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The Necessity of Cryptocurrency
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2022

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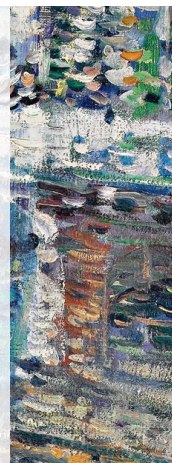
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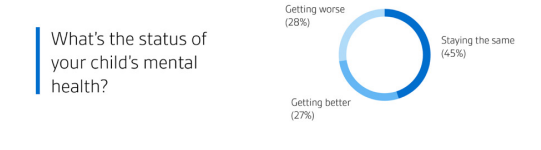
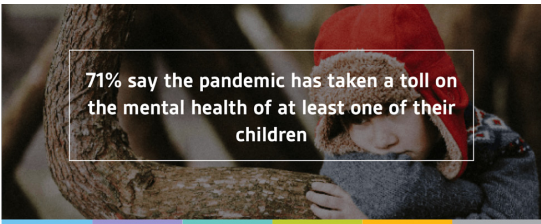


SOCIETY

Blind Spots of COVID-19: CHILDREN

Kim Seungah

According to the United Nations Children’s Fund(UNICEF), “in less than two years, 100 million more children have fallen into poverty, a 10 percent increase since 2019” (2021c, p. 4). Children have always been in blind spots throughout human history. However, COVID-19 has been by far the most far-reaching for them. Even numerous adults have lost their jobs, lives, and opportunities. Poverty is a much more serious issue for younger generations. While children’s lives are negatively impacted in almost every aspect of their lives due to the pandemic, the right to health, the right to education, and the right to protection are the most exigent and salient issues.



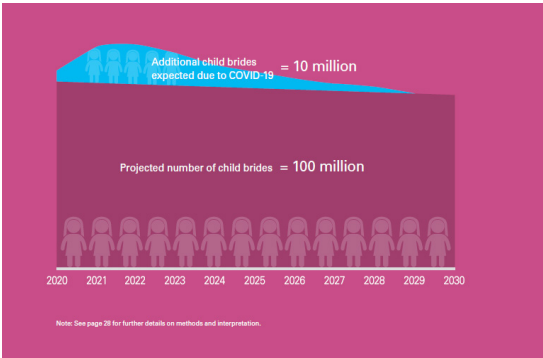
First, children’s health is severely affected. The COVID-19 pandemic limits the basic provision of medical care: both medical personnel and goods are neither sufficiently nor equally supplied. Children and adolescents have milder symptoms from COVID-19, but children who already have innate respiratory diseases or immunity problems are in greater danger. For instance, there are 1.7 million children under the age of 15 living with HIV (UNAIDS, 2021), meaning 1.7 million children are at a much greater risk when infected by COVID-19. Children’s mental health is both directly and indirectly affected as well. According to a survey by Ann & Robert H. Lurie Children’s Hospital of Chicago, 71% of parents “believe the pandemic has taken a toll on their child’s mental health,” and 69% “say the pandemic is the worst thing to happen to their child” (2021, para. 3).

Moreover, 34% of parents living with their children under the age of 12 reported they are highly distressed by their child care responsibilities (Keeter, 2020). Services and education regarding sexual and reproductive health have been even more largely

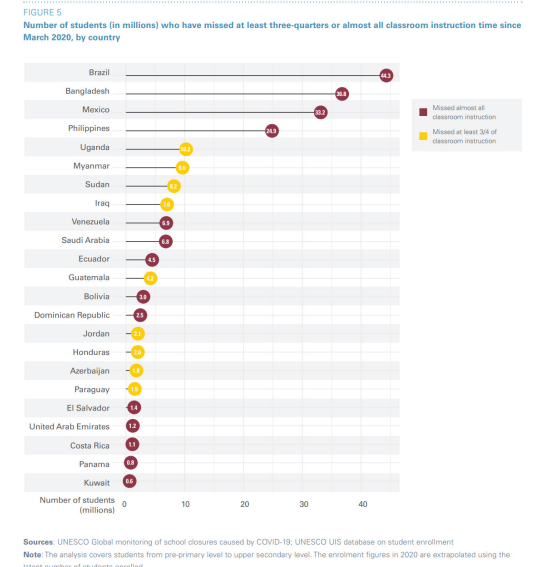
affected than before. Results clearly show there is a negative change regarding the “access to abortion, contraceptives, HIV/STI testing, and changes in sexual behaviors, menstruation, and pregnancy intentions” (Mukherjee, et al., p. 253). For girls aged 15-19 years in developing states, the biggest cause of death is pregnancy and childbirth (Neal et al., 2012). What is most shocking is some US states are politically taking advantage of COVID-19 to stop abortions. In Ohio, “the Ohio Attorney General’s Office reportedly ordered clinics that provide abortions to stop ‘non-essential’ and ‘elective’ surgical abortions. ... In Texas, the governor confirmed that an order to halt non-essential surgeries would include most abortions” (Braunschweiger, 2020, para. 2-4). While children’s health is affected in various ways, children are losing their norms due to the pandemic.

Second, more children became unable to access quality education. UNICEF announced 168 million children have been affected by the complete closure of schools due to lockdowns (2021a).

The aftermath is more than overwhelming. Children

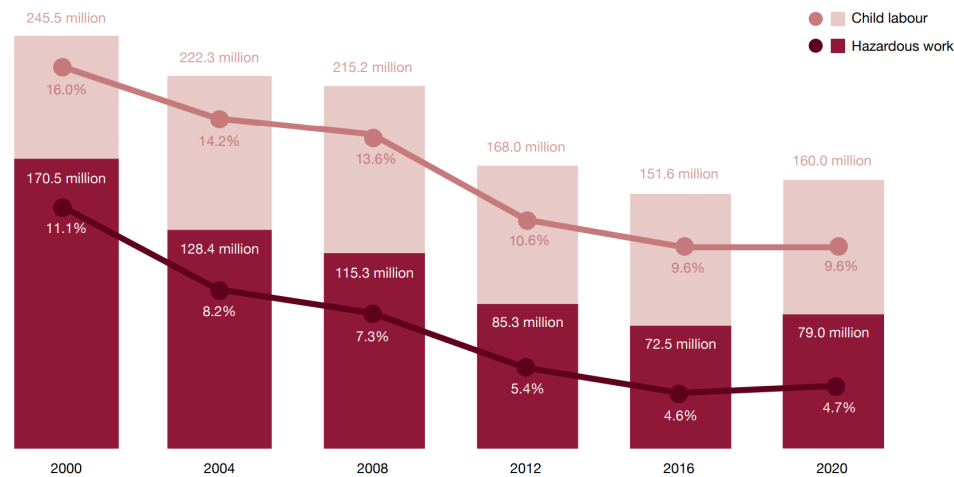


already with barriers to education are being even more marginalized. “These include children with disabilities, students in remote locations, asylum seekers and refugees, and those whose families have lost income as a result of job cuts or precarious employment or are otherwise in a difficult situation” (Human Rights Watch, 2020, para. 5). Half of the entire population does not have access to the Internet at all. Even in the United States, the richest developed country, personal computers and high-speed internet are unavailable to one-in-five teenagers at home (Anderson & Perrin, 2018). Also, school meals and school health care are crucial services children in poverty largely rely on: almost half the entire world’s schoolchildren depend on these basic services (School feeding division, 2019). There is more: school closures make children more vulnerable to girls, especially because the number of child marriages increases.



Global progress against child labour has stalled since 2016

Fig 3. Percentage and number of children aged 5 to 17 years in child labour and hazardous work



Education being the strongest tool against child marriage is a common sense. “Each year of secondary education may reduce the likelihood of marrying before the age of 18 by five percentage points or more in many countries. By contrast, child brides are much more likely to drop out of school and complete fewer years of education than their peers who marry early” (The World Bank, 2017). Only when schools are resumed, children can have their norms back.

Last, children are more than exposed to violence. Children are the main targets of domestic violence. Since the outbreak of the pandemic, families are more exposed to economic angst because of job losses, income cuts, and isolation. As a result, the number of women and children facing domestic violence has skyrocketed. In Lebanon and Malaysia, according to the UN, “the number of calls to helplines doubled, compared with the same month” in 2019; “in China, they have tripled; and in Australia, search engines such as Google are seeing the highest magnitude of searches for domestic violence help in the past five years” (Farran, 2020, para. 6). Furthermore, the International Labour Organization (ILO) and the UNICEF estimate there are 160 million children in child labor globally. The global economic shock has caused children to work for longer hours under more hazardous conditions. By the end of 2022, the ILO and the UNICEF suggest

there are will be 9 million more children forced into child labor because of the COVID-19 crisis (2021). As mentioned in the previous paragraph, child marriage is another example of domestic violence against children, especially girls. UNICEF estimates until the end of 2030, there will be 10 million more girls at the risk of early marriage due to the pandemic (2021b). The pandemic is putting children’s safety at risk.

In conclusion, children are in vulnerable situations due to the pandemic, so they should be protected even more than before regarding their right to health, education, and freedom from torture. The COVID-19 pandemic has and will have disastrous and enduring backlashes globally, especially among the weakest of all, children. A survey conducted by the Early Years Alliance of the United Kingdom reported 50% of parents feel the government has not done enough to support their children during the pandemic: governments must work harder to decrease the number of children who have their basic rights violated (Lawler, 2020). Henrietta Fore, UNICEF Executive Director, and John W.H. Denton, AO Secretary General of the International Chamber of Commerce, said, “We must work together to keep economies afloat, avoid permanent damage to business operations and employment pipelines, and support children, families and communities through, and beyond, this global emergency” (2020, para. 6). The

entire world must take action. The entire world must move forward to protect the future of humans.

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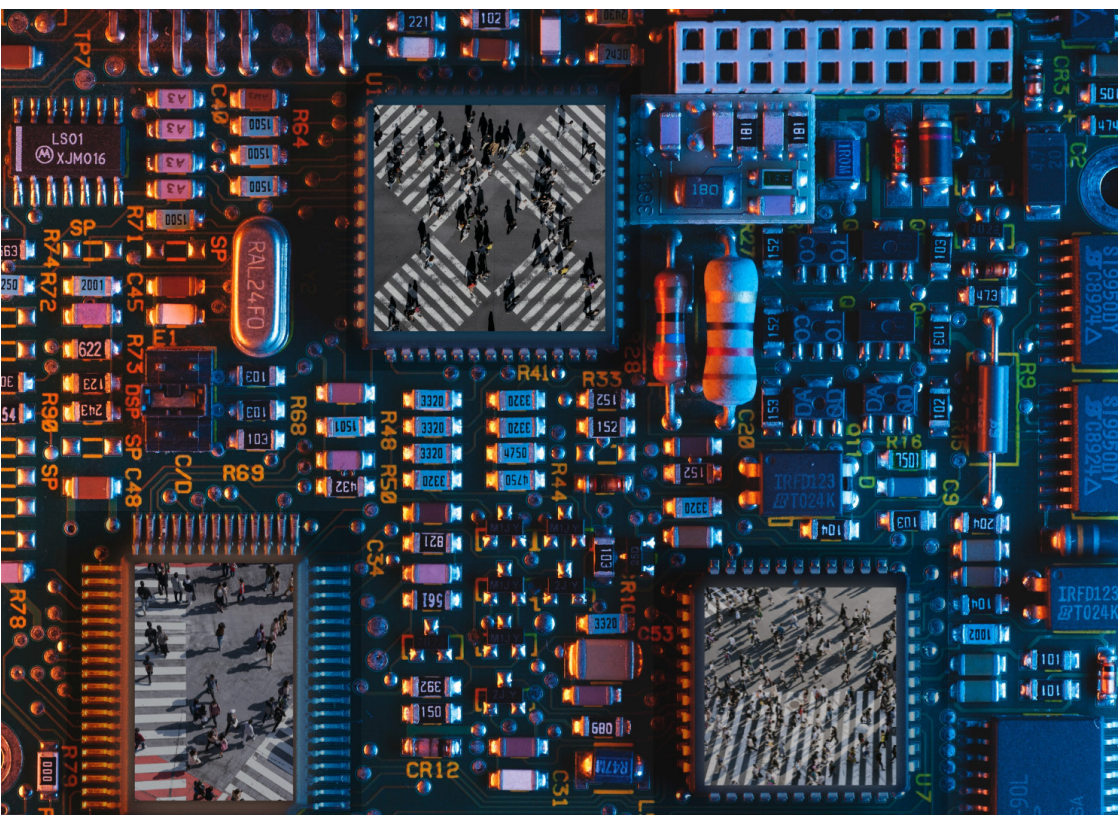
Giant tech companies are undermining societal values

Moon Chaegeon

The new era of digital technology has already come, and COVID-19 accelerated the digital transformation. Digital technology has made people's lives so much easier than before. The pandemic would have been far worse without the internet and devices available nowadays. But the changes have come at a considerable cost. Tech companies changed how people communicate, connect, and work, becoming the basis of society. Decisions they make in producing code now have real social consequences that affect millions of people. But they have been given excessive leeway, and tech companies are driving a future that undermines democracy and optimizes society while ignoring immeasurable societal values.

