

DEALING WITH ECONOMIC PROBLEMS THROUGH SOLVING THE PROBLEM OF CLIMATE CHANGE

RELEVANȚA INEGALITĂȚILOR ECONOMICE ÎN REZOLVAREA PROBLEMATICII PRIVIND SCHIMBĂRILE CLIMATICE

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Abstract: Dealing with a slowdown in economic growth is something that no country wants to be concerned with. Neither do countries want to face the reality of widening gaps in income or the realities that attend changes in the climate that we are experiencing in the world today. This study focuses on these issues and makes an attempt to find solutions to them. First there are discussed the negative impacts that climate change has on economic growth and income inequality. It is the author's contention that if a solution can be found to the various problems connected to climate change, solutions to these other problems will be found. The paper ends with a discussion of the role that business can play in finding solutions to the problems regarding climate change.

Key-words: *economic problems, economic growth, income inequality, climate change, global warming.*

Cuvinte cheie: *probleme economice, creștere economică, inegalitate de venituri, schimbări climatice, încălzire globală.*

1. INTRODUCTION

Extreme weather, combined with COVID-19, was a “double blow” for millions of people around the world in 2020. However, the slowdown related to COVID-19 failed to stop the “progress” of the drivers of climate change and its impacts, which seem to accelerate at an ever-increasing pace despite our knowledge of its negative consequences for the world. This can be seen in a report compiled by the World Meteorological Organization (WMO, 2020) and an extensive network of partners as well as Intergovernmental Panel on Climate Change (IPCC, 2021), all of which have indicated increased greenhouse gas concentrations, increased land and ocean temperatures, rises in sea levels, an increase in the melting of ice and glacier retreats and extreme weather in many parts of the world, as can be seen in the extreme temperatures and fires in Canada

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in 2021. The data from these organizations also highlight the consequences regarding socio-economic development, migration and displacement, food security, and land and marine ecosystems. In fact, it was stated that 2020 was one of the three warmest years on record, despite the cooling effect of La Niña. The global average temperature in 2020 was about 1.2°C above the pre-industrial level from 1850 to 1900. From 2015 to the present have been the warmest years on record, and 2011 to 2020 was the warmest decade on record. As the WMO Secretary-General Professor Petteri Taalas has stated, “it has been 28 years since the World Meteorological Organization issued the first state of the climate report in 1993, due to the concerns raised at that time about projected climate change. While understanding of the climate system and computing power have increased since then, the basic message remains the same and we now have 28 more years of data that show significant temperature increases over land and sea as well as other changes like sea level rise, melting of sea ice and glaciers and changes in precipitation patterns. This underscores the robustness of climate science based on the physical laws governing the behavior of the climate system.”

All of the key climate indicators and information on the associated impacts provided in 2020 by WMO emphasize unending climate change, the increasing occurrence of extreme events and severe losses and damage that will have a strong effect on people’s lives, on societies and on the global economy. Unless strong measures are taken, this negative trend in the world’s climate will continue for years to come despite some isolated successes regarding its mitigation. The negative impacts that climate change is surely to have are numerous and include obvious physical damages, as well as less obvious consequences, such as interference with economic development. It is the intention of this study to first focus on the adverse effects of climate change on economic growth and inequality, and following this will be a discussion of new hopes in dealing with climate change issues; that is, there are new ways of doing business that not only concern the shareholders’ benefit, which is profit maximization, but also concern other relevant parties involved in doing business, such as stakeholders. Similarly, Environmental Social Governance (ESG) is a new type of motivation according to which investors rely not only on making a profit but also take into consideration environmental, social, and governmental issues as well.

2. LITERATURE REVIEW

2.1. Economic growth

According to Swiss Re Institute (2021):

- The New Climate Economics Index tests how climate change will impact 48 countries, representing 90% of the world economy, and ranks overall climate resilience.
- As compared to a world without climate change, the expected global GDP loss by 2050, under different scenarios, is the following:
 - 18% if no mitigating actions are taken (a 3.2°C increase)
 - 14% if some mitigating actions are taken (a 2.6°C increase)
 - 11% if further mitigating actions are taken (a 2°C increase)
 - 4% if Paris Agreement targets are met (below a 2°C increase)

- The economies in Asia would be hardest hit, with China at risk of losing nearly 24% of its GDP in a severe scenario, while the world's biggest economy, the US, stands to lose close to 10%, and Europe almost 11%.

