 300% to almost -$40 a barrel in historic collapse

[163] IEA, 2020, Oil Market Report- September 2020

[164] Holland, B (S&P Global Market Intelligence), 2020, Chesapeake takes $8.5 billion Q1 charge on cratered oil prices

- Energy firms are known to have been in bankruptcy, as in North America alone over 200 oil and gas companies had filed for bankruptcy.[165]

- Exxon Mobil, one of the largest global energy companies, faced its largest ever loss of $1.1 billion in the second quarter of 2020 and a further third quarter loss of $680 million. [166][167]

The decline of the fossil fuel industry

- Decline in the industry accelerated this year with the rise of renewables and the fall in demand for oil as a result of the pandemic.

- Prior to Covid-19 the industry had already been on decline as it has problems to do with over supply and public relations.

- With this decline it has opened up room in the market for renewable energy and nuclear power which are two energy methods that are low-carbon and sustainable.

- The renewable energy sector has been the only energy source that has not been negatively affected by Covid-19 and is expected to see growth in 2020. [168]

[165] Haynes and Boone LLP, 2020, Oil Patch Bankruptcy, pg.2
[166] ExxonMobil, 2020, ExxonMobil reports results for second quarter 2020
[167] ExxonMobil, 2020, ExxonMobil reports results for third quarter 2020
[168] S&P Global, 2020, The Energy Transition And Covid-19: A Pivitol Moment For Climate Policies And Energy Companies

Renewable Energy Proven to be Good For The Future

Major global energy firms BP and Shell make major transition towards renewable energy

- In 2020, BP has taken an even firmer stance on renewable energy as in February 2020 they set an ambition to be a net zero company by 2015.[169]

- BP have launched a new strategy in which they are moving from being an international oil company with a focus on producing resources to a more integrated energy company with a focus on delivering solutions for customers.

- BP had made their first ever investment in offshore wind with $1.1 billion into Norway's state oil company Equinor and have announced a strategic partnership that will develop wind farms off America's east coast which will generate power for 2 million homes. [170]

- BP has said that this investment will help it achieve its aim of generating 50GW of renewable energy by 2030 as part of their net zero emissions plan.[171]

- Shell has also done similar plans as they are investing in lower-carbon technology which includes renewables such as wind, solar, new mobility options like vehicle charging, hydrogen and an interconnected power business. [172]

Moreover, public support of renewables has increased

- Across 13 countries, 26,000 people were asked if they think it is important to have a world fully powered by renewables and a very high percentage answered yes.[173]

- According to the CDP, there are already 42 countries, as of 2018, who are 100% powered by renewable energy, 101 countries who are 70% powered by renewable energy and an additional 22 countries are 50% powered by renewable energy. [174]

- In the UK, to track public support of renewable energy BEIS (Department for Business, Energy & Industrial Strategy) have the 'Wave Tracker' surveys () which suggest an overwhelming majority of 84% in 2019 support all forms of renewable energy. [175]

UK Electricity generation statistics

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[169] British Petroleum Company Limited, 2020, BP Energy Outlook 2020 edition, pg.84-87
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[171] Ibid
[172] Shell, 2020, New Energies: Building A Lower-Carbon Power Business
[173] Gavin, H, 2019, Integrating renewable energy: opportunities and challenges
[174] Ibid
[175] Ibid

- The UK is well developed in their use of renewables as the Carbon Brief analysis revealed that the UK's renewable energy sources (solar panels, biomass, wind farms, hydro plants), in the third quarter of 2019, generated more electricity than the combined energy output from power stations that use gas, oil and coal. [176]
- Overall, UK electricity generation from oil and gas was at 38% and 40% powered from renewable energy with 20% from wind, 12% from biomass and 6% from solar. Refer to the chart below for a more visual representation. [177]

Reasons for rise in renewable energy generation

- The significant rise in renewable energy generation is due to various reasons including: an increase in capacity for offshore wind farms, renewables are proven to be cost-effective, new found capacity to bring electricity to remote locations, renewables bring more energy security, renewables reduce pollution, and creates jobs.
- New offshore wind farms have opened with the largest one completed this year, the 1,200 megawatt Hornsea One project. [178]
- Renewables are also proven to be cost effective as electricity from wind and solar energy can be produced and deployed around the world at costs much lower than any other forms of power.
- Over the past decade, with the improvements in technology, Carbon Brief estimates the costs for utility-scale solar fell by 88%, wind by 69% but nuclear increased by 23%. [179]
- Due to the outreach that renewable power can get to remote areas there has been a sharp decline in nuclear energy as the 2019 Nuclear Industry Status Report states that "Nuclear power... meets no technical or operational need that renewable competitors cannot meet better, cheaper, and faster" (seen as Westinghouse and AREVA, the two largest nuclear builders have gone bankrupt). [180]

Benefits of the growth of renewable energy

- More jobs are becoming available to both low and high skilled workers as the IEA projected that most energy-efficiency jobs have a direct correlation to employment opportunities, particularly within small-and-medium sized businesses.[181]
- With IRENA's 'Transforming Energy Scenario' jobs are projected to rise to 100 million in the energy sector (as shown in IRENA 2020's map of the job impact of the clean energy transition) with the number of renewable energy specific jobs being 42 million by 2050. [182]

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[176] Evans, S (Carbon Brief), 2019, Analysis: UK renewables generate more electricity than fossil fuels for first time
[177] Ibid
[178] Ibid
[179] Ibid
[180] Ibid
[181] Layke, J & Hutchinson, N, 2020, 3 reasons to invest in renewable energy now
[182] Ibid

- However, the expansion of the renewable energy sector will have a negative impact on the fossil fuel industry as over 6 million jobs would be lost over this same period of time (30 years). [183]
- To prevent masses of job losses governments should invest in transitioning these workers into the renewable energy sector by providing the skills and education they need.

Issues with adopting renewable energy as the main source of power generation

- One issue is the variability of renewables such as wind and solar may pose a problem as it may not guarantee constant energy supply. [184]
- Wind and solar power generation would heavily rely on seasons and overall weather patterns in specific countries.
- For example, a country like the UK may struggle to generate large amounts of power from solar panels as summer is the shortest season, and the sun is not strong throughout the year.
- A solution to variable power production is to have a combination of power generation sources and create more storage capacity so that energy can be used for when production is low.[185]
- However, with the development of technology and effective weather forecasting wind and solar are more predictable (means people would be able to predict how much energy is going to be produced and arrange other sources of power generation for times when predictions of energy are low). [186]
- Another issue with renewable energy is connecting it to the existing electricity grid as with so many energy resources, it may be complicated to connect all energy sources effectively. [187]

Evidence shows a decline in investment in Renewables

- In the first half of 2019 renewable energy investment fell by 14% in comparison to the same time in 2018. [188]

- A fall in costs is evident in the solar industry as according to the IREA between 2010 and 2018 the global weighted average of installed cost for solar photovoltaic systems reduced by 73.8%.[189]

- IREA further predicts in the wind industry the cost of installing onshore wind power systems between 2010 and 2018 fell by 22%. [190]

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[183] Ibid
[184] Evans, S (Carbon Brief), 2019, Analysis: UK renewables generate more electricity than fossil fuels
[185] Ibid
[186] Friends of the Earth, 2020, Renewable energy in the UK, How wind, wave and sun will power the UK
[187] Evans, S (Carbon Brief), 2019, Analysis: UK renewables generate more electricity than fossil fuels
[188] Ibid
[189] Ibid
[190] Ibid

- Although global investment in renewables has declined (11.5% in 2018), there has still been the same amount of installations in wind and solar infrastructure as the investment needed to build this infrastructure is increasingly cheaper.[191]

- It is projected by the Energy Intelligence that by 2030 solar photovoltaic systems will be the cheapest energy source at a cost of $0.046/kWh with offshore wind following at $0.050/kWh, both being significantly lower than coal power ($0.096/kWh). [192]

[191] Ibid
[192] Ibid

Insight

Overview

This section aims to examine exactly why and how the transition is expected to accelerate after the pandemic.