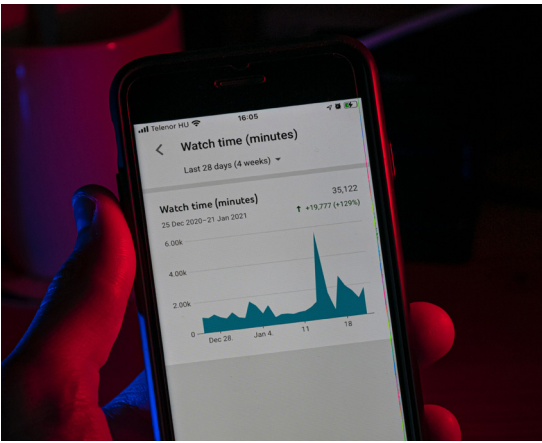
The social media platform is a familiar place to start. "In a lot of ways, Facebook is more like a government than a traditional company," Meta CEO Mark Zuckerberg said. With more than 2.8 billion monthly active users (MAU as of Jan 2022, Statista), Facebook is so powerful in its domain that it is like a sovereign state. It holds power over how individuals interact and what contents are shown or hidden. The business model could be changed without users even realizing what has happened. For instance, Facebook started using an algorithm that filters some posts, designed to cut down on the noise. From the user study conducted by the University of Illinois, more than half of the participants were not aware that Facebook Feed hid stories. Although participants were mostly satisfied with the content on their feeds by the end of the study, it shows how platforms could easily control the flow of information.

Facebook has an informational environment of a population nearly double the size of China, the largest country in the world. With size comes political responsibility. It needs to reflect the values of people around the world. Although Zuckerberg is aware that Facebook needs real democratic legitimacy and accountability, it still resembles an autocratic state with the absence of some means to enforce executive authority. Facebook is a platform that processes user information to target advertisements for companies. Having its own platform, it bypasses politics and sets its own rules. Professor José van Dijck said, "They define the conditions for other companies to operate in their ecosystem. That is how they can function as a



monopoly without being a monopoly." Now that social media has become the new civic square, it should be within the democratic system. The fundamental basis of democracy is constraining the government to act accountable toward its citizens. But tech companies are left free to self-regulate. It is time that the government engages in certain parts of the tech companies' decision-making processes to ensure they reflect their users' values.

It is relatively easy to recognize the power that comes from size—such as market share—and a authoritarian-like decision-making system. What is almost invisible is that the real power tech companies hold over us is in the code itself. Computer scientists and engineers are writing algorithms in the form of codes to solve given problems, from search engines showing the most relevant and useful web pages to autonomous driving cars operating themselves. However, code in the computational world, like the laws and the rules of the real world, works as an authority by allowing or limiting certain actions. Code being the application of authority by itself, the process of making code could become a target for the government or a source of revenue for companies. Moreover, the mindset of optimization entails mathematical abstraction of the world. Technicians get to decide what values are optimized and what objectives are measured. As Mehran Sahami wrote in 'System Error', some things are easier to measure than others. Measuring costs, clicks, and time spent is easy; measuring environmental impact is much harder. Determining how to optimize for more fundamental



ideals such as justice, dignity, happiness, or promoting an informed democracy is even more difficult. But what is measurable is not always meaningful, as Google’s Youtube subsidiary shows. Watch time became the basis of one of Youtube’s most significant objectives to be reached by 2016, equating watch time with user happiness. But it left out whether it is really healthy to watch an endless stream of videos; whether conspiracy theories or hate speech should be recommended as much.

Businesses were thrown into chaos during the pandemic. In contrast, big tech companies continued to thrive throughout the economic turmoil. In the 2021 fiscal year, the five Big Tech (Apple, Amazon, Alphabet, Microsoft, and Meta) saw a 27% growth in combined revenue year-over-year. It is much greater than the 12% growth from the pre-pandemic period in 2019 and still much higher than the 19% growth from the onset of the global pandemic in 2020. Their products and services were in demand to keep society going online. In 2018, Apple became the world's first company to record a market capitalization of \$1 trillion, notching up \$2 trillion in just over two years. Apple, Amazon, Alphabet, and Microsoft are now each worth more than a trillion dollars. They are not just getting more customers for their traditional businesses; they are sprouting new businesses and expanding their realms. Amazon has succeeded in the online cloud service, AWS. Apple has started subscription services such as Apple TV, Apple Music, iCloud Storage, and so on. Android Smartphones running the Android operating system hold an 87 percent share of the global market in 2019 and this is expected to increase over the forthcoming years(Statista Research Department, Mar 17, 2022).

Power comes with size. Given that technology underpins a large portion of social activities, it is imperative to limit its power. How do we harness the benefits of technology but also mitigating the harm with an eye toward something other than a corporate bottom line? There is no need to be too optimistic or pessimistic about technology. It is up to the people who make, use, and limit the latent and instantaneous power of technology. Lawmakers, technicians, and citizens of democracies have a responsibility for the future. The imperative agendas are to bring technological decisions

into politics, to make codes explicit about what is optimized or ignored, and to decide what values should be considered. Without awareness and participation, technology could have control over society at any possible moment.

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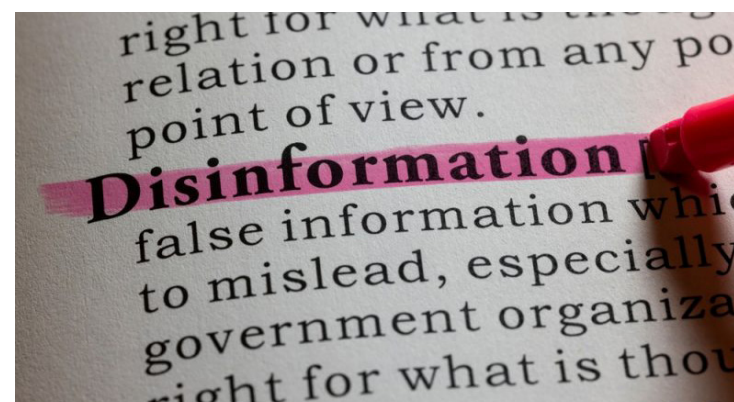
Images

1. Hacker binary attack code. Made with Canon 5d Mark III and analog vintage lens, Leica APO Macro Elmarit-R 2.8 100mm (Year: 1993)
2. <https://unsplash.com/photos/sUXXO3xPBYo>.
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(Dis) Information

Zakharova Ekaterina

What do we see? What do we know? What do we trust? Everyone consumes loads of information on a daily basis; getting too used to it, we do not process it through and second question whether information is actually reliable. Many and many of us blindly accept everything seen in news articles, social media, and on the television – as a result, the problem of disinformation arises. What is it, where do we see it and how do we deal with it? Let’s try to answer these questions in this article.



First of all, we want to know the enemy we are confronting – thus it is important to understand the concepts we are dealing with here. Disinformation is, as per the dictionary, “deliberately misleading or biased information; manipulated narrative or facts; propaganda”. Another closely related concept, fake news, is misleading or entirely falsified information that impersonates the form of mainstream news: “demonstrably false information that is published and circulated as truth in service of a political or economic agenda”. There are also deepfakes – a new and particularly challenging type of audio, video,

or image disinformation, mainly used in malicious ways. Deepfake technology can create convincing but entirely fictional photos from scratch. Because of the difficulty distinguishing a deepfake from real content and its potential to speed spread, it may become another emerging problem in the near future. Today, media disinformation is an exceedingly widespread phenomenon, and because of that it is perplexing when one aims to get to the truth; let alone those who do not even consider thinking of it.

Russia is a prime example of a lie-soaked “democracy”, thus it is what we will be looking at. Although, it is difficult to say to what extent people actually believe something they were taught was true for over half a century. It is clear nevertheless that today’s Russia became a quasi Soviet regime in just 20 years of Putin’s reign. They use various tools, including media manipulation, to create fake news in disguise.

Although, not always in disguise – facts are available on the plate yet most people still refuse to admit the truth even when confronted with it. Recently, we can also see that there is a share of voters who would desire a shift towards the Western standards of democracy – freedom of speech and assembly, free elections, and rule of law. This desire has been expressed mainly by the most wealthy part of the middle class, the intellectuals, and the youngest generations of westernised Russians. They are mostly immune to the language and to the cultural codes Putin shares with their parents, they have not experienced the shock of the collapse of the Soviet



Union, and they are not susceptible to the narrative that ‘anything is better than going back to the ‘90s’. They don’t watch TV, they are digital natives, and the Internet taught them not to trust anything and anybody, at least not unconditionally. However, there is also another problem: aversion (repudiation) of facts. The majority of Russians simply protest against poverty and corruption, refusing to see the whole picture. What they are doing essentially is asking to stay inside the bubble of fake propaganda pictures, even when confronted with facts. People search for comfortable lies to please their egos instead of facing the harsh truth. “Vladimir Putin’s regime hunts down the truth and celebrates lies” – a line from the article so precisely describes the essence of today’s political regime in Russia. And now, as the war in Ukraine has erupted, we see the apogee of absurdity and foolishness of people in Russia who still believe (or want to believe) that what their government is doing can be justified. While some cannot be ignorant to the reality, others are silenced—social media platforms (e.g. Facebook, Instagram, Twitter) have been banned or blocked; a law that punishes spreading “fake news” with up to 15 years in prison has been introduced; and independent outlets (e.g. Meduza website, radio station

Echo Moskvy) have been blocked or shut down. More to that, according to a study conducted by the Center for Countering Digital Hate, about 91% of the recent articles coming from Russian state news sources and found on Facebook were state-sponsored; yet they were not labeled as such.

Then, one may be asking a question of what we do with all this information? How do we tell the truth and lie apart? But to respond to it, one-word answer will not suffice – the matter is way too complicated. And although there were incentives against fake news, those, too, did not suffice: on the media platforms, tech companies have flagged misinformation as “state-sponsored” rather than removing it; and still the actions taken were too little and too late. Online disinformation exploits the attention-driven business model – it is the driving force of the media platforms. Everything social media is set to is grabbing and capturing our attention to show us paid advertisements; and since we generally respond more strongly to negative stimuli, the algorithms detect them and reinforce them by showing the relevant content – note that truth is nowhere in the calculus. The modern information environment, which values and rewards engagement above everything else,

is perfect for someone like Putin or Trump to succeed; and unless fundamental changes to the system are made, little can be done to break this chain of intertwining lies. In the words of Evan Greer, the deputy director of Fight for the Future, a digital rights non-profit group, “instead of calling for more aggressive platform-level censorship, we should focus on monopoly power and the way that big tech platforms are designed.” He also compared the futile measures taken to the game of Whac-a-Mole – the poor enforcement resulted in propaganda still fighting its way through this flimsy fence.