The largest long-term threat to the global economy is climate change and if nothing is done, according to many studies, world global temperatures could rise by more than 3°C. Additionally, the economy of the world could shrink by 18% during the next 30 years. However, the impact of climate change can be reduced if action is taken immediately and concretely according to the targets that have been set by the Paris Agreement, as the Swiss Re Institute's new Climate Economics Index has demonstrated. If results are to be seen, it will require more than what is being carried out presently, and both public and private sectors have to play a crucial role in accelerating the transition to the substantial change in climate change.

The Swiss Re Institute has conducted a test in order to determine what the impacts of the ongoing effects of climate change would be on 48 economies, given four different temperature increases. Substantial income and productivity losses over time can occur as a result of global warming, making natural disasters related to changes in the weather more severe. For example, loss of land will result from rising sea levels, land that could otherwise be used productively; additionally, excessive heat can lead to crop failures. The most affected areas in this situation of rising temperatures would be the emerging economies in equatorial regions.

2.1.1. Major economies could lose roughly 10% of GDP in 30 years

If, for example, a 3.2°C increase in temperature was to take place, China would lose almost one quarter of its GDP (24%) by the middle of the present century and the U.S., Canada, and the UK would generally experience a 10% loss, while Europe would suffer slightly more at 11%. On the other hand, the economies of Finland or Switzerland would be less exposed to rises in sea levels (undergoing a 6% GDP loss) than France or Greece (with a 13% GDP decrease).

Group Chief Underwriting Officer and Chairman of the Swiss Re Institute, Thierry Léger, stated the following in relation to the risks that are associated with climate change: "Climate risk affects every society, every company and every individual. By 2050, the world population will grow to almost 10 billion people, especially in regions most impacted by climate change. So, we must act now to mitigate the risks and to reach net-zero targets. Equally, as our recent biodiversity index shows, nature and ecosystem services provide huge economic benefits but are under intense threat. That's why climate change and biodiversity loss are twin challenges that we need to tackle as a global community to maintain a healthy economy and a sustainable future." (Swiss Re Institute, 2021).

2.1.2. Climate Economics Index ranks countries' resilience to climate change

In addition to the evaluation of the economic impacts that each country might suffer from climate risks, the Swiss Re Institute has ranked the vulnerability of each country in terms of extreme dry and wet weather conditions. Moreover, it has looked at each country's ability to deal with the effects of climate change. When these data are assembled, the findings generate a ranking concerning the country's ability to deal with climate change impacts.

A similar view of the ranking can be seen in relation to the analysis of the impact on the country's GDP. That is, the countries that most often experience a negative impact are those with the fewest resources, making it difficult for them to adapt to and to lessen the impacts of rises in world temperatures. In that regard, the most vulnerable countries are Malaysia, Thailand, India, the Philippines, and Indonesia. On the other hand, the countries that can be considered the least vulnerable are those in the northern hemisphere, including the USA, Canada, Finland, Switzerland, and Germany.

2.2. Inequality

During the 2008-2013 period, global inequality between countries fell for the first time since the industrial revolution (Lakner, 2019), driven for the most part by a steady income increase in the developing countries with the largest populations, such as China and India. Today, two-thirds of global inequality can still be attributed to differences in the average incomes between countries rather than inequalities within countries, which means that where a person is born can exert a great deal of influence on the kind of future that he or she will experience. It also means that dealing with the economic differences between countries should be prioritized. However, data from the U.N. also indicate that the inequalities within countries are getting worse, especially in high- and some middle-income countries (United Nations, 2020).

Although it has been predicted that countries such as China and India will continue to bridge the inequality gap, it has also been suggested that the poor economic performance and population growth in sub-Saharan African countries could make the situation worse. In addition to this, new evidence published in the journals *Climatic Change* (Taconet et al., 2020) and *Proceedings of the National Academy of Science (PNAS)* (Differbaugh & Burke, 2019), suggests that changes in the world's climate could further increase the inequalities between countries.

2.2.1. How is inequality calculated?

The most common method by which inequality is measured is by using the Gini coefficient. It is also known as the Gini index or Gini ratio and it is a measure of statistical dispersion, which is used to represent the income or wealth distribution among a nation's residents. It accomplishes this by comparing the increasing proportions of the population against the increasing proportions of the income that they receive. The coefficient ranges between 0 (in the case of perfect equality) and 1 (in the case of perfect inequality).