After witnessing the economic fragility of oil and gas and the rising economic power of renewable energy during the pandemic, the renewable energy transition is forecasted to gain even more momentum. However, this is not possible with government actions in policy, legislation and investment. We examine what governments did before the pandemic and what they intend to do after the pandemic to see if this would in fact, contribute to more progress.

- Energy companies, especially oil and gas companies, are also being evaluated in terms of their investments and commitment to the transition.

- Findings reveal that the economic feasibility of integrating renewable energy is the main driver for all stakeholder engagement because of its increasing public and market acceptance.

- Issues may arise in the integration of renewable energy but these can be addressed with time with financing and cooperation between nations.

- With the engagement of all these parties, we examine how the future may look in terms of economic and environmental results possibly within the next 10 years (2030).

Renewable energy is progressing in the energy market due to its economic feasibility

From the evidence shown, the market is looking towards renewable energy for its economic feasibility rather than its environmental impact. Looking at investment in renewable energy, over the last few years there has been a global slowdown. The chart below visually portrays the decline in global energy investment in 2018 compared to 2017 (IEA, 2019).

Global energy investment in 2018 and change compared to 2017
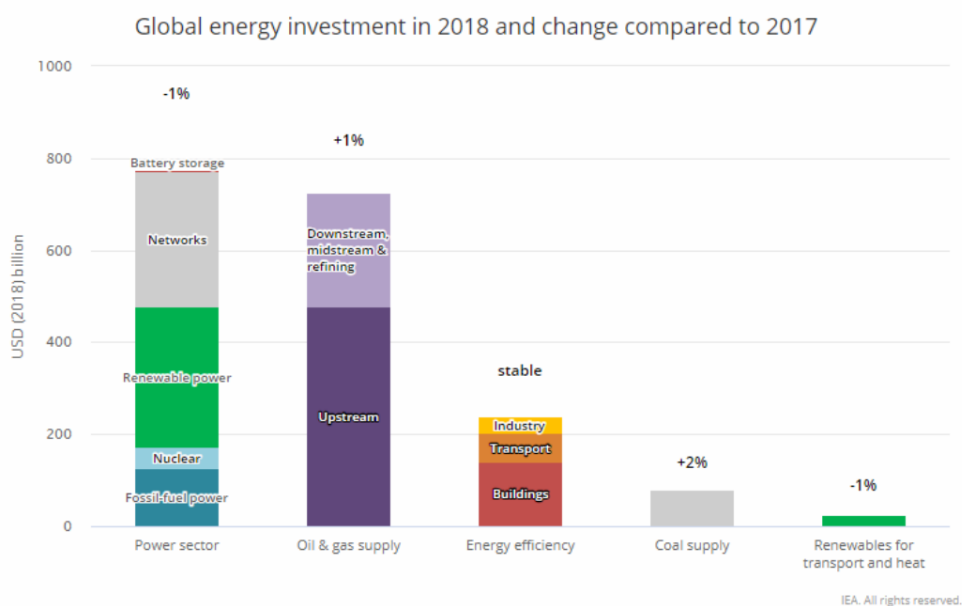
The two main reasons for this decline in investment are the global lower costs in solar and wind globally and the different changes in the market (i.e. supply/demand, and reduced subsidies in countries). Solar and wind energy are becoming cheaper due to increasing economies of scale, more competitive supply chains, and further technological improvements (IRENA, 2016). These technological advancements will take place as there is a rise in competition that will increase innovation. For overall cost reduction, the reduction in balance-of-system and operation and maintenance capital costs will be key drivers. The figure below shows the cost reduction potential for solar and wind power between 2015-2025 (IRENA, 2016).

	Global weighted average data								
	Investment costs (2015 USD/kW)		Percent change	Capacity factor		Percent change[2]	LCOE (2015 USD/kWh)		Percent change
	2015	2025		2015	2025		2015	2025	
Solar PV	1 810	790	-57%	18%	19%	8%	0.13	0.06	-59%
CSP (PTC: parabolic trough collector)	5 550	3 700	-33%	41%	45%	8.4%	0.15 -0.19	0.09 -0.12	-37%
CSP (ST: solar tower)	5 700	3 600	-37%	46%	49%	7.6%	0.15 -0.19	0.08 -0.11	-43%
Onshore wind	1 560	1 370	-12%	27%	30%	11%	0.07	0.05	-26%
Offshore wind	4 650	3 950	-15%	43%	45%	4%	0.18	0.12	-35%

The second reason for the global decline in investment of renewables is the change in market conditions with governments intervening through installation caps, subsidies, and cuts in feed-in tariffs. A feed-in tariff in simple terms is 'a policy tool designed to promote investment in renewable energy sources. (Kenton, 2020)'. In The People's Republic of China in 2018, the government had created cuts in feed-in tariffs and imposed an installation cap on solar photovoltaic projects under the feed-in tariffs which inevitably creates a decrease in investment in renewables (Zhai, 2019).

Furthermore, studies by Imperial College London and the IEA found that renewable investments yield a great return suggesting why more firms are increasingly shifting to renewable energy. The study conducted involved analysing stock market data to find out the rate of return in different energy investments over a five and ten year period (Vetter, 2020). In Germany, the study suggests that investments in renewables over a five-year period will yield a return of 178.2%, compared with the decline in fossil fuel returns of -20.7% (Vetter, 2020). As of the UK, the investment in green energy over a five-year period would generate returns of 75.4% and fossil fuels over the same period would generate 8.8% (Vetter, 2020). Whereas in the US, investment in renewables yielded returns of 200.3% compared to just 97.2% for fossil fuels (Vetter, 2020).

The investment into renewables is being increasingly recognised by large mainstream firms as a must as they realise that climate change is a global issue that is a threat to the wealth of their clients. BNP Paribas Asset Management's research suggests that if an investor had to invest $100 billion and must decide whether to invest in oil or renewables for the purpose of powering cars then renewables would yield greater returns. BNP found that investment into wind and solar infrastructure would produce 3 to 4 times more useful energy than oil would at $60 a barrel for diesel-powered vehicles, making renewables more favourable in this case (Lewis, 2019). In the case of petrol cars, renewable investment will generate 6 to 7 times more energy than oil would thus making renewables the more profitable option (Lewis, 2019). Moreover, renewables have a short-run marginal cost of zero (nearly free as the energy comes without any extra production costs) and is projected to replace 40% of global oil demand once it has reached its full potential capacity (Lewis, 2019).

Further evidence by the International Renewable Energy Agency (IRENA) suggests that 'clean energy yields an economic return 3 to 8 times higher than the initial investment' (Layke & Hutchinson, 2020). In IRENA's 2020 Global Renewables Outlook there is an analysis of different scenarios of energy investment and the socioeconomic impacts. One effective socioeconomic scenario is the "Transforming Energy Scenario" which aims to meet the Paris agreement of limiting the temperature rise below 2 degrees celsius (Layke & Hutchinson, 2020). This scenario would cost $19 trillion more than a normal approach but would yield benefits worth $50-142 trillion by 2050 which would result in a rise of 2.4% in GDP (Layke & Hutchinson, 2020).

Investment in renewable energy also leads to indirect economic developments such as the creation of jobs. Due to the nature of solar and wind farms being in quite remote areas, firms are able to utilize local labour, local material, local shareholders and the services of local banks. Additionally, according to Hicks et al the renewable energy projects have helped local communities as energy firms have established a trust fund that aims to invest the money earned by selling power in the local economy (Hicks et al, 2011). This creates more opportunities in these communities as local business owners can expand and there will be greater socioeconomic impacts. However, it is argued that renewable energy projects may not necessarily provide jobs for people in local communities as not many jobs are created by solar power plants and the jobs provided would have to be given to skilled workers (Kumar, 2020).

