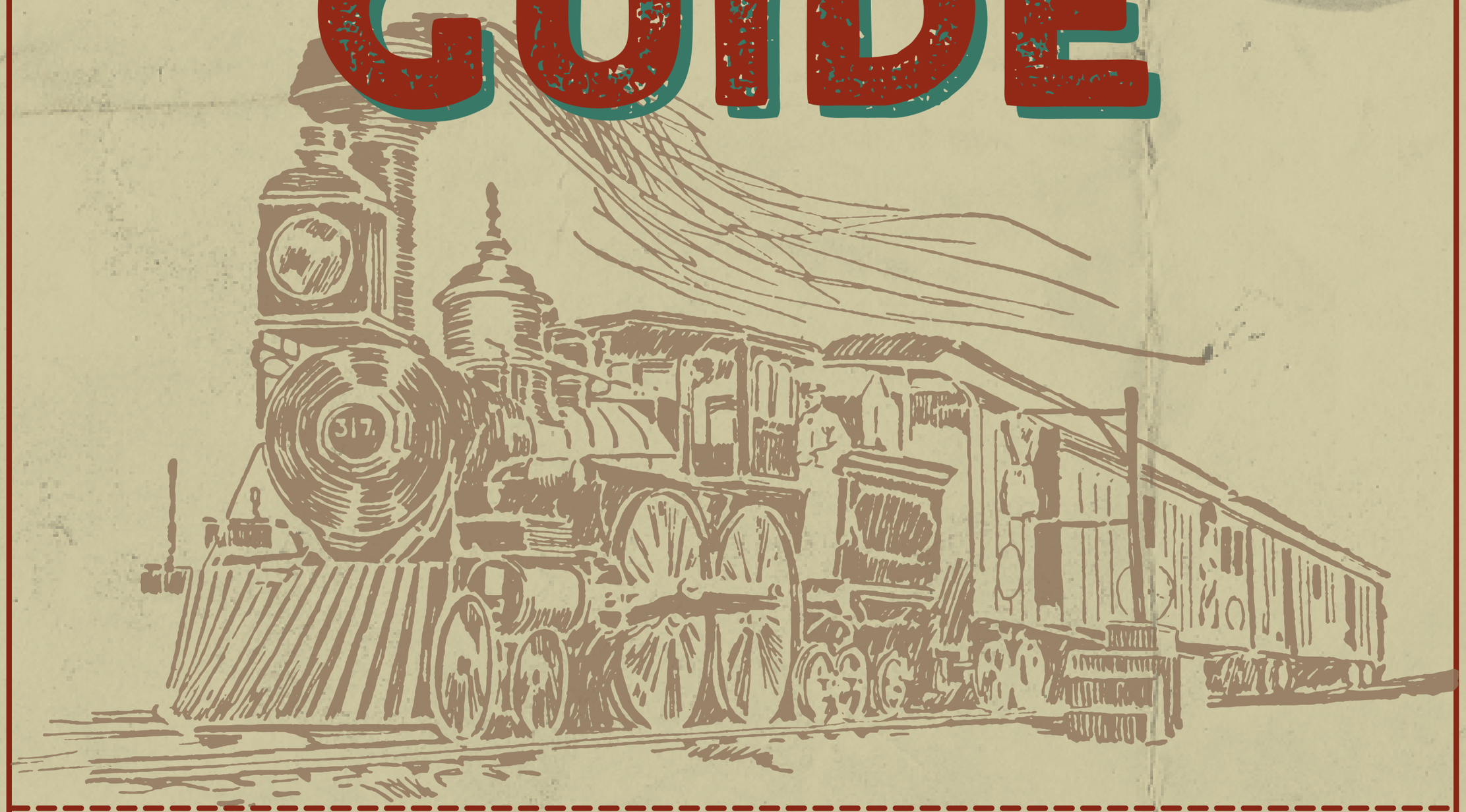
United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

UNCTAD GUIDE



Utilizing Multidisciplinary Mediums Towards Global Cooperation in the Post Pandemic Society

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7TH DE LA SALLE - MODEL UNITED NATIONS

TABLE OF CONTENTS

United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

TABLE OF CONTENTS

United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

TABLE OF CONTENTS

United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

Meet the Dais

JOHN TIMOTHY S. PALIMA

JOHN TIMOTHY S. PALIMA is currently in his third year under the BA Major in Sociology Minor in Political Science program in the University of the Philippines Los Banos. He has been joining MUN conferences since 2018, when he was in his last year of high school and first year of college. Though he does not have an academic background in diplomacy and international relations, he has joined a total of 17 conferences. He notably attended the Geneva International MUN in 2019 as Israel in the Economic and Social Council. He also recently co-chaired the Human Rights Council in Pelita Harapan MUN last 2020 virtually for his Indonesian friends. John enjoys doing MUNs because of the simulation, research, and social interaction and networking. Outside of MUN, he is getting his feet wet with work in impact start-ups. He currently interns for KadaKareer, an Ed-Tech platform that connects underprivileged Philippine students with experienced professionals. He believes that industry has an important role to play in realizing sustainable development, alongside government. He is also interested in the intersection between business, technology, and environmental-social-governance impact. He wishes he could get to B2 in French by the end of the year but he has to make a study plan first.