According to the estimates published in *Poverty and Shared Prosperity* (2016), the Gini index of global inequality fell from .67 in 2008 to .62 in 2013 (World Bank, 2016), marking a change in global inequality since it had been increasing from the 19th century until 1988, and then plateaued for two decades. It has been suggested that the reason for this decline is the rapid growth of Asian economies, especially China and India. During the last decade, Latin America has also made a significant contribution to this trend, with inequalities falling between 2000 and 2015; sixteen countries within the region registered a decline in inequality and none underwent a significant increase (Lakner, 2019). Furthermore,

the 2008 financial crisis, with its attendant economic slowdown in the high-income countries, also helped to level the playing field and reduce disparity.

It should also be mentioned that although the inequality between countries has decreased, the inequalities within countries have actually continued to increase and, to date, 71% of the world population lives in countries where inequality is a present factor in people's lives.

2.2.2. *Climate change could make things worse*

Changes in the climate could play an increasingly influential role in the future in terms of shaping global inequalities. Various studies have suggested that the types of discharged emissions will determine the inequality levels between countries and there has been an especial emphasis on how the reduction of climate change can either limit or increase the inequalities between countries. This depends on the costs of the types of remedies that are used, so that they do not fall on the low-income countries, as it occurs today. Rather, the remedies to climate change should be distributed evenly, so that the benefits can help to decrease the inequalities generated by the damage of climate change.

An article recently published in *Climatic Change* (Méjean et al., 2020) and explained by the authors with a guest post on *Carbon Brief* (Guest Posts, 2020) computed the evolution of GDP country by country, as it can be seen in the following: “considering uncertainty in socioeconomic assumptions, emission pathways, mitigation costs, temperature response, and climate damages.” The paper concludes that “[i]f climate damages are as regressive as the latter suggests, climate mitigation policies are key to limit the rise of future inequalities between countries.”

The paper shows how overall greenhouse gas reduction can create inequality through the cost of mitigation and avoiding the damages of climate changes. In most scenarios, the inequalities among countries will decline in the short to medium term but they can begin to rise again as the impacts of climate change gradually outweigh the expected economic reduction in the economic divergences between the low- and high-income countries.

The authors caution the reader concerning their results, saying that they are open to a variety of interpretations; however, they also say that the various uncertainties regarding emissions, increases in temperatures, and subsequent damage can result in un-thought-of convergences of future climate change with the incomes of countries.

Similarly, a new study suggests that economic inequality has been increased by global warming since the 1960s (see the peer-reviewed journal PNAS and Diffenbaugh & Burke, 2019). The research demonstrates how “temperature changes caused by growing concentrations of greenhouse gases in the Earth's atmosphere have enriched cool countries like Norway and Sweden, while dragging down economic growth in warm countries such as India and Nigeria.”

The impact of global warming on economic inequality is of particular concern-increasing evidence shows that the poorer countries or individuals with low incomes are more negatively affected by changes in climate. This is so either because they lack the resources to protect themselves from the climate changes or

because they live in warmer areas, where an increase in warming will negatively affect health and productivity.

Global warming has increased global economic inequality

According to Burke, one of the authors of the study, “[f]or most countries, whether global warming has helped or hurt economic growth is pretty certain. There’s essentially no uncertainty that they’ve been harmed.” For example, after decades of the small effects from warming, India’s economy is now 31% smaller than it would have been if global warming had not taken place (Garthwaite, 2019).

Interestingly, the study also suggests solutions such as the use of low-carbon energy sources, which can provide many secondary development benefits in addition to the primary benefits of the increased access to energy (Diffenbaugh & Burke, 2019). From this point of view, it is possible that combatting climate change could also lead to decreased global inequality.

2.2.3. A unique chance to shape the future

A significant amount of literature addresses the role of climate change in terms of increases in various types of inequality and this literature includes discussions of what is termed “climate justice” (Bassetti, 2019) and “environmental justice.” In fact, a 2017 UN DESA Working Paper suggested that the relationship between social inequality and climate change can be characterized as a “vicious cycle, whereby initial inequality makes disadvantaged groups suffer a disproportionate loss of their income and assets, resulting in greater subsequent inequality” (Islam & Winkel, 2017).