Major energy firms accused of greenwashing and criticized for not transitioning to renewables

It can be said that these massive global energy firms have no real intention on helping the environment and have been accused of greenwashing. Greenwashing, as defined by The Climate Reality Project, is 'a form of deceptive marketing in which a company, product, or business practice is falsely or excessively promoted as being environmentally friendly (The Climate Reality Project, 2020).' Two major energy firms that have faced backlash due to excessive greenwashing are BP and ExxonMobil. ExxonMobil had a campaign for their new work with algae-biofuel promoting the production of 10,000 barrels of this biofuel a day by 2025, suggesting that ExxonMobil is making significant improvements (The Climate Reality Project, 2020). However, this amount of barrels would only equate to 0.2% of the company's current refinery capacity, making this fuel amount a 'rounding error' when compared to the data on the amount of oil Exxon extracts (The Climate Reality Project, 2020). Moreover, ExxonMobil is spending a small amount on developing clean energy (about half of 1% of their revenue) but somehow has projected an increase in production of fossil fuels by 35% between 2018 and 2030 (The Climate Reality Project, 2020). This suggests that firms are doing the minimum to transition into renewables but are advertising it to cover for their real large investments into further expansion of the oil and gas industry. Similarly, BP has done the same by prompting a handful of renewable-energy initiatives but has ambitions to increase fossil fuel production by 20% from 2018 to 2030 (The Climate Reality Project, 2020). ClientEarth is a nonprofit organisation that is suing BP and mentioned in

court that although BP's 'advertising focuses on clean energy, in reality, more than 96% of the company's annual capital expenditure is on oil and gas (Dempsey, 2019).'

Moreover, US based firms - ExxonMobil and Chevron - have shown no interest in renewable energy. Instead they have continued developing more strategies to reduce greenhouse gas emissions and new technology. ExxonMobil has received larged criticism from climate activists (Ward, 2020) but has a larger focus on reducing greenhouse gas emissions, improving biofuels and carbon capture and storage technologies (CCS) as they hold interests in about one-third of the world's CCS capacity (Mackenzie, 2018). As of their work in biofuels, ExxonMobil has had groundbreaking research over the years with the most recent breakthrough in algae biofuels which involved the modification of an algae strain that was found to double its oil content (ExxonMobil, 2017). Similarly, the second largest US energy firm Chevron has had limited action towards the transition to renewables. Chevron, similar to ExxonMobil aims to reduce greenhouse gas emissions by advancing in energy efficiency, reducing flaring and fixing methane leaks (Chevron, 2018). This is shown in their creation of a Future Energy Fund with the investment of $100 million into developing new technology that will enable the current energy transition (Chevron, 2018). Although Chevron seems to be doing a lot towards the Paris agreement there is no clear aim to invest into the transition into renewable energy

However, the renewable energy transition is still taking place globally and can be seen through the strategies put in place by global oil firms Royal Dutch Shell, Total and BP. As mentioned in the brief, Shell has created a strategic framework in which they have implemented a diversification strategy (Mackenzie, 2018) which focuses on long-term energy transition and its existing renewable investments in lower-carbon technology i.e. wind farms, solar photovoltaics, new mobility options like vehicle charging, hydrogen, an interconnected power business. In December 2017, Shell set investment in energy at $1-2billion per year (Mackenzie, 2018) where about 80% would go to the power sector and the energy transition (Ward, 2020). An example of how they've invested this money into renewables, is their long-term power purchase agreement with British Solar Renewables for electricity from the largest solar farm in England, Bradenstoke (Crooks, 2018). A more international example of Shell's work with renewables, is their equity investment in an India-based firm that provides renewable power to rural communities and businesses called Husk Power systems. Shell's work with them involved expanding the African and Asian market with more mini-grids so that energy can be distributed to far rural areas (Greentech Media Research, 2018). This would directly benefit rural poorer areas development as it would be providing electricity which can improve various aspects of education, infrastructure, communication and poverty. Lastly, Shell is making great efforts into investment into energy storage companies such as GI Energy, Axiom Energy, and Sonnen (Mackenzie, 2018).

Total, being the leader in transitioning to renewables, have the ambition to achieve a renewable electricity power generation capacity of 35 gigawatts by 2025 through their cost-effective development of solar and wind energy projects (Total, 2020). Total was one of the first to invest in renewables as in 2011, $1.4 billion was spent in acquiring 60% of US solar specialist SunPower (Bloomberg, 2011), effectively investing largely in solar energy. Furthermore, Total's investment plan is at $500 million a year (roughly 3% of capital expenditure) with the investments going towards low-carbon business so that it is 20% of its asset base over the next 20 years (Total,

2020). These low-carbon businesses include clean energy, wind energy, solar energy, energy storage technology and energy efficiency. Total has solar plants currently with a capacity of 1.6 gigawatts and plans to increase this figure to 5 gigawatts by 2023 (Total, 2018).

Although British Petroleum (BP) has been accused of greenwashing they were the first major global oil firm to commit significant capital to renewable energy as in 2001 they had launched a $200 million campaign to re-brand BP into Beyond Petroleum suggesting their commitments from the start. As of today, BP claims to have the largest operated renewable energy business as they generate a wind capacity of more than 2200 megawatts in the US alone (BP, 2018).BP have set up a net zero ambition by 2050 and aim to make serious developments in the reduction of emissions as they continue to invest into a low-carbon future. For this low-carbon future they have set up investment of $500 million a year (Mackenzie, 2018).

While we've seen some companies take the right actions and steps towards the full integration of renewable energy, more still needs to be done. The government is expected to get more heavily involved with energy firms and firms themselves need to contribute more of their resources and efforts towards the green transition. Companies can do this by reorganising the internal structure of the firm and re-designing their business models.

Government action towards the Green Transition (before the pandemic) was noticeably discordant across the globe

It is no secret that, across the globe, governments have been incorporating plans for 2030 sustainability initiatives and a smooth transition to clean energy into their manifestos. However, we notice that, even before covid-19, some governments were more attuned to technological developments in the energy industry, economic policies and international cooperation than others. This support of a green transition is heavily intertwined with the position of leaders on climate change being reality and the feasibility of a green energy transition.

The United States - Presidential Resistance

In the United States of America, Donald Trump withdrew America from the Paris Climate Agreement in June 2017 becoming official in November 2020. Trump's agenda to reduce the US mitigation strategies against climate change and stall the progress of the renewable energy transition was also seen in his more than 65% (Gardner, 2018) cut in funding for the renewable energy and efficiency office. Such a funding decline led to a stagnation in the development of electric vehicle batteries and more wind and solar technologies Hope of any kind of progress to influence corporate notions through institutional acceptance of the energy transition seemed temporarily extinguished. Nevertheless, the reintroduction of the Green New Deal (Alexander, 2020) framework in the US Congress in February 2019 by Alexandrio Ocasio-Cortez restored some faith in the transition. A provision of the $1 trillion deal specifically involves achieving a 100% of the power demand through clean, renewable energy. Investments in infrastructure and innovation in the US renewable energy sector with this proposal could potentially lead to 31% of