Therefore, what we need to do is change the game: we need to make the platforms operate in the public interest instead of the shareholders’. An example of such a platform is Telegram which has now become one of if not the only tools to document real war crimes that take place in Ukraine. However, as of now, it is an unmatched example of a messenger protected from state authorities’ access. Therefore what we need is legislation – privacy laws and antitrust could help dealing with the problem a lot. Social media can be a virtue – the platforms give voices to those that have been historically suppressed and silenced; but it can also be a vice by giving power to those who can manipulate the information environment. Therefore we as active media users should be on the lookout – we should develop critical thinking when it comes to what we see on the internet – to distinguish between truthful information and deliberate lies. Especially when it concerns war crimes and the lives of many innocent people. One should find several sources that can be trusted and verify whether something one saw on an unknown source was true.

To conclude, media disinformation is a serious issue, as seen on the example of an ongoing war in Ukraine. Only education can combat ignorance, thus each of us should ponder on information seen on the Internet and not let those with power deliberately deceive others.

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BRAIN[1] DRAIN[2] ; AN OBSTACLE TO MANY COUNTRIES' ECONOMIC GROWTH

Lee Young Hun

Brain drain means the departure of educated or professional people from one country, economic sector, or field for another usually for better pay or living conditions. The more precise definition of brain drain in the modern sense begins with the Second World War. In Europe, German people migrated to safer areas such as Britain and the United States to escape Nazism, and in the East to escape Japanese occupation, from Korea to China, and from China to Western regions. The fundamental reason for brain drain today is not the concept of evacuation, unlike wartime, but rather leaving in search of a better living environment for individuals or groups.

Brain drain is one of the most important problems

in many countries. Brain drain is emerging as a big problem because structural inequality between countries is deepening as the phenomenon continues. The rich life of developed countries invites promising talents, who contribute to growth again, entering a virtuous cycle. As a result, the existing development provokes subsequent development, making it more difficult for developing countries to catch up with their human resources. Therefore, brain drain is not just a temporary phenomenon, but it can be seen as a factor that can determine the economy of a country in the long term. In fact, the Swiss Institute for International Management and Development has also cited brain drain as one of the biggest factors hindering a country's national



competitiveness in the annual national competitiveness index.

The Philippines, New Zealand, and Italy are countries whose growths have been hampered by brain drain. The Philippines failed to stop brain drain. New Zealand's is serious, with talent leaving for the United States, the United Kingdom or neighboring Australia, and the New Zealand government is addressing the problem by accepting a great number of technology immigrants. Italy is a country with a severe brain drain owing to youth unemployment, with nearly 40 percent of youth unemployment causing tens of thousands of engineers and doctors every year to leave countries with good economic conditions such as the United States, Britain, Germany, France, the Netherlands and Canada. This brain drain will further adversely affect Italy's economy due to population decline.

Korea had the same worries of a national brain drain, too. Only six percent of those who studied abroad through the selection test for studying abroad from 1953 to 1966 returned to South Korea after completing their studies. Then, the government took a step forward from the passive policy of preventing brain leakage, and established government-funded special foundations like the Korea Institute of Science and Technology (KIST) and Korea Atomic Energy Research Institute (KAERI). And not only Korea, but also a large number

of developing countries made diverse efforts to solve this problem. Vietnam is another example. However, Vietnam's economy, which has great growth potential with a population approaching 100 million, is showing a steady growth despite internationally adverse events such as the U.S.-China trade war and a rise in the U.S. Treasury rate.

One of the reasons for Vietnam showing such a steady growth is the explosive growth of its technology industry. Vietnam's IT industry has become a new growth engine, generating 780,000 jobs and a revenue of \$70 billion by 2017. Vietnam is currently emerging as the new Silicon Valley. Vietnam is now on the verge of success, but until 2011, it had a problem with brain drain. According to a survey in 2011, about 80% of international students who went abroad did not want to return to their home country because they worked there. In such a situation, how was it possible to grow into a new Silicon Valley while minimizing the damage of a serious brain drain? The answer lies in Vietnam's unique approach. The key target of their solution is "Viet Kieu," or overseas Vietnamese in English. There are about an estimated 4.5 million Vietnamese immigrants who were forced to leave their country due to the Vietnam War. In order to bring them back to Vietnam, Vietnam did not hesitate but made active efforts to embrace its people through the following



three policies: first, Vietnam alleviated visa problems for the Viet Kieu; second, Viet Kieu, foreigners, were guaranteed the same treatment as a Korean in relation to investment; last, Vietnamese government even gave Viet Kieu a reduction in personal income tax. Separately, the government, which has shown a welcoming attitude towards them, has consistently shown performance for Viet Kieu, and the result has been a great success so far. Many Viet Kieu have decided to return to Vietnam, and they are influential in many fields. In particular, the IT industry mentioned above is where their activities stand out. Vietnam's IT industry has been able to get the title of Silicon Valley right now, and Viet Kieu are the number one contributor to leading the start-up industry.

Preventing brain drain like Vietnam's has a significant impact on the development of the Korea. Korea is now paying more attention to brain drain than it did in the past, but there are still many cases of outstanding talents in each field emigrating into advanced countries such as the United States and China. Korea, which used to be a developing world not so long ago, is still suffering a lot of losses due to the brain drain, and furthermore, reversing the brain drain is once again emerging as an important issue as the Fourth Industrial Revolution is coming. Accordingly, Korea needs to consider the research environment, future careers, educational content and methods, and devices to prevent brain drain.

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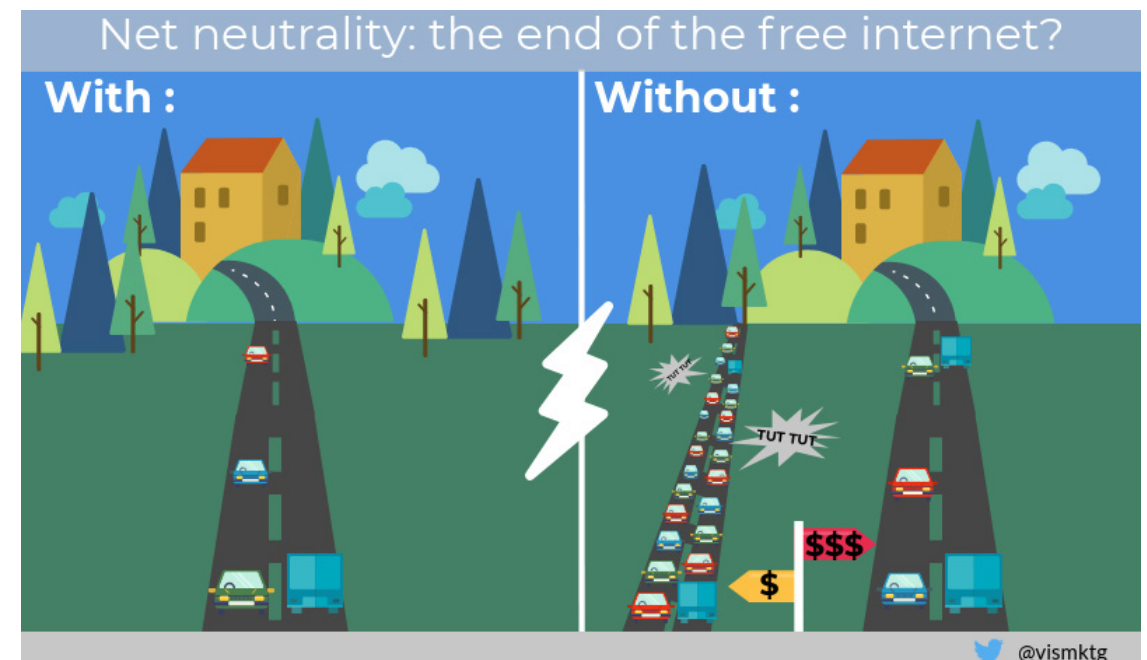
South Korea's Battle with Net Neutrality

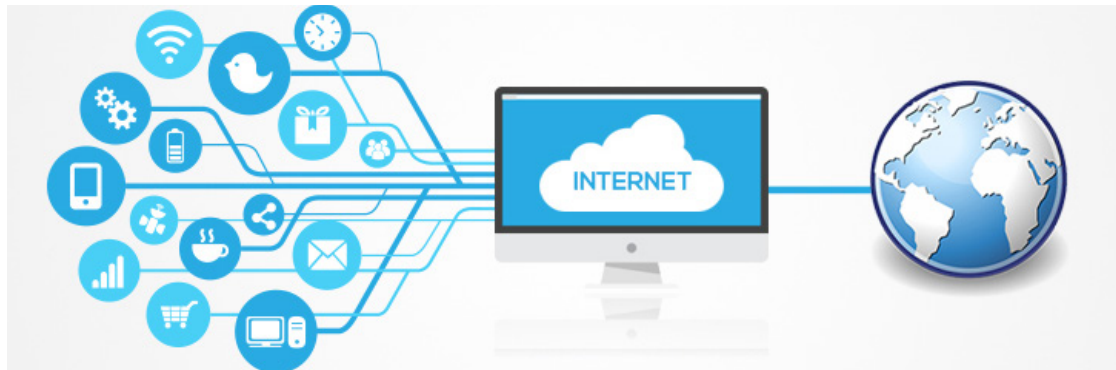
Nikki Muggli

Net neutrality is a rather new concept that has started to develop through a controlled market and battle grounds over technology regulations and governance. It refers to "the principle that internet service providers should enable access to all content and applications online regardless of the sources and without favoring or blocking particular products or websites". In other words it refers to the fairness to access all websites and content online without prejudice or bias. Without net neutrality, internet providers such as Kakao, SK broadband, and others can increase the cost of accessing certain sites or completely block users from these sites. For example, they could upcharge customers who want to gain access to popular sites such as Netflix or Instagram. They could also slow down popular sites

deliberately to make consumers pay a speed fee to access these sites. Finally, broadcasting companies could charge users a usage fee meaning the more a user accesses popular sites the more they would need to pay each month.

In November 2019, SK filed a complaint with the Korea Communication Commission pertaining to the fact that Netflix was refusing to pay a content delivery fee. A few months later Netflix sued SK in the South Korean court. Netflix argued that it is unfair that a broadband company can charge or apply a usage fee without notifying the other party of such changes. However, the South Korean court ruled in SK's favor writing in their decision that "According to the principle of freedom of contracts, whether to conclude a contract





and what price to pay is a matter to be decided through the negotiations of the concerned parties.” They further elaborated: “It is also reasonable to say that Netflix has the obligation to pay the price for the service to SK Broadband”. Even though in South Korea the principle that stipulates internet service should provide and treat all data the same exists, many reference this case as the first legal erosion in net neutrality in South Korea. In addition, a new bill was proposed which targets big media companies such as Netflix and Youtube, obligating them to pay a “delivery” fee to internet providers anytime a user uses their company’s sites. For example, anytime a user watches Youtube, the platform would then have to pay the internet provider a fee for delivering content to the user. This would be very costly for big media companies over time, and could cause them to recoil from the South Korean market as a whole.



Repealing net neutrality in South Korea could have multiple pop cultural impacts and affect the spread of the Hallyu wave. First off, the country has one of the highest population rates for internet reliance with around 98% of the total population connected to the internet. Therefore, any inhibition of access online will

greatly impact the digital landscape and daily lives of the citizens. Furthermore, South Korea relies heavily on the exports of cultural media goods such as K-pop, K-dramas, Webtoons, and even online influencers. While lawmakers say the new bills will mostly target larger media companies such as Netflix and Facebook, there is no certainty that there will not be a trickle down effect. If content creators who upload on these platforms have to pay every time someone in South Korea or overseas views their popular media online, then there could be a downturn in the creation of such media. It can also trickle internationally and there could be a downturn in the creation of Korean media as well as in international consumption of such goods.

With the erosion of net neutrality, some are now asking what steps and solutions there are now to protect equal access to the internet and also freedom of expression online. The first solution would be to dismantle the market structure as it exists now in South Korea. South Korea has only 3 major telecom companies SK, KT, and LGU which does not allow a free market competition. If there are more companies that can provide internet bandwidth or part of the digital infrastructure then through consumer competition the natural market could fix the issue of fees charged to consumers. Furthermore, while a free market approach might not be able to solve all the issues, the government should assume a monitor regulator role to protect consumers. While the South Korean government says it supports free market competition and protecting consumer rights, the government has passed many legislation contradicting this point. An example of this is pointed out by Dong Hee Shin with the cable broadband company blocking HanaTV. HanaTV was

a new internet video on demand service, which many cable broadband providers claimed caused excessive traffic. However, it is thought that the blocking of HanaTV was motivated to prevent competition from other online cable television companies. In addition, the Korean government tried its best to not intervene within the issue until completely necessary. Therefore, it is also beneficial to see more pressure from voters and citizens to hold their government accountable for legislation which supports an open market solution.