However, the UN DESA Working Paper also asserts that the challenges of climate change are not without certain opportunities, for example to lessen inequalities, as it is suggested in the following: “This is because emergency situations often make it possible to undertake steps that are not possible in normal situations. The emergency posed by climate change may facilitate a reduction of inequality, which is otherwise deemed to be a difficult political issue.” Some researchers (for example Guest Posts, 2020) even claim that “the evolution of socioeconomic factors, such as population, education, technology and the availability of fossil fuels, will play a key role in the future. These factors will enable the economic development of future countries, driving their energy and land uses-and their resulting emissions.” Increased sustainable energy access will be required if this is to take place in the economic development of poorer countries: “The more these countries warm-up, the more drag there’s going to be on their development”, explains Diffenbaugh, co-author of the PNAS study and Professor at Stanford University (Garthwaite, 2019). The same author further states: “Historically, rapid economic development has been powered by fossil fuels. Their finding that global warming has exacerbated economic inequality suggests that there is an added economic benefit of energy sources that don’t contribute to further warming.” That is to say that the global inequality that exists today among countries is a result of its increase over the last decades and it might be said that this is especially because of the rapid economic growth that has taken place in India and China.

In contrast, some recent studies have indicated that the climate crisis plays a role in reversing the positive trend, i.e. the effects of climate change impact poor countries disproportionately in terms of economic damage resulting from extreme weather and the unequal costs of reducing emissions. Nevertheless, from a more positive point of view, it can be asserted that the need to deal with the climate crises might also present opportunities for tackling the inequalities that exist on such a global scale.

3. RESULTS AND DISCUSSIONS

3.1. Stakeholder Approach to Business

The future of global economies and the livelihood of all people depend on corporate leaders that ethically carry out their duties; this means giving close attention to all stakeholders, not merely shareholders. Some indicate that this shift toward a more balanced type of capitalism is already taking place (Just Capital, 2020a) (<https://justcapital.com/reports/2019-the-year-in-review>), and in fact, at the 2020 World Economic Forum in Davos, stakeholder capitalism was discussed in terms of a crucial duty of the business leader. It was also discussed that there has never been a greater need for companies to invest in their workers, and to take care of customers, support their communities, and protect the planet. Regarding putting words into action, some corporate CEOs have taken a lead in dealing with the key issues that their stakeholders are facing. Below are a few examples, broken down by stakeholder, from which any leader can learn.

Stakeholder #1: Workers

According to JUST Capital (2020b), Americans revealed that fair pay and work-life balance are among their top priorities, and many CEOs are focusing on those concerns.

For another example, PayPal CEO Dan Schulman has highlighted fair and equitable pay practices in order to make sure that even lower-wage workers will feel financially secure. PayPal performed an audit of its hourly workers and call center employees, and it was revealed that 60% of the employees were struggling to pay their bill at the end of the month. In response to this, to the company's great credit (after having done the audit in the first place), the company said that it would increase the basic wages of the most affected workers while, at the same time, lowering the healthcare costs for the workers by an average of 60%. "For me, paying equally is table stakes to attract the very best, diverse workforce inside PayPal. Every company should do this," Schulman stated during the Quarterly JUST Call (Just Capital, 2019a) (<https://justcapital.com/reports/5-insights-from-our-quarterly-just-call-with-paypal/>) with PayPal.

Dr. Tom Leighton (Just Capital, 2019b) (<https://justcapital.com/report/5-key-takeaways-from-the-akamai-quarterly-just-call/>), CEO of Akamai Technologies, has given priority to providing a supportive workplace environment to his company's employees, offering new parents up to 18 weeks of paid leave and a policy of unlimited paid time off. Perks not only benefit employees, but they help

to retain top-level talent in the company, which has become a challenge in today's competitive technological environment.

Stakeholder #2: Customers

When taking care of customers is of concern, companies need to take into consideration a variety of factors, such as data privacy, product safety, and pricing that is fair. All of these elements should be deemed as being important. For example, Apple's CEO Tim Cook (Cook, 2019) (<https://time.com/collection/davos-2019/5502591/tim-cook-data-privacy/>) has made his opinion clear regarding the need for companies to safeguard the privacy of their users, particularly at a time when customer data mining and sharing are so common. Beyond being committed to strong customer privacy protections at Apple, Cook has also called on Congress in the U.S. to pass comprehensive federal privacy legislation that could guarantee the privacy of individuals to the greatest extent possible. Moreover, numerous types of privacy protections have been incorporated in the company's operations (Grothaus, 2018) (<https://www.fastcompany.com/90236195/forget-the-new-iphones-apples-best-product-is-now-privacy>) and its consumer technologies, for example what is called "intelligent tracking protection", which can reduce the ability of advertisers to follow people's movements on Apple's Safari browser.