US energy generation by 2050 in comparison to the current 30% contribution by coal and 32% contribution by natural gas.
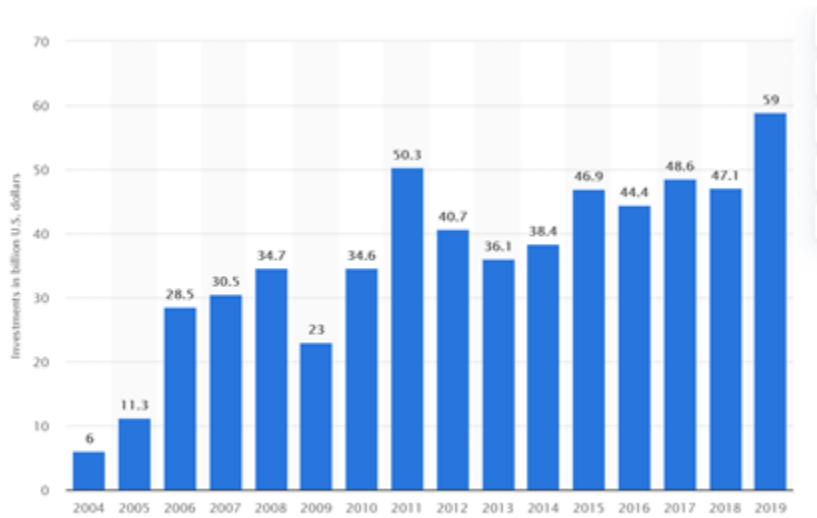
Details: United States; Bloomberg New Energy Finance; UNEP; 2004 to 2019   © Statista 2020

(Statista, 2020)

Moreover, Donald Trump's presidency led to instability in the levels of investment from the periods 2016 to 2019 in renewable energy. The Republican Government's stringent denial of climate change and global warming, hard stance against climate change mitigation proposals rendered the renewable energy sector a risky area for investment. The back and forth rhetoric between the Republicans and Democrats perhaps led to fears of risk and instability amongst investors which can detrimentally impact the advancement of innovation and research.

 The United Kingdom- Steady Progress

Across the pond, the UK seemed to be in agreement with most of the globe on the reality of climate change. Consequently, in 2019 there were significant actions and accomplishments allowing for a steady transition supported by government initiatives. To accomplish their net zero carbon emissions by 2050, in the last year (2019) the UK achieved milestones in renewable energy production, especially with hydroelectricity.

Renewable energy made up almost half the UK's electricity generation in the first quarter
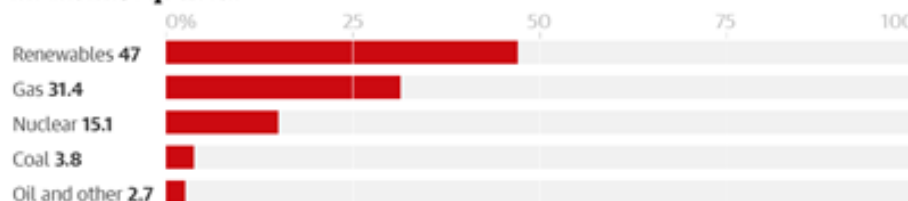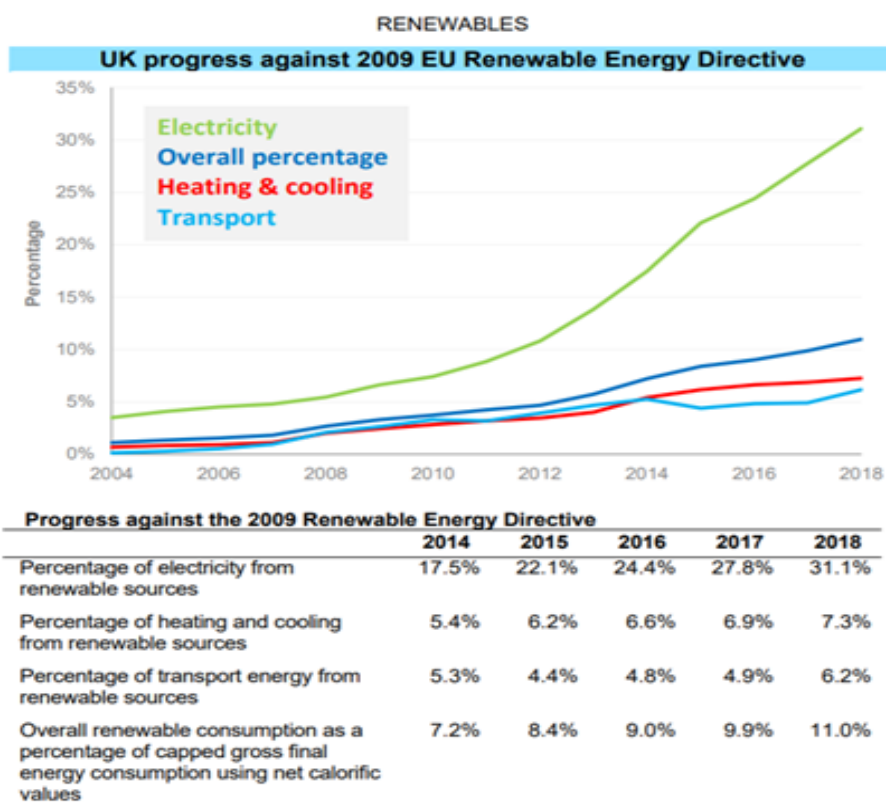
Guardian graphic | Source: Department for Business, Energy & Industrial Strategy

(Ambrose, 2020)

The government's long term investment and support for renewable energy infrastructure led to renewable energy constituting almost half (47%)

(Ambrose, 2020) of Britain's electricity output in the first three months of 2020. The integration of renewable energy (solar and offshore wind primarily) into the primary means of electricity generation will drastically reduce British dependence on fossil fuels , allowing the UK to reach its 2050 target.

The UK's long-standing commitment to the transition is reflected in the continuous use of Feed-in-Tariffs (FiTs) which have been used to incentivise investment into small scale renewable electricity generation (Bolton & Hinson,2020). Their 2017 Renewable Heat Incentive was proposed and successfully allowed non-domestic customers to install renewable heat generating technologies. (Bolton & Hinson,2020) In support of larger renewable energy initiatives, the government in March 2020, announced that it would take a presumption against further requests for shale gas and fracking approvals(Bolton & Hinson,2020), delineating their commitment to reduce dependence on oil and gas. Such initiatives will inevitably lead to 50% of electricity produced in the UK to be from renewable energy (Bolton & Hinson,2020).

RENEWABLES

UK progress against 2009 EU Renewable Energy Directive

Electricity
Overall percentage
Heating & cooling
Transport

Progress against the 2009 Renewable Energy Directive

|	2014	2015	2016	2017	2018
Percentage of electricity from renewable sources	17.5%	22.1%	24.4%	27.8%	31.1%
Percentage of heating and cooling from renewable sources	5.4%	6.2%	6.6%	6.9%	7.3%
Percentage of transport energy from renewable sources	5.3%	4.4%	4.8%	4.9%	6.2%
Overall renewable consumption as a percentage of capped gross final energy consumption using net calorific values	7.2%	8.4%	9.0%	9.9%	11.0%

(National Statistics, 2020)

China - the Renewable Energy Paradox

Turning to the East, even before the Covid-19 pandemic, China has been considered a leader in the race to a green transition even though their coal dependence lends them the title of the paradox(Ong, 2012) renewable energy facilitator. The Centre of International and Strategic Studies purports that coal consumption is increasing in China while they are still the leaders in

solar and wind energy production and being the largest domestic and outbound investor in renewable energy.