In conclusion, net neutrality is an important issue and should be a concern for all South Koreans. It is important to protect equal access to the internet and content, or else it could have a trickle down effect on content produced and posted which directly inhibits freedom of speech and expression.

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How Korean Culture Parlays Under American Establishment

While America Enjoys Its System Nourished By Korean Culture?

Cho Yontak

For the last century, America has been the center of all aspects of the world - they led in technological, military, cultural, and economic factors. Nevertheless, America has been slowly losing its share. There are countless cases that people claim to be evidence of America's decline. For example, the U.S. share of the world economy accounted for roughly 40%. Nowadays, that figure is only 25%—Iraq, Afghanistan, and, most recently, Russia are also graphic illustrations of American influence not reaching far. But, Soft Power is perhaps the most crucial field where people are most alerted. The culture and ideals of America have been main maintaining American dominance door to door. These days, that dominance is shaking from the ground as Korean culture is gaining popularity; or at least it appears in that way as people across the globe consume more and more Korean content such as *Okja*, *Pachinko*, BTS, and *Squid Game*. However, such a phenomenon is not the symptom of America's decline. The Korean and American economies are not in a dichotomous rivalry stance; instead, they are good alliances, promoting each other to expand and exert their fluence around the globe. This article will address how American corporations promote Korean cultural content and networks while how American corporations and networks consolidate and advance their establishments using Korean culture. It will also address why the benefits proceed to all and not limited to some countries.

Let us look at the first case where American networkings funnel Korean culture into other countries. The problem derives from the disparity between the influence that Korean culture and Korean platforms each possess. Korean culture needs platforms for distributing beyond borders, and Korean media companies cannot provide such broad networks. Lack of universality is true in almost any form of publication—movies, music, video materials, prints. Therefore, Korean content must utilize pre-existing systems to reach its consumers. However, to be on board and be recognized in the ocean of cultural content, they have to compromise on norms, beauty standards, and tastes of the pre-established systems. Some institutions act as a notary. Billboard, Academy Awards, and Emmys, all based in the United States, are often the most trusted references when evaluating content popularity or artfulness. Consequently, recognition of American standards has often dictated a content's success or failure. The case where the argument is most evident is the dramatic success of BTS. In 2019, BTS wrote the Guinness World Record for the most-watched music video in the shortest period on YouTube - they were a sensation. However, they could not go for first place in the Billboard Hot 100, the touchstone of popularity. Fans, mainly from Japan, Korea, and Third World countries, were furious and argued that Billboard no longer accurately reflects the popularity of music. The



problem with Billboard was that when evaluating a music's popularity, it did not take YouTube views as one of its measurements. Next year, Billboard accepted the criticisms and added YouTube views into account. Immediately, BTS went to the top of the Hot 100 chart with their next single in 2020. However, we have to notice that the single they went top with was their first-ever, all-English single. That is the point where BTS conformed to the wants of the West and compromised. The aftermath was extraordinary. The parent company of BTS, Hybe Co., Ltd. (then BigHit Ent.), saw a 47.3% increase in their operating profit, an unprecedented increment. BTS sold 3million more copies of albums compared to the previous year, primarily due to 5million copies sold in the U.S. This means BTS being on top of the Hot 100 chart drew the attention of many Americans. Here, we can see the pattern where recognition from Americans(Billboard) and conformity of Koreans(an all-English single) have brought enormous benefits for Korean content.

It is not just Koreans benefiting from this relationship. Proven that Korean culture is popular worldwide, it has become one of the most potent tools in America's inventory. In the last paragraph, we have seen how

BTS highly profited thanks to American networks. Nevertheless, Billboard should also thank BTS as they have benefitted from this incident. Billboard's integrity was under heavy fire when BTS could not make it to the top of the Hot 100. Before, this should have never been a problem as a music star in the World meant a music star in the States. However, as American content is being consumed less, a fatal discrepancy occurs where a global star may not necessarily mean a star in the States. Nonetheless, as BTS topped Billboard's chart and the success it has brought with it, it once again proved that the authority of Billboard, or American recognition, is still a vital part of global success. This reaffirmed and concreted the domination of Billboard as a trusted music information source, allowing Billboard to be more influential. Furthermore, being more influential can also mean reaching audiences that American companies could not reach before. In the case of Netflix, it has successfully launched its service in China by teaming up with iQiyi, a local OTT service provider owned by Baidu. An American media company entering China is a significant breach. Korean TV shows and dramas have been proven entertaining and penetrative to Chinese viewers, and the demand has been enormous.



Now those contents are mounted on Netflix and on-air in China. This is something that even Disney, the media empire, could not realize before. Korean culture helps American corporations expand their services to economies hostile to them. Overstating the importance of this is impossible. The ‘Great Firewall of China’ is brought by none other than Korean culture. Now that public diplomacy to the Chinese people is now of avail, it would grant insurmountable economic and political opportunities, if not changing the Chinese society into more market-friendly, open society even .

As seen above, the benefits of this relationship are mutual. Furthermore, they are also cyclic. With an expanded market, more capital flows in, and the better contents get with more capital. Squid Game, Kingdom, and Okja have all brought sensational vogue. The common denominator is that they are made by Netflix and aired only on Netflix. Netflix has infiltrated more than 190 countries now, and it is a powerful platform in which Korean movies and dramas excel. But it is hard to find Korean movies or dramas that have as much popularity as those three above and have not been made by Netflix. People’s fervor for Korean culture is driving the success of Korean content, which is now armed with American capital and American platforms. People can enjoy what Korea has to offer that they would otherwise not be able to see, whether it be a monetary or delivery issue. Korean-American cooperation is beneficial not to just two parties involved, but to everyone.

Admittedly, it is easy to make a conjecture about America’s ever-dwindling competence by observing only the surface. Seeing fewer Westerners and more Asians on screen may disguise that America’s influence over international community is trembling. Even so, with a helping hand from Korea, that is not the case.

Although it may seem American hegemony is in decline, its influence is now more technology/network-dependent, sleek, stealthy, and growing, all to Korean entertainment and the biggest beneficiary of this change above everyone else, will also be Korean entertainment. Since this revolving Korean-American relation is so serviceable, it will be cogent that the relation will persist for long duration of time, which is a good phenomenon to happen for all.

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ESG, An Important Business Model

Song Yeseo

Companies have come to use various business strategies and models to survive such as SDGs, CSR, ESG, and more. Each business model has its own purpose. ESG stands for environmental, social, and corporate governance. This is a broad concept that includes diversity, climate change, and human rights. E is about the environmental component addressing how a company affects the planet through: climate change policies, carbon footprint and intensity, green products /technologies /infrastructure, and more. The Social component of ESG covers issues affecting: employees, customers, consumers, suppliers, and the local community. Examples: include employee treatment, compensation, ethical supply chain sourcing, lobbying efforts, and public stance on social justice issues. The governance component relates to: board independence, leadership effectiveness, and business ethics.

In the past, economic power and the business item itself were important for a company. However, the perspective of consumers, investors and the whole world has changed. If companies have similar levels of business items and competitiveness, factors such as whether the company is eco-friendly in producing products have a positive impact on our society, and whether the company operates through fair processes and management have become important evaluation criteria. This has emerged against the backdrop of an increase in people's level of consciousness and a more economically relaxed life than before. This is the purpose and background of the introduction of ESG.

The difference from other business concepts is that ESG includes stocks and bonds. As the importance of ESG management was emphasized, the issuance of ESG bonds also increased significantly. Domestic ESG bond

issuers issue ESG bonds with the aim of expanding investment to strengthen corporate social responsibility, increasing corporate value by enhancing corporate sustainability, expanding the investor base of issued bonds, and lowering procurement costs. ESG bonds include Green Bond, Social Bond, and Sustainability Bond. In this way, ESG plays an important role in a company's management strategy, but it also has a need as a concept of bonds. ESG and CSR are quite similar concepts. However, the biggest difference is whose perspective it is. CSR is the perspective of the business whether the business is keeping its responsibility or not. Whereas ESG is the perspective of investors. Therefore, rating and evaluation are necessary for ESG.

There are often companies that show false appearances to win consumers' hearts. One example is greenwashing. Because of these false appearances, it is hard for consumers to recognize real ESG companies. It nearly

MSCI
ESG RATINGS



CCC	B	BB	BBB	A	AA	AAA
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is impossible for consumers to directly compare these factors as companies to companies. Therefore, there are indicators to check the ESG levels. Currently, the figures are all different, and the standardization of disclosure is currently on the way. One representative way is the MSCI index. This stands for Morgan Stanley Capital

international and represents a global stock price index released by a U.S. subsidiary. MSCI's ESG evaluation model, MSCI ESG Rating, evaluates the company's ESG performance based on 35 issues in 10 major areas: environment (climate change, natural capital, pollution and waste, environmental opportunities) / society (human capital, responsibility for products, conflicts of interest, social opportunities) / governance (corporate governance, corporate behavior). Another rating indicator is Dow Jones. Unlike MSCI, the Dow Jones Sustainable Management Index evaluates ESG performance based on a questionnaire written by a company. There are diverse ways and institutions that evaluate the ESG of companies in their own ways.

The first ranked company in the Dow Jones ESG rating is Microsoft. Microsoft is famous for its ESG practices. Microsoft has also received AAA (triple A) level in the MSCI index for five years. This company has presented some projects regarding ESG. Microsoft first introduced 'Microsoft Cloud for Sustainability', an industry-specific cloud service. It builds specialized industry-specific apps, data sources, and carbon emission data connectors and supports all industry customers to achieve their carbon reduction goals. Microsoft has announced its "100/100/0" vision to maximize global grid infrastructure control capabilities. The goal is to cover 100% of the company's electricity consumption by 2030, 100% of the time, without purchasing any



carbon energy.

Business models and strategies keep changing according to the perspectives and values of consumers and investors. ESG has become an important factor that represents the potential of a company. In order to

receive interest and support from others, companies necessarily need to complement their own management strategies. Also, to keep up with the needs of customers, it is important to follow the trends in the business world. ESG business made the society to acknowledge the importance of our responsibility for a good business. It has also opened up a change for the next generation to live in a better society.

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SOCIETY



ECONOMY

Bitcoin's global usage and potential to replace the dollar

Jung Jae Hoon

Bitcoin is a cryptocurrency first issued on January 3, 2009, by Satoshi Nakamoto. Unveiling this Bitcoin, “The beak problem of a conventional currency is all the trust it needs to work. Central banks must be trusted not to devalue their currencies, but the history of fiat currencies is full of violations of that trust.” Unlike existing currencies, quick transactions between individuals are possible without the intervention of the government, central bank, or financial institutions, and unlike existing currencies that can be printed more if the government wants them, the maximum issuance is limited.

Recently, a sharing economy of cooperative consumption in which a product is shared by several people and a sharing economy model in which various members develop together have been proposed. The method using P2P(Peer to Peer) transactions provides economic and social benefits to each participant, reduces search costs, and increases productivity by simplifying the distribution process. It is also effective in creating social value.

A key currency is a currency that is the basis for international settlements and financial transactions. The gold standard system, which calculated the exchange



rate of each country based on gold, calculated the exchange rate of each country with gold because gold was suitable as a means of storing value even in chaotic situations such as inflation, war, and revolution. Since the United States holds 70% of the world's gold, the world economy centered on Britain moved to the United States after World War II, and the gold exchange standard system began. Dollars are the only means of exchange for gold in this system. After that, a system called a floating exchange rate system was established, and the current dollar was established.