Stakeholder #3: The Environment

Certain industries have a disproportionate detrimental impact on the environment through their manufacturing operations, including technology, packaging and logistics, and the energy consumption that their products require. Aneel Bhusri, the CEO and co-founder of Workday, which ranks first in the JUST Capital 2020 Rankings (Just Capital, 2020c) (<https://justcapital.com/rankings-/?issue=env>) for environment practices, established strong renewable energy goals and has actually been able to carry them out. For example, in 2018, the company signed the first renewable energy aggregation deal that the world has seen with four other large companies. Further, in 2019, it reached its goal of using 100% renewable electricity. Bhusri says that the company is continuing to work toward zero carbon emissions by 2021. Additionally, CEO Antonio Neri (Just Capital, 2020d) (<https://justcapital.com/reports/5-powerful-takeaways-from-the-hpe-quarterly-just-call/>) at Hewlett Packard Enterprise is in the process of developing practices that look toward the future in terms of reducing the energy consumption. For example, the labs at Hewlett Packard are working on new types of what is termed system architecture, which have the possibility of greatly reducing the energy that is consumed by supercomputers and data centers. Neri has also indicated the extent to which he expects Hewlett Packard to hold its vast supplier base to the same environmental standards and targets that Hewlett Packard adheres to, which will help to advance changes in its supply chain. Significantly, last year, the company committed itself to lowering its global greenhouse gas emissions by 60% by 2025. "With a very large supply base, we have to make sure they operate and act with the same mindset, with the same targets," Neri shared during the

Quarterly JUST Call in January. He went on to stress that it is necessary “to make sure they deliver against those targets. So that is probably the biggest challenge, because it takes an enormous amount of effort to make sure we have the right systems in place to measure everything.”

Stakeholder #4: Communities

Companies and their leaders are in a unique position to create economic opportunities and to enhance the livelihoods of the individuals in the local community. This will further help the people that are working for them. This can be seen in the attitude of Dr. Leighton of Akamai Technologies. He has strongly supported the idea of providing significant work training and income opportunities in the local region of Akamai. For example, the company’s Akamai Technical Academy (The Tech Connection, 2017) (<https://medium.com/thetechconnect/5-reason-why-you-should-have-already-applied-to-akamai-technical-academy-f25d304bb5aa>) provides a paid five-week training program for women, ethnic minorities, and veterans in its Cambridge, Massachusetts headquarters; the program involves persons who have expressed a desire to create a career in technology but who may not have the necessary technical background. In this scenario, it is not only the employees that will benefit; the company will benefit as well because the trainees, when they return to work at Akamai, will enhance the diversity of its workforce.

Additionally, the CEO of UPS in the United States, David Abney, is another example of an executive that has enhanced the quality and reputation of its company with regards to community investment. Under his leadership, the company has greatly increased its commitment to diversity and inclusion in the workplace. Not only that, it has also made a strong commitment to increasing the diversity among its suppliers, for example increasing its spending on diverse suppliers by 250% in just one year, between 2017 and 2018.

Stakeholder #5: Shareholders

It is perhaps unfortunate that many corporations in the United States have a reputation for putting their shareholders first; however, some leaders are finding new ways to engage shareholders in terms of stakeholder objectives, which in turn can lead to greater shareholder returns. Hewlett Packard’s Neri, for example again, is one of the individuals that has brought stakeholder issues to the forefront and has discussed with its shareholders how they can improve HPE’s long-term value, as he indicates in the following: “Environmental, Social, Governance-including inclusion, diversity, sustainability, and so forth-definitely are becoming way more important than ever before.” It can be seen then, from business practices and stakeholder capitalism among U.S. companies, that CEOs are a driving force in business, and that many of these leaders are pioneers in creating and promoting practices that will increase the impact of the stakeholder and ultimately will increase shareholder returns.