Coal consumption in China 1998 to 2019
(in exajoules)
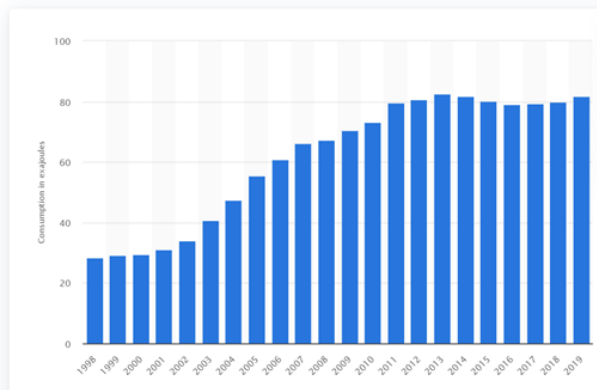
Accumulated installed capacity of wind power in China
(in gigawatts)
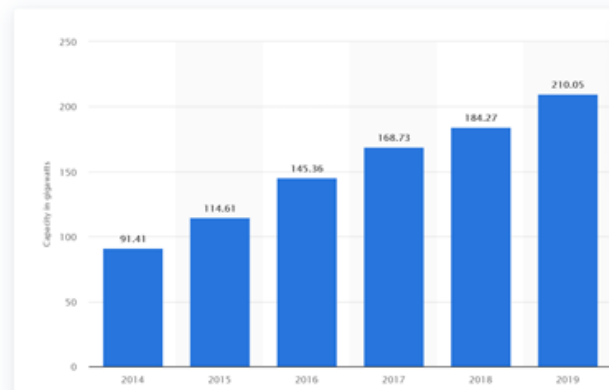
(Statista, 2020)

CISS reports that China owns 5 of the world's 6 largest solar-module manufacturing companies and is the world's largest turbine manufacturer. The governments' 13th Five Year plan for Electricity (2016-2020) intended to raise non-fossil contribution to aggregate electricity production from 35 to 39% in 2020 (Chiu, 2020). Through government subsidies, tax and fiscal incentives for renewable energy developers (Lu, 2020) , legislation and prioritisation, China is heading towards its vision of developing an 'ecological civilisation' with them at the helm. The IEA supported this with their forecast of China providing 36 to 405 of the world's growth in solar and wind energy by 2025.

However, Pre-Covid advancements in renewable energy not only ensured sustainable futures for its society and economic security in the greener world they envisioned, but guaranteed them a principal position in the geopolitical landscape. Being the provider of such large amounts of renewable energy they can leverage this economic power and expertise , build strategic partnerships with countries to expand their global influence and dominance as a world leader. It seems that renewable energy for the major countries can be harnessed as a useful tool for global influence if done sustainably and in co-operation within each other.

Accelerated rate of government action after the pandemic

While notable strides have been made regarding policy and legislation in some of these main world leaders in renewable energy, it is expected that the rate of action, innovation and involvement of all key stakeholders on the part of the government is to accelerate after the

pandemic. As the public witnessed the detrimental impact of the pandemic on oil and gas, the cornerstone of the energy market for decades, we can expect governments to feel pressure in drafting policies, legislation and engaging with commercial bodies to enact real change. The IEA's 'Transforming Energy Scenario' report argues that a global investment of $110 trillion (US) would increase global GDP 2.4%, quadruple renewable energy jobs to 42 million and cut global carbon dioxide emissions by 70% by 2050 (Ahsmore et al, 2020). To accomplish these feats, we turn to governments to increase their investments , craft effective green stimulus packages to increase energy efficiency and innovation like development of lithium ion batteries and hydrogen production electrolysis . Their role not only includes facilitator but initiator as institutional change represents the harbinger for true change across a nation.

The United States- Restorative actions

Emerging from crises like the 2008-2009 financial crises has taught governments that their economic stimulus packages must be multifaceted to not only stimulate the economy after significant job losses, halts in oil and gas production, coal production, renewable energy production, commercial activity but benefit the society and environment. A holistic approach needs to be taken. We note that the momentum of the 2008-2009 crisis recovery led to the 2009 American Recovery and Reinvestment Act where the US government gave support to clean energy manufacturing like electric vehicles. The success can be demonstrated with the rise of Tesla building its first major car factory in California and launched the Model S Sedan.

In the US, we have seen in the November 2020 election, the American public selected Joe Biden and Kamala Harris as their leaders for the next 4 years. The removal of the staunch climate denier President, Donald Trump could signal the return of the transition as a strategic economic, social and environmental priority for the Democratic government. We can look forward to re-joining the Paris Agreement which will ensure their adherence to global warming mitigation actions. In fact, it is estimated that the US from 2020 to 20201 would be the 'most attractive for renewable energy investment' according to the 55th EY Renewable Energy Country Attractiveness Index (RECAI) (Mavrokefalidis,2020) also forecasting a speedy bounce back from the Covid induced economic downturn. The US has secured the first spot ever since 2016, not a coincidence since this was when Trump's presidential term began.

We expect the new government will move forward with its three stimulus proposals presented in June to Congress; the Green Act (Extension of the Moving Forward Act) , the Invest Act and the Climate Crisis Action Plan (Ashmore et al. 2020) all targeting decarbonisation by 2050. These acts include provisions like tax incentives for EVs, solar, storage and offshore wind as well as a vehicle sales standard ensuring all light duty vehicles sold are zero- emissions by 2035. The Invest Act will delve into allocation of funds, specifically $494 million spread over five years on resilient infrastructure and climate change mitigation for transportation. The funding will be used to build charging and fuelling stations for electric and zero emissions vehicles as well as investment in zero-emissions buses, rail networks, pedestrian and cyclist safety projects. There will also be investment in equitable clean infrastructure for building, transit and bicycle routes. These ventures will undeniably create a myriad of jobs within a wide range of sectors which would contribute to the economic recovery expected in 2021 and 2022. If they continue on this

restorative path, the IEA forecasts that although electricity generation will be reduced by 5% in 2020, coal generation will decline by 25% while renewable energy generation will be increased by 11%, all positive indications of a gradual green transition from oil and gas and other fossil fuel energy sources to renewable energy.

The United Kingdom- Expectations of more ambitious transition plans

In the UK, we can expect the government to continue on its path of a gradual transition but perhaps with more conviction and sense of urgency. 2020 was named the 'Year of Climate Action' with the UK hosting the UN COP 26 (Conference of Parties) with governments outlining their plans to lower carbon emissions and once again reaffirming their commitment to the Paris Agreement. Boris Johnson's conservative government outlined their 10 point action plan for a successful 'green industrial revolution' by 2050 which involves decarbonising the transport industry. Consequently from 2030 , there will be a ban on new petrol and diesel cars in the UK. They will not be sold in the UK however some hybrids will still be allowed (BBC, 2020) . Consequently, this ban will impact public perception of the current players in the automotive industry and perhaps permanently alter consumer attitudes toward petrol and diesel vehicles in favour of more sustainable vehicles.

On the other hand, Johnson's 10 point plan which is estimated to be creating over 250,000 jobs, seems to have garnered some criticism. The outline targets increased renewable energy generation by quadrupling offshore wind energy to 40 gigawatts by 2030 while providing 60,000 jobs, heavily pushing nuclear power as a clean energy source by providing for a large nuclear plant along with small nuclear reactions (supporting 10,000 jobs) (BBC, 2020). However, the amount allocated for the plan's implementation, £4 billion, is considered too insignificant for the completion of the entire plan. Green Party MP Caroline Lucas (BBC, 2020) critiqued the plan for being too insufficient tackling the severity of what the UK is currently facing regarding global warming. She also noted that the government's emphasis on nuclear energy as a point is inconsistent with the budget allocated as this venture is extremely expansive and far too premature for the contemporary state of development and technology. It is forecasted that nuclear energy will be considered a fully clean energy source by the mid 2030s and possible focus on this now can distract from offshore wind energy, the primary source of renewable energy in the UK. There was also concern regarding the lack of specificity in the technologies that the government wanted to invest in. Throwing the term 'technology' around is too much of an ambivalent move for such a long awaited plan. It should be noted that the phasing out of the petrol and diesel vehicles and the propelling of EV / zero emissions must lead the government to cater for more support for the electricity generation framework in place. Otherwise, we can witness a severe strain of the electric grid if it does not develop at the same pace as these policies.