In the 2000s, the stability of the dollar fell sharply due to the US current account and fiscal deficit and the Lehman Brothers crisis. China is also looking for opportunities to use the yuan as a reserve currency after rapid economic growth. As such, the dollar's reserve currency position can be threatened at any time. The strengths of Bitcoin are its freedom and transparency. Because the existing currency has been controlled by the state, there have been many cases of damage caused by policies such as currency manipulation, quantitative quantification, and interest rate adjustment according to the interests of the state. Whereas existing currencies have had a high risk of

being manipulated in value according to government interests, Bitcoin is produced according to an algorithm, so its output can be accurately predicted. The transparent issuance process that is not tied to the interests of Bitcoin is the current world situation, which is antipathy to other countries because the dollar, the existing key currency, gives the United States various advantages. It is possible to break through with interest. Bitcoin is a currency that is free from currency manipulation because it operates on a mathematically proven algorithm. In addition, since all records are recorded, it is possible to escape the opacity of current cash transactions.

The downside of Bitcoin is its stability. It is less stable in terms of physical form and lacks a legal mechanism governing body, and it is complex and difficult for ordinary people. Since it is not fiat and fiat, there is no source of guarantee of value, and its value is purely dependent on the whims of market participants. But above all, the problem with Bitcoin is its rapid volatility. A currency is a problem even when the value rises rapidly and a problem when it falls sharply, but in Bitcoin, this value fluctuates several times a day. Since the purchasing power of consumers is determined by the value of money, sudden fluctuations in the currency value will be maximized in other issues such as stability and will soon lead to economic chaos. In other words, the sharp volatility and instability of Bitcoin's value are likely to cause great harm to its holders.

In 2021, for the first time in the world, El Salvador adopted Bitcoin as its fiat currency. Since 70% of El Salvador's citizens do not have a bank account, Bitcoin has been adopted as a fiat currency because it will create jobs and boost economic activity in El Salvador in the short term, and it will save money and time. However, NBER, an American private research institute, analyzed in a report on April 26, 2022, that cryptocurrency is not widely accepted as a means of exchange in El Salvador despite its legal status and strong government incentives. In a face-to-face survey of 1,800 El Salvador adults in February this year with CID Gallup, a polling agency, only 20% of respondents said they were using Chibo, a Bitcoin wallet application created by the El Salvador government. It also revealed that it is questionable whether the Chibo app is being used



well for tax payment or remittance. In fact, the Central Bank of El Salvador explains that as of February, only 1.6% of all remittances were made to digital wallets, the lowest rate since Qibo. To encourage the use of the Chibo app, the government implemented a method of giving \$30 Bitcoin to those who download the Chibo app, but 75% of respondents to the survey said that they would not have downloaded the Chibo app if it were not for \$30. According to NBER, respondents did not trust Bitcoin itself or the system, and despite strong government push, Bitcoin usage in daily transactions was low, and the population was concentrated among well-educated young men.

The designation of Bitcoin as a legal currency is expected to enable rapid economic market revitalization due to the rapid remittance of Bitcoin and low remittance costs. Currently, the dollar is giving the United States the seigniorage effect and is discriminating against other countries, and since the United States can print the dollar indefinitely, the United States can always adjust its own exchange rate or tyranny based on fiat currency. If Bitcoin becomes a fiat currency, as a neutral currency, there will be no bias in the interests of any one country. In addition, transparency is also guaranteed, so I think that when sending to multiple addresses, funds used for criminal organizations or illegal activities can be easily tracked if only transparency is masked.

Of course, the US is not going to give up the place of the fiat currency easily since they are already profiting enough from the dollar. So, countries that have adopted Bitcoin as a fiat currency, such as El Salvador and the Central African Republic, are at an absolute disadvantage in diplomacy with the United States, and I think that it can lead to diplomatic retaliation or, in extreme cases, a lockdown policy. However, if there is one hope in Bitcoin's fiat currency designation, it is China's help. After economic growth, China tried to establish the yuan as a legal currency, but few countries used the yuan, and it was not easy for the US to check it. However, since China will have to overtake the US for G1, they would prefer to designate Bitcoin as a fiat currency, which is neutral to maintaining the US dollar system.

However, the designation of Bitcoin's fiat currency poses a major threat to Bitcoin's excessive volatility.

Even in El Salvador, there was an anecdote of buying a cup of coffee while checking the Bitcoin price to buy it when the price went down as much as possible. As such, Bitcoin has a strong speculative nature, and its price fluctuates significantly on a minute-by-minute basis. Now, when I said that the food I ate was 7,000 won, I brought 7,000 won worth of bitcoins and paid for it, but it is actually possible for the price to drop to 5,000 won.

At a time when people's demand for safe assets in finance is increasing due to the excessive volatility of Bitcoin, I think that people will be reluctant to choose to change the underlying asset to an asset with a high-risk factor. Also, I think that Bitcoin is ambivalent in terms of practicality as it is very complicated for ordinary people to use, and it is judged that it is almost impossible to access the elderly population who do not use the Internet.

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The Necessity of Cryptocurrency in Developing Countries

Song Yeseo

Cryptocurrency is a form of a digital currency that exists digitally and uses cryptography to secure transactions. In other words, cryptocurrency is an alternative form of payment created using encryption algorithms. They are popular alternatives for online payments.

The most popular and widely used cryptocurrency is Bitcoin. Bitcoin was the first born crypto, created in 2009. This technological background goes up to 1983 when UC Berkeley's computer scientist David Lee Chaum created a formula to encrypt currency. Since Bitcoin was born as the first cryptocurrency, people needed to find places to trade Bitcoin. In March 2010, the first cryptocurrency exchange appeared on the website 'bitcoinmarket.com', which does not exist anymore. In 2013 Bitcoin was able to attain the same value as the U.S. dollar. During this year, various cryptocurrency competitors were created.



As the value of Bitcoin grew, the first hacking incident occurred. Due to this incident, bitcoin prices plunged 50 percent and were not able to recover their initial value until the end of 2016. Hacking attacks still exist nowadays but they are not as deadly as the Mt.Gox incident of 2014. The cryptocurrency world hasn't stopped growing. In 2018, Bitcoin reached an all-

time high. Also, a variety of new cryptocurrency assets appeared in the industry (such as EOS, Tron, Cardano).

When we look at this from an international perspective, we can notice the rising popularity of crypto in developing countries. Cryptocurrency in developing countries is mostly used in the remittance market. Remittances are the money that migrants send back to family or friends in their countries of origin. According to the World Bank, this proportion of cryptocurrency use accounts for about 20% to 40% of GDP in many developing countries. Because of the wide use of crypto in developing countries, there are even some countries that legalized cryptocurrencies as an official currency. For example, El Salvador passed a law to legally use Bitcoin just like the U.S. dollar in 2021 June. However, in 2022, unlike the goal of making Bitcoin the main payment method, the value of bitcoin plummeted. This led to the result that it is quite early to bring into cryptocurrency as a substitution of other payment methods.

There are three characteristics of the cryptocurrency which make it so popular in developing countries. These are low transaction costs and speeds, accessibility, and ability to counter weak national currencies and corruption. Since developing countries are quite dependent on the remittance market, cryptocurrency has a higher advantage in transaction costs and time compared to traditional financial systems. Cryptocurrencies are a better alternative as it enables quick and low-cost international money transfers. Second, cryptocurrency does not need physical infrastructure unlike the traditional financial market. Therefore, it is easy for individuals in developing countries with limited access to traditional banks to access financial services of crypto via the internet. Finally, individuals in developing countries often perceive fiat currencies as unreliable and untrustworthy,

because of the unpredictable inflation and volatile exchange rates successively weakening their fiat currency's value. Transactions of cryptocurrencies are recorded and cannot be reversed, and this highly reduces the likelihood of being defrauded.

Today, the creation of a central bank digital currency

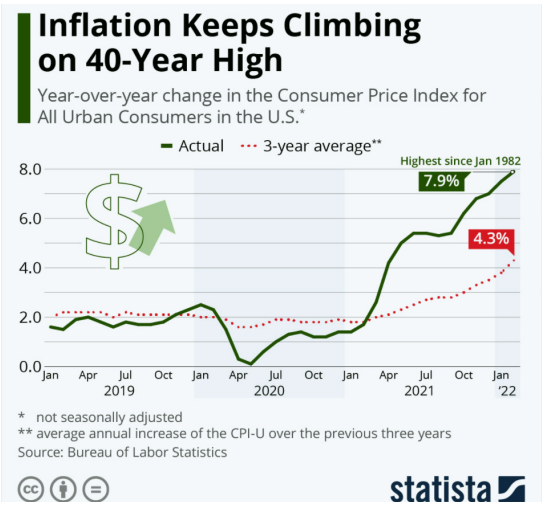


(CBDC) is also underway, and major companies are also showing increasing interest as they invest in blockchain and cryptocurrency. Of course, these events will spur the rapid expansion of the market. Cryptocurrency has been steadily gaining popularity, and accordingly, the introduction of cryptocurrency is becoming an increasingly important issue. The number of Bitcoin ATMs continues to increase, and more and more stores start accepting cryptocurrency as a payment method. Cryptocurrency assets are also used in the form of fundraising, and you can also travel around the world using cryptocurrency. In fact, it's easy to see how cryptocurrency is slowly but clearly spreading around the world. Introduction rates are also increasing thanks to the upward trend surrounding cryptocurrency.

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New dynamics in world economy

Moon Chae Geon



The United States Federal Reserve (Fed) is under pressure to handle the highest inflation in 40 years. With the outbreak of the COVID-19 pandemic, inflation began to rise. In 2020, demand across the economy fell as people stayed home and the supply chain broke as ports shut down. When restrictions were lifted around the world, pent-up demand rose sharply in 2021. In 2022, the US Central Bank started to raise interest rates. Interest rates on the dollar have impacts on the global economy, especially in developing countries with weak currencies. As the relative value of the dollar rises, food importers from Africa to Asia—countries that were already facing a historic global food crisis—are scrambling for dollars to pay their bills. The Russia-Ukraine war had impacts on European countries, as evidenced by the spiked energy prices. Europe has been relying excessively on Russian gas. Complicated forces are affecting the global economy at once, but they can be roughly divided into three themes. First, a high interest rate to fight high inflation could cause an

economic downturn. Second, a high price level with a strong dollar is directly impacting the lives of people in developing countries. Third, the war between the two countries that take up large parts of the world's food and energy supply is causing crises. With all those events intertwined, the world economy is going through new dynamics. Rising inflation, supply disruptions, and high food and energy prices have created an unprecedented situation in a highly interdependent global economy.

Inflation is a rise in average prices measured by a basket of goods and services. The inflation rate fell to an average of 1.2% in 2020 when the pandemic started, then rose to 4.7% in 2021. Pandemic-era supply bottlenecks were scrambled by suppressed demand from lockdowns. Developing countries with comparatively low credibility have already started to raise interest rates to keep inflation down. Preventing inflation is more important for developing countries to keep their currencies stable. It is because capital is more likely to flow out of a weak economy when inflation is high. In 2022, the outbreak of the Russian-Ukraine war led to an energy crisis. With a 41.9% increase in the energy price level, Euro area annual inflation is expected to be 10.7% in October 2022. On-and-off lockdowns in China caused supply chain issues for manufacturing companies. Due to all these effects, inflation in the US was up a record 9.1% in June and remains around 8%. The Fed started raising interest rate sharply, even with the possibility of a recession. Rate hikes started in March 2022, 2 years after the federal funds rate was lowered to 0%–0.25% to support the economy during COVID-19. In September, 75 basis points were raised for the third time in a row, lifting the target range for their benchmark rate to 3%–3.25%, the highest level since early 2008. The UK, the European Central Bank, Canada, and South Korea also

started to raise interest rates. By raising borrowing rates, the central banks make it costlier to take out a mortgage or an auto business loan. Consumers and businesses would then presumably borrow and spend less, cooling the economy and slowing inflation. However, because of the delayed response of the Fed, the effort to combat the inflation may result in a recession.