3.2. Environmental, Social and Governance Investment

Businesses today have a key role in tackling urgent challenges such as climate change, and most corporate leaders understand this. However, many also believe that pursuing a sustainability agenda and satisfying the shareholders are mutually exclusive. It is clear that some large investment firms claim that their focus is on sustainability but, in reality, investors, portfolio managers, and sell-side analysts rarely make any substantial demands on corporate executives regarding environmental, social, and governance (ESG) issues. In fact, the impression conveyed by business leaders is that ESG has not yet “gone mainstream” in the investment community.

Eccles & Klimenko (2019) feel that such a perception can no longer be held in today’s business environment. They recently interviewed 70 senior executives at 43 global institutional investing firms, including the world’s three biggest asset managers (BlackRock, Vanguard, and State Street) and giant asset owners such as the California Public Employees’ Retirement System (CalPERS), the California State Teachers’ Retirement System (CalSTRS), and the government pension funds of Japan, Sweden, and the Netherlands. They indicated that they knew of no other research that involved so many players and, interestingly, they found that ESG was at the top of the minds of these executives. Investors have been concerned about sustainability for several decades, and have voiced these concerns; however, it was not until recently that they have put their words into action; most of the investment leaders in their study discussed the meaningful steps that their firms are taking in order to integrate sustainability issues into their investment decisions and actions. In fact, it was clear to them that corporate leaders soon will be held accountable by shareholders in terms of their performance regarding ESG issues, if they are not already being so held.

The numbers support the view that the capital markets are experiencing great changes. In 2006, for example, with the launch of the UN-backed Principles for Responsible Investment (PRI), 63 investment companies (asset owners, asset managers, and service providers) with \$6.5 trillion in assets under management (AUM) signed a commitment to incorporate ESG issues into their investment decisions. By April 2018, the number of companies that had agreed to this had grown to 1,715, representing \$81.7 trillion in AUM. More than half of the global asset owners, according to a 2018 global survey by FTSE Russell, are currently implementing or evaluating ESG issues in their investment strategies. According to Phosamritlert (2020), from KPMG in Thailand, ESG trends are continuing despite the COVID-19 pandemic and the importance of ESG issues in business strategies has even been said to have increased. The implications of COVID-19 have accelerated some of the corporate strategies that were already in place in terms of digital transformation and innovation. This has led many people to believe that companies in the future will be focusing more on responding to immediate threats and will be deprioritizing their sustainability agenda. As it turns out, ESG issues remain in the spotlight and are even gaining momentum.

According to KPMG 2020 CEO Outlook, 65% indicate that managing climate-related risks will play a part in whether they keep their jobs or not over the next 5 years and this demonstrates the seriousness assigned by CEOs to the climate change issue. In order to move forward, corporate leaders are thinking about concentrating on the structural shifts that have occurred during the present COVID crisis, such as less business travel. In fact, 71% say that they want to make an effort to retain the climate change gains made as a result of the pandemic, which would be better for all concerned. As a consequence, the renewed focus of business on sustainability is not just on climate change but it exists across a broad spectrum of ESG issues; business leaders are taking advantage of the opportunity to re-think the purpose of their organization as they feel the need to take a stance on societal issues and to take action regarding the environmental challenges that they are facing.

More recent KPMG research has revealed that many business leaders of leading European companies consider ESG issues to be a strategic priority and they have indicated that the pandemic has provided them with a unique opportunity to place ESG elements at the center of corporate recovery strategies. COVID-19 then appears to be bringing about improvements in the governance regarding ESG fundamentals in large companies, as well as new understanding of the importance of the company's impact, direct or indirect, on society. While environmental issues remain a key focus, social issues such as people's safety, their physical and mental health, and social inclusion have also become new priorities of the corporate agenda.

3.3. Environmental Preservation: the Case of the Thai Conglomerate

Today, many manufacturers are becoming low-carbon organizations and are adopting low-carbon production, as the world makes an attempt to adjust nature's balances in the midst of climate change induced by human exploitation of natural resources and a resource management that is drastically inefficient. As long as the global demand for certain products, food, services, and transportation remains at high level, the emission of carbon dioxide into atmosphere will also remain high. However, the situation is not completely dire, as many organizations are limiting their CO₂ emissions by optimizing resources and through the management of energy, greater modernization of machinery, and the use of technology that will help reduce gas emissions related to production activities.