China- Keeping the old but trying out the new; a continuation of the Paradox

Looking to China, it appears that Xi Jinping's government will continue on its paradoxical journey of still producing coal energy and building coal factories whilst investing heavily in renewable energy. Xi Jinping in September of 2020 announced that they were fully committed to becoming carbon neutral by 2060 whilst other nations claimed 2050 as their target for complete

decarbonisation. Critics are sceptical of this target as there was a rise in coal production with China guaranteeing more construction permits for coal-fired power plants in the first half of 2020 than it had in 2018 or 2019 (Myers, 2020). However, the World Resources Institute reports that the government has identified a key issue in renewable energy consumption in China. A bottleneck (Hong & Peng, 2020) has emerged where the electricity grid in China cannot accommodate the vast amounts of solar, wind renewable energy produced. Integration remains a key issue involving corresponding storage requirements. Without adequate storage capacity the excess electricity has to be curtailed like in 2018 102.3 TWh of electricity from renewable sources went curtailed or unused in China.

To tackle this issue going forward after Covid, the government has considered heavily amending the current energy legislation which they have called for comments on. The draft requests urgently that the government must establish targets of renewable energy dissolvement and consumption , expansion of boundaries for renewable energy dispatch . More specifically, they want a clear legal status for renewable energy consumption mechanisms for example, established standards that set targets for consumption and ensuring yearly assessments of renewable energy consumption for a greater level of accountability.

Moreover, this legal clarity extends to specific targets for the electric grid. Calls for a fixed or at least a stable maximum and minimum amount of renewable energy that could be connected to the central grid. The government could then ask provincial companies to prioritise renewable sources when adding generating capacity. If wind and solar facilities have their electricity curtailed when there is excessive generation, there would possibly be economic compensation which fosters an amicable, open market space for renewable energy projects.

Finally, an amendment to the law could cater to increasing the demand for renewable energy for electricity generation. A green power market could be established through a power procurement channel allowing more electricity customers to buy power directly from renewable energy projects. This encourages users to have choice in what type of power they purchase form utility companies and this choice reinforces a positive perception of the utilisation of green power. This can also lead to renewable energy ventures using their generating capacity to its full potential.

While these amendments will be considered by the government, it is notable that no significant step or amendments were announced regarding coal energy and its continuous use as an energy source in China. They have no moves to cancel coal plants resulting from low output or to lower utilisation. The transition to renewable energy, departing from the cornerstone of the Chinese economy, coal and other fossil fuels will be extremely gradual. The Oxford Institute for Energy Studies reports that the general theme for energy policies from 2020 onwards in China is 'stable growth' (Oxford, 2020) , one step at a time approach. This can be contrasted with the urgency we see in the US and the UK as there is a greater pace in policy. Perhaps, we can understand why China as a developing country would extend its carbon neutralisation date to 2060. It would give them time , especially with the Covid-19 economic impact to solve issues within the renewable energy industry and release their hold slowly from fossil fuels.

The New Path Forward - 2030 expectations

If countries adhere to their internationally binding agreements, continue using policy and legislative tools to fully support the integration of renewable energy as a primary source of energy, can we expect an economic and environmental utopia? This depends on the nation's capabilities and willingness to change, invest and innovate.

Malcolm Keay and David Robinson (Oxford, 2020) share their perspectives on what the future of oil and gas could possibly be after Covid-19 induced renewable energy transition acceleration. Oil and gas companies are looking towards a decarbonised future, one that could make their current business models regressive in the next 30 years. They will need to integrate decarbonised gases, thermal water storage , cooling systems and much more for cohesive integration. It is also expected that downstream energy companies will head towards the optimisation of all energy services, not just electricity. Upstream companies will need to consider supply chains, relationships between different countries and sustainable practices especially with hydrogen. Such alterations must be accompanied by a labour force of skilled employees trained specifically for the decarbonisation process. They would also require stronger diplomatic relations between countries. Regions would have to create and maintain relations through a mutual understanding of their roles in sustainable supply chains.

We can expect these companies to work alongside stakeholders like the government and consumers in fully integrating renewable energy into their business models and become active participants in the green transformation. This synergy in capabilities will demonstrate to the market, the nationL and global position of renewable energy as we are soon to see with Electric and hybrid vehicles.

As carbon emissions are forecasted to reduce, there will be strategic innovations regarding the platforms of energy for the future especially regarding electricity. The present model is a simple two way system , transmission and distribution to the consumer. But the technologically advanced age that the world is in has allowed consumers to be producers themselves with rooftop solar panels, demand increasing with EV. Consequently, governments must stimulate investment for developing innovative infrastructure, products and solutions to incorporate the consumer and integrate all the sources in real time. Research and development require finance for start-ups, SMEs, current businesses so the government's role as a financier in the future is not to be overlooked.

Environmentally speaking, World Economic Forum that if the transition is hastened and the global temperature is kept below the Paris agreement target of 1.5 degree Celsius then we are likely to experience a drastic reduction in natural disasters like fewer floods, storms, droughts and other extremes caused by warming temperatures , mitigating the impacts of climate change on human lives, infrastructure and the economy. The social well being and health care of millions especially in China will drastically improve with the reduction of air pollution as 157 million (Ambrose, 2020) people live in areas gravely affected by smog leading to thousands of deaths every year.

Economically, we see the generation of jobs of up to 1 million during the 30 year transition period in the US alone (Alexander, 2020). GDP and investment in countries who prioritise the transition would experience an increase as , in the case of Germany and China , production and trading of renewable energy, new technologies and equipment expands trading opportunities. The value of Germany's exports totalled around 10 billion euros, expected to increase to 47 to 69 billion by 2030.

This future can only be supported if there is collaboration amongst nations and internally, full-fledged support for renewable energy by stakeholders like the government, private sector and the public.

Policy Recommendation

Overview

These policies intend to improve financing and investment capacity for the renewable transition, foster more regional and international cooperation, address the skills gap and establish designated government institutions with the sole mission of navigating the renewable energy transition.

The policies are as follows:

1. **The Social Market Foundations (SMF) introduction of a new Work and Train Programme targeting those unemployed due to the Covid-19 pandemic thereby filling the skills gap required for the transition**

2. **The institute for Public Policy Research recommends a similar training programme to the SMF as well as the establishment of institutions specifically for the UK to navigate the renewable energy transition.**

3. **Atlantic Council's strategy to encourage companies to decarbonize oil and gas through different programmes**

4. **Call for tailored programmes (by region) focusing on navigating the renewable energy transition in the aftermath of Covid-19 by the United Nations to foster collaboration between neighbouring countries**

Several current policy recommendations call on the government and the public sector to take even more poignant actions to **benefit all stakeholders**. In particular, the Social Market Foundation emphasises the deployment of a new **Work -and - Training Guarantee** programme (SMF, 2020). According to the Office for Budget Responsibility, up to 1.4 million people would experience unemployment due to the Covid-19 virus and the economic collapse it induced. The state of unemployment that Covid-19 has created could represent a distinct opportunity for the government to **address the human resources and skills** required for the transition. Significant long term benefits can emerge from government initiatives in training those left jobless during the Covid pandemic and possibly after it in the forecasted. After conducting their analysis of unemployment rates, the SMF proposed the action as in some areas in the UK, there number of green jobs required are directly equivalent to the number of persons left unemployed during the pandemic.

Figure 1: Jobs needed to reach Net Zero by 2050 as a proportion of regional unemployment in the 12 months to December 2019
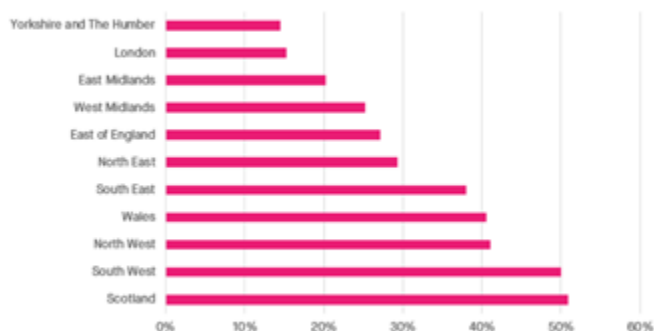
Source: SMF analysis of National Grid and NOMIS data (regional unemployment in 12 months to Dec 2019)

Their recommendations lie at the heart of government obligation in guaranteeing a job to anyone left unemployed by the virus as they can be paid the national living wage of up to £8.72 hourly to work for private or public sector employees in 6 month placements while undergoing useful training that facilitates upskilling. These placements will not just incorporate work but training and education which SMF recommends should constitute 20% (SMF, 2020) of the working week. Private sector placements , they recommend, should also be a priority for the programme . Since they are benefitting from state-funded labour, they should invest in and provide quality decarbonisation and sustainability oriented education and training for the workers. SMF claims that this is the next logical step after the government implemented the furlough scheme currently paying wages to inactive workers across the UK. Jobs could include insulating homes, replacing gas boilers and installing electric-vehicle charging points, primarily blue collar occupations.