The cost of living has surged as supply chains were hindered and Russia's invasion of Ukraine pushed up the cost of commodities. The effects of these rising prices are felt differently throughout the world. For poor countries, lives are harder as food prices take up a big share of spending. According to the Economic Research Service (a U.S. government agency), food consumed at home accounted for between two-fifths and half of Burmese, Cambodians, Filipinos, and Laotians' expenditure in 2020, compared to about a tenth in rich countries. In 2020, an estimated 375.8 million people in the Asia Pacific region faced hunger, nearly 54 million more than in 2019. This number will inevitably increase this year. Since America's interest rates

are rising, a soaring dollar and elevated commodity prices are eroding developing countries' power to pay for goods that are typically priced in dollars. Importers from Ghana to Pakistan have struggled to pay for cargo due to rising costs, shrinking capital, and difficulty obtaining dollars. Cargoes get stuck at ports or may even be diverted to other destinations. Ghana's cedi has

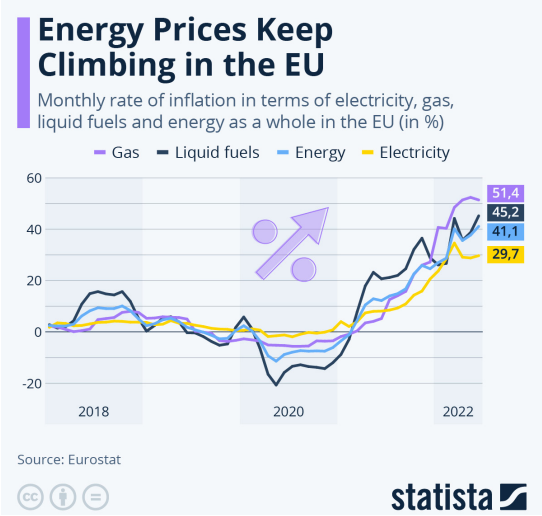
lost about 44% this year against the dollar, and there are already worries about food supplies ahead of Christmas. In Egypt, about 80% of millers have run out of wheat and stopped operations as some 700,000 tons of grain remain stuck at the country's port since the start of September.

For European countries, energy is the biggest concern. The year-ahead contract for German electricity reached 995 euros per megawatt hour. The French equivalent surged past 1,100 euros. It is a more than 10-fold increase in both countries from last year. Energy prices have soared in Europe as Russia has slashed

natural gas supplies to the continent. About 25% of the European Union's energy consumption comes from natural gas, and the largest share of its gas comes from Russia (41%), according to the Directorate-General for Energy for the EU. Now that Russian energy has become unsustainable, the EU is making plans to lower its dependence. But the energy crisis in Europe is already ongoing. Energy-intensive industries are at risk of companies permanently shifting production to locations where cheap energy abounds. For instance, in the United States, natural gas costs about a fifth of what companies pay in Europe. Euro-zone manufacturing activity in October hit its weakest level since May 2020, signaling Europe

was heading for a recession. High energy prices for households are a problem. But when European industry becomes structurally uncompetitive and moves to the U.S., it could leave permanent damage.

The good news is that there is little sign that inflation in these countries is becoming entrenched. Core inflation, which excludes volatile items like food and fuel, remains low in most economies. Global food-commodity costs have also fallen for six straight months. An unusually warm October and projections of a mild winter helped drive prices lower. Regarding the



rate hikes, the 2022 recession would be unlike any other. Every recession is different but has the same pattern of declining GDP and rising unemployment. However, the economic environment and businesses are in a different place these days. With labor force participation decreasing and the unfilled job rate increasing, the unemployment rate is likely to stay low. Recessions were led by single-digit corporate profit margins, but profit margins are so high right now, reaching up to 18%. The amount of corporate cash on hand is close to \$4 trillion, and that is a significant downturn buffer. However, there are reasons to be pessimistic; winter is coming with the ongoing Russia-Ukraine war and high energy prices won't be able to keep all of Europe warm. Companies would have to cut employment if the economic circumstances worsened. Whatever happens, it won't be like before.

These countries spend the most on food

Percent of consumer expenditure spent on food that was consumed at home, by selected countries, 2015



Source: PPP, USDA, calculations based on data from Eurostat, International

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ECONOMY



CONFLICT

Has **Russia** led to a second era of **arms race?**

: **Rearmament of war criminal**

Byeonghyeon Park

Which country has the largest defense budget in the world? As can be easily predicted, it is the United States. The US set a military budget of 752.9 billion dollars during the Trump administration, which was more aggressive than previous presidents of the US. Although the Trump administration has steadily increased its military budget since the start of its term, its total military budget accounted for only about of US GDP(SIPRI) at the time. The figure also shows an overwhelming difference from China, which recorded the second-largest military budget of \$240 billion(World Bank) during the same period. However, it is the figure that has significantly decreased since the end of the Cold War. During the 1950-70s, when ideological conflicts peaked during the Cold War, the United States spent about 10% of its GDP on militarized-related fields every year. During the same period, major European countries also spent 2% to 4% more than nowadays on the military sector. The arms race not only pushed the international community into the threat of war but also

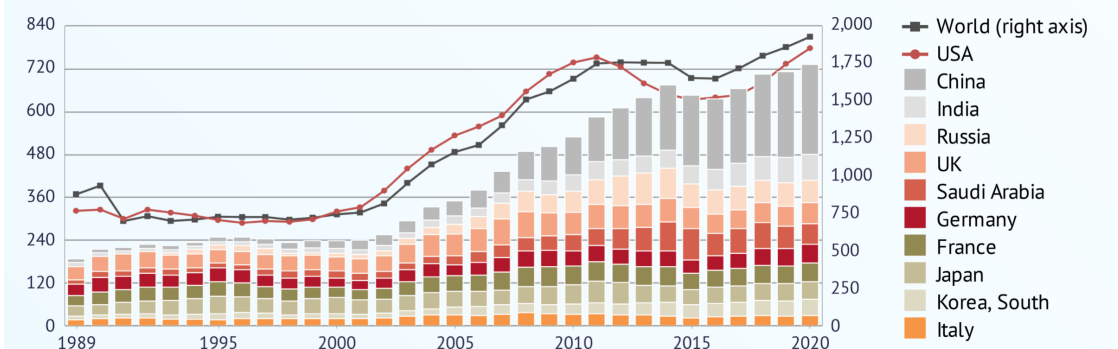


led to excessive government spending, which had a negative economic impact such as inflation. Fortunately, this arms race has died down since the end of the Cold War. Sometimes, tensions were heightened by military action by certain countries, but no one thought the same serious arms race would ever occur again.

However, after Russia's invasion of Ukraine in February 2022, the crisis over the emergence of a new arms race has escalated. It has begun with Germany. On 27 February, German Chancellor Olaf Scholz announced that Germany's military budget would be

Military Spending: World, US, and Other Major Countries Data Driven

Billion current USD - World military spending (right axis) & national military spending (left axis)



knoema

Source: Stockholm International Peace Research Institute

raised to about 2% of Germany's GDP, saying, "We will have to invest more in the security of our country." This is contrary to Germany's past movement to avoid expanding military spending and pursue a peace route since the fall of the Berlin Wall. Of course, the figure of 2% of GDP is not a threat itself. Compared to countries with similar national power to Germany, this can be more clarified. In the case of the United Kingdom, more than 2% of GDP has always been spent on military expenses even after the end of the Cold War, while France has been spending about a similar amount. However, in order to clearly understand what Germany's declaration of rearmament means, we need to know what position Germany takes in the European and global order.

Benjamin Disraeli, the leader of the British Conservative party, described the Franco-Prussian War as follows : "This war represents the German revolution, a greater political event than the French revolution of last century." This statement implies how important the influence of a unified Germany in Europe is. The geo-Political position of Germany is one of the important factors. Germany borders France to the west and is located at the distance requiring caution from Russia to the east. So, Germany, which is located at the center of Europe and exerts a strong influence, inevitably causes tension with neighboring countries. Therefore, Germany's rearmament is causing controversy in accordance with the "German dilemma," which refers to the phenomenon in which Europe's balance of power was broken every time Germany's national power changed rapidly.

The second important fact

is that the German declaration of rearmament may mark the end of the pacifist line that Germany has pursued so far. After German reunification, Germany suffered from a huge burden of unification costs of about 2 trillion euros and the resulting economic and social confusion. In addition, after the collapse of the communist power, the purpose of military expenditure was lost. For these reasons, Germany disarmed itself whose formidable military power was controlled by NATO before reunification. And this decision led to the adoption of a pacifist line. Since then, Germany has claimed to serve as a bridge between east and west. While staying close to the liberal countries of Western Europe, it had maintained a quite good relationship with Russia. Forming an economic cooperation and dependency relationship represented by Nordstream is a representative example. Along with the pacifist line, whenever arms buildup became an issue within Germany, it often became hazy by internal opinion differences. In the previous German cabinet, which consisted of a grand coalition of the CDU (Christian Democratic Union) and the SPD (Social Democratic Party), there were differences in armament. And a poll targeting Germans (2017) showed that 64% of Germans expressed a negative perception of armament.

However, after Russia's invasion of Ukraine, public opinion in Germany has changed. Those who have had close relations with Russia and have expressed conflicting opinions on the German military buildup have also changed their stance since Russia invaded Ukraine. The SPD and The Green, who had been passive about the situation in Ukraine, claiming that Russia would not invade Ukraine, also changed their stance. In addition, the German people are also welcoming the rearmament, with

the approval rating for the rearmament recording 78 percent in a poll of German people after the declaration of rearmament (Forsa Institute). As such, the invasion of Ukraine has changed Germany's overall view of security, and no one can guarantee that Germany will continue to pursue a pacifist line in the future. Since Abe's administration came to power, Japan has been trying to strengthen its military power, citing normal state theory. This year, Japan set up an arms budget of about \$4.7 million. And they claimed "nuclear sharing" which violates the Three Non-Nuclear Principles



declared by Eisaku Sato, Japan's prime minister in 1967.

As such, the phenomenon of armaments strengthening centered on powerful countries is being realized in reality. Of course, few people regard the increase in the arms of the countries caused by the Ukraine crisis as a re-emergence of the arms race during the Cold War in the past. But countries will appreciate the importance of national military force for their own security in the Ukraine crisis. The sad proposition, 'Peace is protected only with power,' is realizing its meaning in reality.

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Limitations of the *UN Security Council* Revealed
in the Wake of Russia-Ukraine Crisis:

What Does the Future Hold for the UN?

Park Soobin

The recent Russia-Ukraine crisis has once again brought the world into a conflict and distrusting relationship, and the existence of the United Nations' initially aiming to bring world peace has been unable to escape the stinging gaze from the international community. The UN, often referred to as a prominent future world government, has been widely criticized for failing to make a decisive contribution to alleviate the degree of crisis despite its original purpose of establishment. One of the fundamental reasons lies in the inefficient UN Security Council system. Russia,

a permanent member of the UNSC, has exercised its veto power on every single resolution containing any form of sanctions or enforcement against its national security, making the UNSC abide by legal binding and coercion. Even though the resolution has been passed twice so far at the UN General Assembly condemning Russia's provocative actions, resolutions without legally binding force have done nothing except for conducting the negotiations between the counterparts that failed anyway. Although more than 9 out of 15 countries voted in favor of the resolution, the underlying truth

of the UNSC has then been revealed once any of the permanent members exercises veto power against resolutions. In other words, it is contradictory to have a certain country as a permanent member holding a decisive power over others, completely neglecting human rights. The main questions remaining not for just now but for some time being is, "How full is the UN committed to achieving world peace in equitable and adequate ways, which is one of its main establishment purposes, and what are some plausible solutions for revolutionizing the rigidity of the UNSC system?"

The UN, indeed, has been impressive in terms of making efforts to mitigate this crisis and ultimately regain world peace. Some remarkable examples are the following: member states of the UN have passed resolutions condemning Russia's provocative actions during the UN General Assembly meetings. Relevant counterparts to this crisis (i.e. NATO and EU) have applied economic and diplomatic sanctions against Russia. The country committing severe human rights violations in Ukraine soon became disqualified to remain as a UN Human Rights Council (UNHCR) member¹. When it comes to a direct effect, the UN has spent 40 million USD providing food, shelter, medical supplies, and blankets to Ukrainian people – humanitarian aid rather than humanitarian intervention². There have been many beneficiaries of this warm-hearted approach that helped out Ukrainian refugees who lost their shelter and families.