Sustainability News (2020) has indicated that Charoen Pokphand Foods PLC (CPF) is dedicated to three pillars of sustainable business operations: "food security, a self-sufficient society, and Balance of Nature". Adjusting production processes in order to lessen environmental impacts supports these pillars and the UN Sustainable Development Goals (SDGs), which seek to protect, revitalize, and promote sustainable use of ecosystems. They also seek ways to mitigate the impacts of climate change in manners that are respectful for the world's environment. CPF has set the goal of reducing greenhouse gas emissions by 25% until 2025, as compared to the 2015 base year level. With the goal of achieving business growth and sustainable business operations, CPF has adopted these changes in terms of both production processes and their products. These changes have reduced CO₂ emissions by 522,000 tons at an annual average and they

include the following: the generation of power from biogas, rooftop solar energy, and food for pigs that is innovative and environmental-friendly.

CPF also has adopted what is called a new “neutral carbon” approach to activities that are socially-responsible and sustainable and these include the “Carbon Neutral Event,” which allows public participation in activities that will lead to low GHG emissions. At this event, CPF’s 560 tons of accumulated CO₂e carbon credit in Thailand’s Voluntary Emission Reduction Program (T-VER) will be used in order to neutralize the GHG emitted from power usage activities, travel and camping, food and beverages, as well as items that people have thrown away. Under its low-carbon organization goals, CPF intends to reduce water withdrawal per production unit by 25% until 2020 and 30% by 2025. Further, the company also is in the process of implementing modern technology throughout its supply chain in order to reduce the use of natural water and to make water utilization as streamlined as possible.

In short, considering the new orientation of business, which takes relevant corporate stakeholders into account, the current corporate aims do not lie exclusively in making a profit, but are also focused on the quality of people’s lives and on helping the world’s environment as well. This constitutes the purpose of corporations’ triple bottom line, which has become apparent all over the globe. It follows, then, that business can be at the forefront of taking action in fighting climate change problems. The increasing role of companies, both in developed and developing countries, in lessening the effects of global warming, has been well received by the in-trend investors around the world in terms of ESG issues.

4. CONCLUSIONS

If climate change problems continue, they will certainly worsen the world’s economy, both in terms of economic growth and income inequality, particularly in an environment that has been so hard hit by the COVID-19 crisis. In order to “build back better,” it is necessary to carry out two activities simultaneously by solving the nearly ubiquitous declines in economic growth and the widening income equality problems through the alleviation of climate change. Business can play an important role in achieving this by adopting new orientations on the part of stakeholders and through the support of the increasing trend of ESG investment. In short, the ways to deal with the decreasing economic growth and increasing income inequality can be done through solving the climate change problem by taking the stakeholders’ perspective from the part of the business and the ESG approach of investment as shown in Fig. 1.

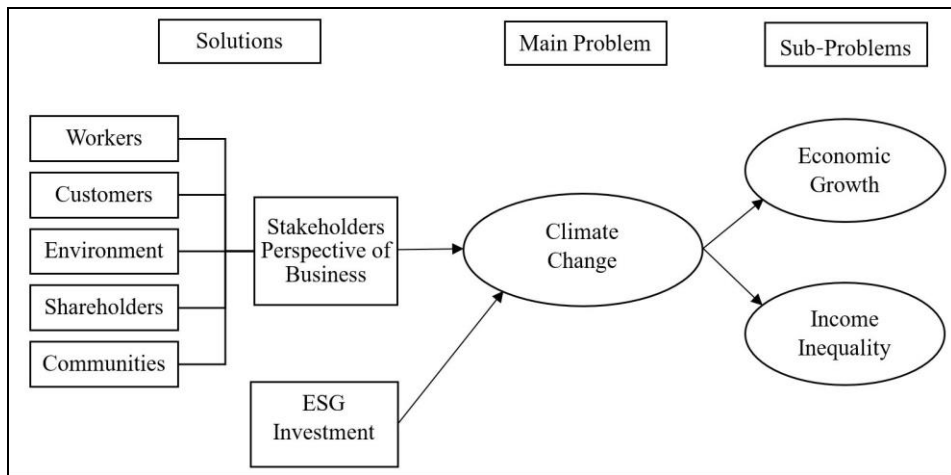


Fig. 1 Dealing with economic problems through solving the problem of climate change

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