In assessing this recommendation, the sectoral benefits are apparent. There will be short term benefits in terms of p**roviding employment for those who have lost their income** and filling the noticeable skills gap amongst human resources mandatory for the transition. Policy and

legislation from the institutional level plays a monumental role but we must remember how the average man, woman can participate in the transition, support the transition and benefit from the transition. Long term benefits lie in the **expansion of social mobility opportunities for workers**. The pandemic has been forecasted to widen the inequality already present in countries due to the loss of income of primarily lower-income occupations. This recommendation incorporates the relevant economic, environmental but also social considerations that the government must heed to move forward.
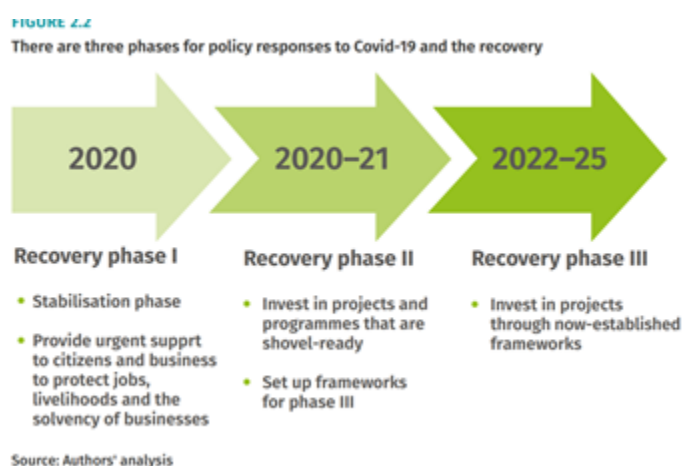
Moreover, the UK government seems to, perhaps inadvertently, focus less attention on the training and education aspect of the transition. We see this in the UK's March 2020 (Gov.UK, 2020) budget where Chancellor Rishi Sunak outlined allocations for businesses' Covid-19 recovery, infrastructure, public services, supporting businesses and putting more money into citizens' pocket through minimum wages but no mention of training and job programmes for the green energy transition, not even in the green priorities allocation. The lack of detail to this strategic area is concerning. This recommendation then tackles the issue head-on addressing both the skills gap and the economic issue of unemployment.

However, we find that the cost of the programme is a roughly estimated £13.1 billion for full-time wages for 1.4 billion unemployed workers for six months. Boris Johnson's 10 point action plan is an estimated $12 billion (Gov.UK, 2020) which can raise severe criticism regarding the feasibility of the plan. Another recommendation from the SMF involved universities with spare capacity due to a decline in student population from the virus could be enlisted to provide online training and education as part of the job guarantee scheme. While universities do partner with purpose driven causes and would be receptive to these proposals, it remains uncertain what their position may be as they struggle with less human and financial resources facilitating online education for their own student population. The retraining of university staff, decline in numbers of staff, adjustment problems for the staff may hinder participation in this programme at the start. Perhaps, later on in 2021 when there is some certainty and stability in their role as a tertiary education provider.

Nevertheless, the theoretical foundation is sound, its economic, environmental and social implications should not be cast aside. Perhaps, we recommend that revisions can be made to some aspects of the plan while the principal tenets of training, education and earning minimum wage are retained. Perhaps strategic alliances made with the private companies , incentives for companies and collaborative efforts with NGOS can occur for the development of effective and sustainable education and training.

Action 2: The Institute for Public Policy Research recommends a holistic 'clean, fair and resilient' economic package

Furthermore , the Institute for Public Research proposed recommendations encompassing the essence of SMF's work and training programme proposal. Their 'Transforming the Economy after Covid-19- A Clean, Fair and Resilient Recovery' 2020 report proposes a holistic recovery package with three stages that ensures a clean, just, fair transition. Instead of offering a temporary economic boost to keep the jobs afloat and the economy just performing, their recommendations truly target the long run by identifying the key driver of progress; **investment, long-term regulations and policy making** (Jung et al,2020). Through meticulous and interdisciplinary policies, the UK government and other nations around the world can tackle decarbonisation, nature preservation, global warming, economic security and social inequality

FIGURE 2.2
There are three phases for policy responses to Covid-19 and the recovery

2020 — Recovery phase I
- Stabilisation phase
- Provide urgent supprt to citizens and business to protect jobs, livelihoods and the solvency of businesses

2020–21 — Recovery phase II
- Invest in projects and programmes that are shovel-ready
- Set up frameworks for phase III

2022–25 — Recovery phase III
- Invest in projects through now-established frameworks

Source: Authors' analysis

(Jung et al, 2020)

Net Zero and Nature Rule

Regarding short-term aspects of the recovery package, IPR recommended that a 'Net Zero and Nature Rule' be implemented. This rule would make it mandatory for the government, devolved nations and local government to **review, audit all projects, policy , investment and spending, taxation measures, regulations and legislation** to ensure that all these ventures and frameworks **align with the UK's obligations under the Paris Agreement** and net zero commitments, larger environmental commitments also in the UK Environmental Bill. We see the clear benefits of the proposal in the fact that there is **coordination across the board of the government's policies for the transition**, solidifying the government's dedication and stance on ensuring a successful green transition, and creating long term frameworks that support sustainability. However, there can potentially be a strain on resources for these assessments if no clear standardised guidelines are developed with all stakeholder input and circulated accordingly. It may even be accompanied by the development of a committee specially tasked with environmental compliance if the government does not already have this in place within varying departments of local government.

Bail out with Renewable Energy Conditions

We all witnessed companies asking governments for bail out when the pandemic stalled key areas of economic activity, detrimentally impacting their business models. IPR recommends that bailouts should be given to companies now and in the future but with **certain conditions guaranteeing their contribution to the green transition**. Covid then represents a pivotal time where the government can use their state power to the environment's advantage; a time of clear economic and political power dynamic. Companies, as recommended by the IPR should be required, in exchange for the bailout, to report in line with the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) in their annual reports. They should be required to **make annual reports on their actions contributing to decarbonisation by 2050**, reduction of oil and gas within their organisations and in their supply chains. They should also ensure to c**reate a sustainable business plan incorporating all relevant stakeholders**:

'Putting the environment, taxpayers and workers first by (i) linking management and executive pay and bonuses to achieving targets as set out in the firms climate and nature business plan (ii) imposing restrictions on executive pay and bonuses, share buybacks and dividends until such time as government support has come to an end.' (Jung et al, 2020)

Net Zero and Just Transition Body

More long term recommendations included introducing institutions and plans like a designated Net Zero and Just Transition Delivery Body, the nations can ensure **coordination across the board, throughout different towns and cities**. This body can solely focus on following through existing net zero delivery plans, establishing a mission to **innovate by incorporating perspectives and input from all stakeholders**, the commercial sector communities, local government and the public. Engaging with representatives from all these backgrounds will ensure the 'just' aspect of the transition is fulfilled. There is much merit in this proposal as fundamental project management theory tells us that delegating tasks to a competent team/ body allows for a project to not only be successful but the longer term contribution can be significant. It can possibly lead to **new idea generation.**

UK National Investment Bank

Moreover, they suggest the development of a National investment Bank in the UK much like the Scottish National investment Bank. This organisation would **support the investment in infrastructure, innovation, SMEs and new start-ups involved in the transition**, specialising in renewable energy to contribute to decarbonisation and nature restoration. Their strategic priority would **involve 'crowding- in' private investment**. While this can be theoretically feasible, we can foresee regulatory challenges arising with the government creating this bank. There will be time and resources involved in overcoming the regulatory landscape, checks and approvals from relevant government bodies, Bank of England. Nevertheless, if the government truly believes in the speedy acceleration of their transition mission, they would be **more flexible to this idea of a separate financial body solely catering to investment for the transition**.