Nevertheless, despite its striving efforts, there are three major limitations to be addressed. Firstly, resolutions based on UNGA had yet no real effectiveness in contrast to UNSC resolutions³. There is a significant trade-off situation between "peace" and "development". Due to the global food crisis that first emerged from Ukraine's difficult situation, some of the food supplies that were previously supposed to be delivered to Africa and the Middle East are now subject to be allocated to Ukrainian people⁴. This somehow creates inequality in terms of satisfying people's basic rights and needs. In summary, now we have no choice but to choose peace at the expense of the economic and social development of undeveloped countries. The next limitation is the inflexible UNSC system (i.e., structural limitations). Veto power exerted by Russia

has discouraged the sending of UN peacekeeping troops to Ukraine to end this cruel war. The UN has merely made efforts in providing humanitarian aid rather than humanitarian intervention (based on the Principle of Responsibility to Protect, R2P). Third, human rights (right to freedom, right to life, social rights, in sum basic rights) are not being protected. Such human right violation once again proves the circumstance where the UN does not comply with its establishment purpose. However, for these reasons, the UNSC system should be revisioned and revolutionized to a further extent. Though the basic fundamental principle of the UN is democracy, amid this crisis, democracy is not doing a good job. The unanimity rule among the permanent members of the UN Security Council is difficult to reach an agreement on a specific issue that separates members into two-fold: either liberal democratic or communist. In particular, if the perpetrator of a certain case exits as a permanent member (i.e., Russia), it becomes severely difficult to pass the resolution.

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The Most Intimidating Refugee Crisis Ever Since World War II

Kim Seungah

Every year, the number of displacements increased by at least eight percent, resulting in an estimated 103 million forcibly displaced people in mid-2022 around the world, according to the United Nations High Commissioner for Refugees (UNHCR). In other words, more than one percent of the entire world population have lost their homes. The current world refugee crisis is the most serious ever since the end of World War II. However, the refugee number will only continue to increase if no measures are taken to resolve current conflicts. To stop both the current and further displacements, there is a need to understand the seriousness of the global refugee crisis by examining refugee crisis statistics, causes of various refugee crises, and solutions for refugees.



First, knowing the exact number helps to understand the severeness of refugee crises around the world. Out of the 89.3 million people displaced at the end of 2021, 27.1 million were refugees, 53.2 million were internally displaced people, and 4.6 million were asylum seekers. Among this displaced population, on one hand, more than 70% comes from only five regions: Syria (6.8 million), Venezuela (5.6 million), Ukraine (5.4 million), Afghanistan (2.8 million), and South Sudan (2.4 million). On the other hand, five countries host 36% of world refugees: Turkey (3.7 million), Colombia

(2.5 million), Germany (2.2 million), Pakistan (1.5 million), and Uganda (1.5 million). Some important notes to make here are that only about a quarter of the world refugee population is currently hosted in the most developed part of the globe and almost seven out of ten refugees are in neighboring countries. The tragedy exists within the child population where an estimate of more than 36 million are children under the age of 18 and 1.5 million are born as refugees. Since these facts help understand the “how much,” in other words the severity of refugee crises, now the question moves to “why.”

To resolve refugee crises, second, understanding the causes of these crises is crucial. Historically, people have been displaced due to conflicts, wars, violence, human rights violations, and more. In the modern era, though, the reasons have expanded to economic ones: rapid economic development and sudden growth in disaster prone areas are also causing people to flee. “Climate change,” moreover, “is the defining crisis of our time and disaster displacement one of its most devastating consequences” according to UNHCR. For example, a warmer climate allows the location of tropical storm formation to shift to higher latitudes, increasing the number of areas affected by that storm. In Korea this summer, super Typhoon Hinnamnor battered South Korea and thousands were displaced especially in the city of Pohang. Combining all these reasons—conflicts, economic changes, and climate change—overall, the Institute for Economics and Peace estimates it will result in more than one million displaced populations globally. To prevent all this tragedy, what should the global society do?

Unfortunately, the “speed and volume of displacement is still outpacing the availability of solutions for those displaced—like return, resettlement, or local integration.” There is hope, nonetheless. The current percentage

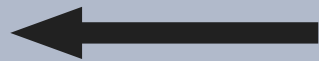
of displaced populations spontaneously returning to their homes has increased by more than 70 percent in 2021, which is comparable to the percentage before the COVID-19 pandemic. Not only individuals, but also many countries hosting refugees are working to manage displacement: on a collective basis, such governments offer job opportunities, provide tailored solutions for various groups, and allow refugees to harmonize with the local community. The priority regarding refugees, however, is tackling the fundamental problem by establishing long-term world peace and preventing further climate change.

In conclusion, knowing the status quo, the reasons for the status quo, and possible solutions to resolve this status quo regarding refugees is crucial to protecting refugees’ human rights. The diversity of causes of refugee crises has increased. Naturally, the number of refugees has boosted as well compared to the number a decade ago. This number is extremely large to tackle in the short run, but hopeful moves can be seen in many parts of the world. The most essential way to protect refugees, though, is not to displace anyone in the first place.

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CONFLICT



ENVIRONMENT

Youth-Led Efforts to Fight Climate Change

Zakharova Ekaterina

Climate change has become one of the most alarming threats our society has ever come across. Despite the fact that the youth around the world has less political and social power, there has been an inclination from the youth to participate in government and politics by pursuing legal actions in the hopes of achieving climate justice. Through engaging in legal actions, young people have been able to use their voices and construct a dialogue between their governments, which can directly lead to the creation of concrete government actions to help develop successful and critical climate change policy. This article will therefore explore the concept of climate justice and advocate for supporting youth class action lawsuits. We will review some of these youth class action lawsuits and pinpoint why their impacts are important for creating a discourse between the youth and their respective governments. Finally, this article will explore any successful policies created in response to these lawsuits.

Climate justice is a relatively new term that refers to the civil and social movement which acknowledges the disproportionality of the impacts of climate change effects on varying populations and demographics. For instance, people from developing countries are currently being affected more severely than those from developed nations, due to flooding, the submerging of infrastructures, migration, and food insecurity which are the direct impacts of climate change. As the UN Secretary-General António Guterres noted, “Climate change is happening now and to all of us. No country or community is immune.” He then added: “And, as is always the case, the poor and vulnerable are the first to suffer and the worst hit.” However, there is another dimension to climate justice – the inequity of climate change between the different generations, namely,

intergenerational equity.

Specifically, intergenerational equity embodies the concerns for what kind of earth future generations will inherit due to the impacts of previous generations and their perpetuation of climate change. As defined by Anna Braam, Chairwoman of the Foundation for the Rights of Future Generations, it means: “The future generation must have the same opportunities to satisfy its needs as the present generation.” Children today grow up in a warmer world and with risks of infectious diseases, food shortages, floods, and extreme heat – and, according to a study, this will have long-term impacts on their health. As of today, about 700 million children are at risk of suffering from the climate crisis, but as future generations are born, the consequences they will face due to the climate crisis will become more severe. These concerns for the future have inspired hundreds of thousands of youths across the world to protest against their governments’ inactions for concrete climate change policies. This is because the youth represent the generation that will most likely suffer the worst impacts of climate change. Some outcomes of these protests can be observed such as the rise of NGOs, which incorporate youths’ voices to influence policy. For instance, Namibian Youth on Renewable Energy, and also famous youth climate change spokespeople like Greta Thunberg.

A legal pillar is an essential component of a human rights agenda and changing policy because it shows a moral obligation by governments and state actors to not violate said morals. Youth across the world have now started to use their voices and rights to file class action lawsuits in domestic courts. Oftentimes these lawsuits are hinged on the right to life and even furthermore the right to life for future generations. Recently, there was



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another major legal case in Germany: in *Nebauer et al. v Germany*, which was a legal case brought to court by a group of young individuals, the German Federal Constitutional Court decided on four constitutional complaints regarding the German climate protection policy. The complainants argued that the Federal Climate Protection Act's (KSG) target for reducing greenhouse gasses by 55% until 2030 from 1990 levels is too insufficient to protect future generation's rights to life from the future impacts of climate change. The federal court ruled in favor of Plaintiffs stating in their judgment, "one generation must not be allowed to consume large portions of the CO₂ budget while bearing a relatively minor share of the reduction effort if this would involve leaving subsequent generations with a drastic reduction burden and expose their lives to serious losses of freedom". This resulted in the passing of a bill that would require a minimum reduction of 65% in greenhouse gas emissions from 1990 levels by 2030.

While it is true that the issue of individual countries itself is not enough to address and solve all the problems pertaining to climate change, cases like the one

described above have influenced a multitude of youth-led class action climate change lawsuits filed around the world. These include around 38 different countries since 2020 where class action lawsuits took place. Some examples of such countries include: The United States, New Zealand, Australia, Ireland, Netherlands, Pakistan, and South Korea. Another example of climate change policies being enacted due to the verdict of a youth-led climate change lawsuit occurred in Colombia. In 2018, a group of 25 young people filed a lawsuit concerning the rights of future generations, arguing that current policies on deforestation would ruin their chances to live in a healthy environment. As a result of the ruling, the government was ordered by the Supreme Court of Justice to adopt new deforestation policies which were aligned to sustainable goals, thereby protecting the rights of future generations. Thus, legal verdicts hold many important characteristics that many international agreements lack, such as accountability for successful policy implementation.

While not all of these lawsuits have been successful, it does force governments to reevaluate their policies and youth's relation to climate change, as well as their

obligations towards future generations, who will one day partake as adult citizens. It also empowers the assumed weakest group of society by giving them a voice along with the power to participate directly with their governments on issues that concern them. In the future, climate change litigation positive verdicts may spill over and force multiple nations to take on their obligations towards future generations seriously and adopt more aggressive policies regarding climate change.

In conclusion, the younger generations are finding their voices through their country's legal system by bringing youth-led climate change lawsuits. They have created concrete positive changes in government policies, which ensure the youth a more sustainable future. Nonetheless, the resources and literacy required for bringing lawsuits are costly, therefore many youth representatives may not be equipped with the proper tools. The private sector and local governments can take multiple strides to support these lawsuits, such as providing legal education workshops and also supporting these youth-led class action suits financially in order to empower the youth to keep fighting to protect their rights and also those of the future generations.

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Analysis of damage and efforts to address ocean acidification

Jung Jae Hoon

What is ocean acidification?

Ocean acidification refers to a phenomenon in which more than a quarter of carbon dioxide (CO₂) in the atmosphere, which has increased rapidly since the Industrial Revolution, is absorbed into the ocean, the hydrogen ion concentration of seawater increases, and the pH of seawater decreases. Ocean acidity has increased by about 30% since the Industrial Revolution, and if this trend continues, the pH will drop by 0.2-0.4 by the end of the 21st century. Ocean acidification

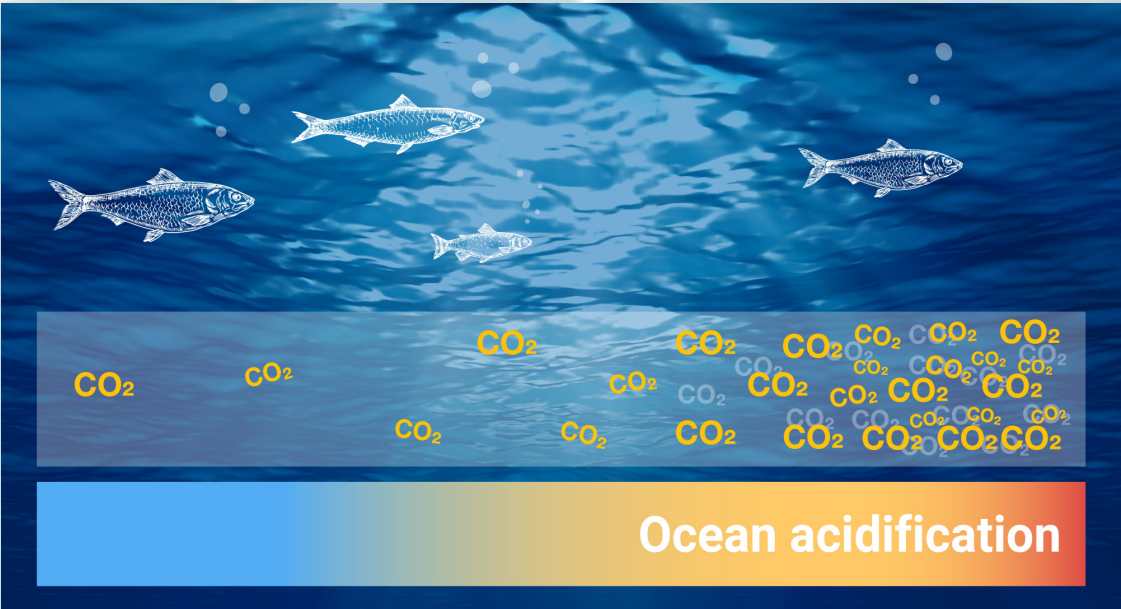


has already occurred several times in Earth's history, but recent ocean acidification is progressing at a rate of about 100 times or more.