Action 3: Atlantic Council's strategy to encourage companies to decarbonize oil and gas through different programmes

Atlantic Council provides a way in which companies can accelerate in their transition to renewables through efficiency improvements and new technologies. For companies to achieve decarbonization of oil and gas Atlantic council suggest the following programmes:

1. **Methane Emissions Efficiency**

   Methane emissions can be used more efficiently to create more profit as they are especially economical for gas producers. This could be potential for areas with high levels of production as methane can be captured and burned to generate electricity. However, there is a lack of acceptance and agreement in the industry towards using methane as a method to generate electricity. Thus this may not be the most effective programme in terms of implementation but is something that needs to be addressed as methane is a long-term pollutant that can have effects on people's livelihoods and health.

2. **Zero-emissions production**

   Reaching a zero emissions target by major global oil firms would make a significant difference in meeting the Paris Agreement of keeping the global temperature rise by less than 2 degrees celsius. Atlantic Council suggests to do this by the electrification of upstream oil and gas production and Liquified Natural Gas (LNG) production. These have both proven effective as in British Columbia they had used hydroelectric power for shale gas production and efficiently liquified natural gas.

3. **Carbon Capture Technology (CCS)**

   CCS effectively decarbonizes hydrocarbon production by capturing the hydrocarbon at the point of generation (power generation, refining, petrochemicals, or industrial use). This has also been proven to be successful as some key CCS projects include the Canadian oil sands and LNG projects in Norway and Australia, where there is large availability of geological storage for captured CO_2. However, appropriate public policy incentives and regulatory frameworks are critical for CCS technology to be developed.

4. **Hydrogen**

   Hydrogen is deemed to be the most encouraging way to decarbonize petroleum as the Atlantic Council suggests two options of hydrogen, "blue hydrogen" or "green hydrogen." As a brief explanation for each, Atlantic Council explains "blue hydrogen" to be the combination of 'naphtha or natural gas steam reforming and CCS' and "green hydrogen," as 'leveraging "electricity to liquids" electrolysis from solar or hydro-electric power.'[193] Both options result in a zero-emissions liquid fuel that has a greater energy density and thus is more capable at powering heavy transportation than batteries.

If all programmes were implemented or individual ones were implemented it would create a significant transition into renewables and would be more cost-effective for firms in the long-run. Furthermore, adopting these programmes would give firms the publicity they need in terms of conveying their support towards climate change and the Paris Agreement. Although this is an

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[193]

immoral reasoning to invest in these programmes, it still remains a large motivator for firms to publicly advertise that they are inclusive in their approach to the transition. All of these programmes are long-term solutions as they **provide technology and tools that will create further efficiency in the energy sector** for the future of a diversified energy industry. However, many of these projects may not see great returns in the short-run and may have greater costs but will be economically feasible in the long-run. Thus, as a Think Tank, we highly recommend firms to implement these projects for a long-term economic and environmental benefit.

In reviewing these well-designed recommendations, we understand the role of government and commercial action. However, one key stakeholder is i**nternational stakeholder involvement**. Pedro G. Gómez Pensado and Harsh Vijay Singh (Oxford, 2020) purport that amongst the valuable lessons that the Covid pandemic has taught us about a transition from oil and gas to renewable energy, one was the need for international co-operation and coordination during such a desperate time. They noted the u**neven response times and scales between the countries,** often in the same region and they found it odd in such a   globalised environment where information, technology, people and commodities are so easily accessible before the pandemic for everyone's economic benefit (Oxford, 2020). From this analysis, we propose the **expansion of capabilities** on the part of the United Nations in the **knowledge sharing amongst collaborative networks within the main regions of the globe**.

We acknowledge that the UN is renowned for their emphasis on sharing knowledge resources globally where anyone can have free access to expertise in climate change adaptation like with their e-learning (Disaster Risk Management e-Learning Platform, Online Course for Secondary Teachers on Climate Change Education, E-learning Course on Smallholder Agriculture) and knowledge sharing platforms (Climate Technology Center & Network, UN SDG: Learn, CIF Knowledge Center, IFAD Climate Adaptation in Rural Development (CARD) Assessment Tool) (UN, 2020). However, do these necessarily contribute to knowledge sharing on a regional basis and is it inclusive of cultural and regional contexts? If these platforms, workshops and resources are designed for countries based on their regional placements, they can have the opportunity to find information relevant to their area, collaborate with each other in the implementation, solve common challenges and foster more diplomatic relations.

Criticism lies in questioning why would this be necessary if there are one-to-one programmes like National Adaptation Plans (NAPs) where the UN directly supports countries to advance their National Adaptation Plan process. Countries can have direct assistance with UN representatives and experts, it would be quicker and possibly more successful. But a fundamental difference is the collaborative aspect, countries not only have the opportunity to share their expertise with the UN and learn from the UN but **build sustainable relationships with regional neighbours**. These relationships can then be put to the test when pandemics emerge. In this climate, with the Covid-19 virus possibly hindering renewable energy transition in some countries, they are left wondering if this is an obstacle or opportunity. With the accelerating rate of innovation within the energy sector, countries will need to develop and maintain such relationships to share resources, gain access to energy sources, distribution and storage facilities in order to create sustainable systems.

 Some limitations associated with this proposal is the level of cultural understanding required to craft these programmes which must be high in terms of understanding regional struggles and understanding the forum in which to present and receive the information without succumbing to the 'Western Saviour' tone so often used in developmental programmes. Also, in-depth research

and analysis will be required in the design of these programmes but the UN does have these capabilities after years of reports and publication on countries and their social, economic and political states. This research must not exclude the local and regional stakeholders themselves so the programmes can be holistic and effective. Through UN programmes specifically designed to guide regions on how to use Covid-19 as an opportunity to drive the renewable energy transition, developed with an authentic understanding of regional differences, cultural nuances and dedicated to be a mutual exchange of learning , perhaps we can achieve a global renewable energy transition.

CONCLUSION

Covid-19 introduced unforeseen changes to all aspects of society. While we can take this time to dwell on the detrimental impacts we have seen like the economic stagnation, job losses and company bankruptcy, we can view it as an opportunity for change. The pandemic gave governments, the private sector and everyday consumers time for rethinking and reimagining of the cornerstone of the energy industry , oil and gas. After examining the weaknesses in the oil and gas industry , clear benefits of renewable energy, governmental (UK, US, China) and private support for renewable energy, we see an acceleration in the market towards renewable energy. In the next 20 to 30 years, we expect energy companies to fully integrate renewable energy , the emergence of new technologies and more participation from the average consumers in the novel energy platforms for production, storage and distribution.

Nevertheless, more is still required in terms of investment, collaboration, fair economic and environmental policies as well as state institutions.   All of the recommendations have sound foundations and feasibility results but they all depend on the strength of commitment on the part of the private, public sectors, international organisations   and the government to maintain momentum. Using Covid-19 as a prime opportunity to enter into a new era that the globe has been planning for should not be done with half-hearted efforts. We are either all in or not in at all at this point. Such policy recommendations demonstrate a multi-pronged approach suitable for the holistic integration of renewable energy.

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