How Ocean Acidification Occurs

On November 2, 2022, the Korea Institute of Management Industry and Technology announced that the increase in CO₂ emissions intensifies ocean acidification through an observation-based greenhouse gas tracking system. CO₂ released by humans into the atmosphere after industrialization dissolves in the ocean and increases the acidity of seawater. The weakening of the ocean buffer capacity first revealed in the study means that the amount of CO₂ in seawater is not kept constant and is easily changed by external factors. In other words, if the buffering capacity is weakened due to ocean acidification, CO₂ is not stored for long in the ocean and is re-emitted into the atmosphere.

As the concentration of carbon dioxide in the atmosphere increases, so does the concentration of carbon dioxide dissolved into the ocean. Carbon dioxide absorbed into seawater produces hydrogen ions, which react with carbonate ions necessary for marine organisms to form calcium carbonate skeletons to form bicarbonate. This shifts the carbonic acid concentration equilibrium in seawater, making it difficult to form calcium carbonate. This reduces the chemical buffering capacity of the ocean. Buffering capacity refers to the ability to minimize the effect of a substance on natural ecosystems such as soil, pH, and water from the outside. (The ability to avoid sudden changes)



Ocean acidification effects

When the amount of dissolved carbon dioxide in seawater increases due to ocean acidification, acidity increases. This affects the respiration, energy storage, consumption, and ecology of marine organisms including fish, and changes in pH have a direct effect on organisms with calcium carbonate as their skeleton. When acidification deepens, the calcium carbonate exoskeleton forms a lack of carbonate, making it difficult to form, which can lead to the collapse of the food chain. Since fish species such as cod can adjust the body's pH, acidification of the ocean does not have a direct effect on swimming ability. In other words, it can be difficult to maintain the population.

According to the evaluation of the effect of ocean acidification caused by carbon dioxide increase on marine life and the derivation of ecological impact criteria, the degree of DNA damage, a type of genotoxicity, was confirmed after exposing the blood cells of the sea fish and, the dolphin, to carbon dioxide. In the pH 8.22 condition, the DNA tail moment of the dolphin blood cells was 0.548 +/- 0.071, and in the pH 7.55 condition with increased acidity, the DNA tail moment was 1.601 +/- 0.197. In other words, it can be seen that the DNA of fish blood cells is damaged in acidified seawater. In addition, as the CO₂ exposure

time of luminescent microorganisms increases, the effect of luminescence amount and cell density tends to decrease. Luminescent microorganisms received transient comparisons to cell growth in seawater with dissolved carbon dioxide concentrations below pH 7.4, and long-term exposure to CO₂ tends to decrease the species abundance of the community.

Other threats include threats to coral reef communities. Coral reef communities form the most diverse ecosystems in the ocean, providing habitat and food for about 25% of marine fish species in tropical waters and accounting for 9-12% of global catch. Severe decline or loss of coral reefs due to ocean acidification threatens the survival of coastal communities by reducing biodiversity, food loss and reducing the buffering capacity of coastlines from tsunami damage.

Efforts to prevent ocean acidification -CO₂ capture technology

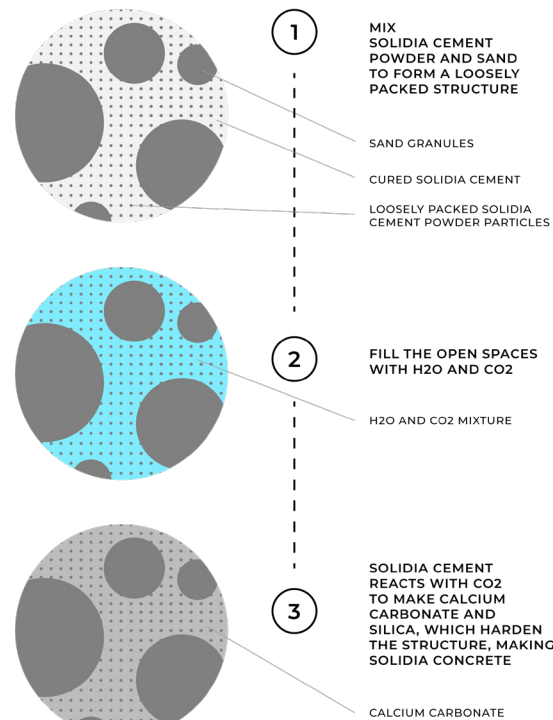
Carbon dioxide capture technology refers to a technology that separates carbon dioxide from the atmosphere. In April 2022, the IPCC of the United Nations Environment Program (IPCC) will transform all human power plants into alternative energy, all modes of transportation with electricity/hydrogen, and all buildings with eco-friendly technologies (2050

compared to 2019) 40 -70% carbon can be captured. This is because it is impossible to achieve zero greenhouse gas emissions from all fields, including the growth of population and livestock, and the steel and cement industries for economic growth and infrastructure construction. Therefore, he said that a capture technology that can treat 30-60% of carbon is needed.

Among carbon dioxide capture technologies, direct capture is a method that directly separates carbon dioxide through a filter by rotating a fan. It is done by adding a carbon capture process at a high carbon emission point such as a plant, and one plant based on 4000 tons/year produces the effect of 4,000 trees. In theory, if there were 40,000 such factories, it would be possible to capture and remove all carbon dioxide beyond the carbon dioxide emitted by humans on Earth. There are criticisms that fossil fuels are used to generate electricity to run factories, but there is a countermeasure to purchase and use renewable energy.

In fact, according to Solidia Technologies, in April 2019, Solidia applied the technology to reduce carbon dioxide (CO2) emissions by 30% (245 kg) during

the environment, except for eco-friendly actions based on citizenship that we can do in our daily lives.



cement production. Solidia's system can reduce the carbon footprint of cement and concrete by up to 70%, in addition to additionally capturing 240 kg of carbon dioxide equivalent to 24% of the cement mass in the CO2 curing process of concrete. A cement plant could cut energy consumption equivalent to 260 million barrels of oil (or 67 million tonnes of coal), Solidia said. According to Solidia, the technology could eliminate at least 100 million tonnes of concrete waste in landfills and reduce mercury, nitrogen oxides and sulfur oxide emissions. In fact, carbon dioxide capture technology is the most influential technology that can actually change

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Technology could solve the fine dust issue from China

Jang Yeonjune

Whose responsibility is a newborn? Obviously, his or her parents are responsible. In the same context, China is responsible for the fine dust issue it gave birth to in Korea. Despite the fact that common research conducted by Korea and the United States indicate that much of the fine dust in Korea originates from mainland China, China audaciously denies such an argument and rejects all responsibility. Moreover, China has even threatened the South Korea government that it will not be able to solve the “entirely domestic fine dust issue” if it continues to blame the Chinese government. Both countries are making progress in creating common methods to solve the fine dust issue via cooperation, but China still refuses to admit that it is at fault for much of

the fine dust in South Korea. The main objective of the South Korean government should be to cooperate with China to solve the fine dust issue, while simultaneously forcing the Chinese government to admit its negative externality it caused in Korea via mass media regarding fine dust.

South Korea and China have established the Korea-China Environmental Cooperation Center since 2018 to solve the fine dust issue, which is a main issue in both countries. Researchers from both countries conduct studies on the air quality in Korea and China, and analyze the main cause of the fine dust pollution. Both countries have agreed that holding each other responsible and evading responsibility should not be



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the priority. Rather, they both seem to have agreed that solving the fine dust issue in the first place should be considered with maximum interest. By the establishment of the Korea-China Environmental Cooperation Center, researchers from both countries will be able to research the origin of the dirty air quality. Also, they can provide useful environmental research information like the amount of daily fine dust pollution to ordinary citizens in real time via the website they operate together.

The Korean government must provide subsidies to its research team, making sure Korean researchers gain the upper hand in terms of research technology in cooperation with China. The Korean research team should be supported financially to a greater extent because it should be more technologically advanced than Korea to check if the Chinese counterpart ever attempts to fabricate studies' results. A handful of fine dust in Korea was already proven to have originated from mainland China by NASA, but the Chinese government still refuses the fact that it is the perpetrator of South Korean environmental damage. If South Korean researchers can cooperate with their Chinese counterparts and make a common statement about the original cause of South Korean air pollution, the Chinese government will have no choice but to admit its responsibility.

As an extension of the Korea-China Environmental Cooperation Center, in 2019, the Korea-China Blue

Sky Plan was established. The Blue Sky plan, as can be seen from the terminology itself, is a common plan to maintain good air quality and prevent further fine dust air pollution. This plan involves sharing potentially useful domestic policies that can be used to reduce fine dust in midair, and presenting the results simultaneously. Korea has put a limit on the functioning of companies that utilize coal for operation. China has put a limit on the usage of old cars whose fuel consumption is very harmful to the environment. By pursuing and sharing such ideas and policies, both countries have seen a massive improvement in their air quality. If what is effective in Korea is also applicable to China, China can implement the Korean policy, and vice versa. According to the Blue Sky plan, the two countries not only shared their domestic policies but also useful technology for removing fine dust. China is currently developing an artificial rainfall technology to pull all the fine dust microparticles to the ground, ultimately making the air quality clean. Due to its efficiency, some people in Korea argue that the Korean government must import Chinese artificial rainfall technology.

Indeed, the ultimate purpose of the Blue Sky plan is cooperation between Korea and China, and thus importing Chinese technology to Korean soil does have its positive side. However, there are costs. The technology exporting country will ultimately gain more bargaining power in terms of environmental

cooperation, and the importing country will be more dependent on the exporter in terms of technology. China may defect from the previous agreement and selfishly not export the technology to South Korea for “wrongly” blaming China for contributing to South Korean environmental pollution. If possible, the Korean government must provide financial aid to the Korean research team, facilitating them to develop more competitive technology for removing fine dust in midair.

China is a country that competes for hegemonic power with the United States, whereas South Korea is a relatively weak country whose main diplomacy tool is based on soft power. China, in which democracy is weak and state television purportedly spreads fake news to its people, will find it much easier to employ mass media and falsely accuse South Korea of blaming its “entirely domestic issues” on another country. On the other hand, for Korea, which is internationally and politically less influential, employing mass media and spreading the truth to other parts of the world does not seem very realistic. However, China is constantly arguing that it has no responsibility for the fine dust issue in Korea via international media. If Korea does not take any backup measures, third parties will start believing the Chinese lies. Therefore, Korea must encourage the cooperation of Korean and Chinese researchers and compensate them if they provide evidence to the world that Chinese fine dust is causing harm to South Korea. Of course, there will be attempts to disrupt the public statement by researchers by China, which does not want its researchers to admit that China is faulty, but Korea must repeatedly try to let the truth out to the world.

Ultimately, if the Korean government constantly subsidizes the Korean researchers for their studies and cooperation with Chinese counterparts, the day when the entire world rightfully accuses China of the environmental harm it causes to adjacent countries will come. Cooperation between Korea and China is important, but the Korean government must be cautious and not allow China to gain the upper hand or more bargaining power in terms of future environmental cooperation. Korea should require China to publicly apologize for the massive environmental damage.

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echos in eternity.*