JAN DANIELLE B. SANTILLAN

JAN DANIELLE B. SANTILLAN is currently in her senior year under the AB Consular and Diplomatic Affairs Programs in the De La Salle College of St. Benilde. Her Model United Nations (MUN) experience started in 2018 as a delegate of the Republic of the Philippines for the United Nations Environment Programme. In 2019, she joined the Benildean delegation for the National Model United Nations in the United Nations Headquarters in New York City representing the Federal Republic of Germany in the World Health Organization Committee and garnered the Outstanding Position Paper Award. In the same year, she joined the 21st Benilde Model United Nations (BMUN) as the delegate of the Republic of India in the UN High-Level Political Forum and won the Best Delegate award. In 2020, she worked at the Advocacy Organizing Unit in the Philippine Senate under the Office of Senator Francisco Pangilinan and served various functions in the Online Sustainable Development Goals Youth Action Forum. She also has enrolled in a total 12 short courses in the United Nations Institute of Training and Research such as international security, peacekeeping, international humanitarian law, public health, disaster-risk management, and geospatial information technologies. In 2021, she became the Chairperson for the 22nd BMUN in the Conference of the Parties to the United Nations Framework on the Convention on Climate Change. These enabled her to be an advocate for good governance, human rights, and the UN 2030 Agenda for Sustainable Development.

United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

HANNAH MARIE ANTOINETTE G. DE PERALTA

HANNAH MARIE ANTOINETTE G. DE PERALTA is currently in her second year under the Business Management program in De La Salle University- Manila. Her Model United Nations (MUN) experience started this year as she entered as a delegate of Switzerland for the United Nations Economic and Social Council (ECOSOC). Succeeding her first MUN experience, she began to join other conferences, such as the TOYO Model United Nations representing the Grand Duchy of Luxembourg in the World Health Organization (WHO) committee and the recent National Model United Nations (NMUN) as a representative of the Republic of Poland in the General Assembly 2 committee, which tackled issues concerning sustainable financing, advancing Information and communication technologies (ICTs), and Disaster Risk Reduction (DRR). She was awarded as the Outstanding delegate for TOYO Model United Nations, as well as Honorable Mention Delegation in the National Model United Nations (NMUN). Currently, she is an Executive member of student Linkages in De La Salle University's United Student government (USG), as well as the Assistant Vice President of Public relations in Ley La Salle- a non profit organization represented by students interested in pursuing law. As an advocate for Sustainable Development Goal 16 , which is the pursuance of peace, justice, and strong institutions, she wishes to use her MUN experiences in preparation for law school.

JOHN PALIMA
Chair

JAN SANTILLAN
Vice Chair

HANNAH DE PERALTA
Rapporteur

Meet the Members of the Dais

7TH DE LA SALLE - MODEL UNITED NATIONS

MESSAGE FROM THE DAIS

Dear Delegates,

First of all, thank you for taking on this challenge. Being a delegate in this committee means you are interested in furthering your understanding of international political economy, which is tricky to the uninitiated. From understanding tariffs, to trade deals, to how supply and demand trickle outward into global supply chains, you have ventured into highly technical territory. Depending on your past MUN or other trade-related simulation experiences, this might be something unfamiliar or new to you.

Please take this as an opportunity to deepen your knowledge on how governments, industries, and trade relations are interwoven with each other. If you had participated in business case competitions in the past, you may see this simulation as an opportunity to learn how national governments impact businesses and the free market. If you are pursuing a career in diplomacy or civil service, peek into this subject matter with curiosity, and investigate how labor policies and political tensions hamper free trade. If you are more interested in the crisis aspect of the topics considering COVID-19, think hard how fragile our systems were, and on what we need to do to salvage them. We aim not only to recover but to reassess our strategies in becoming more resilient to the economic fallout COVID-19 has ushered.

We must act. Fast. Smart. People's lives are at stake, especially their livelihoods. Developing nations will suffer the worst from the damage to their economies. Think of economies not in numbers but in the lives of real people. Jobless, hungry, at risk of disease, and precluded from modern technologies. If nothing is done. With everything said, we hope you make the most out of this experience. Let it teach you important skills like collaboration, communication, and stakeholder management. Let it inspire you to reflect on the world at large, and what you can do as a young student. What we can do collectively, through different organizations and sectors.

Welcome to the 7th De La Salle Model United Nations!

John Palima
Chair

Jan Santillan
Vice-Chair

Hannah De Peralta
Rapporteur

United Nations Conference on Trade and Development

7TH DE LA SALLE - MODEL UNITED NATIONS

Mandate of the United Nations Conference on Trade and Development

The United Nations Conference on Trade and Development (UNCTAD) is a permanent intergovernmental body established by the UN General Assembly in 1964 consisting of 195 member States. It is the main body that deals with economic and development issues concerning international trade, finance, investment, and technology. Its primary goals are to maximize the trade, investment, and development opportunities of developing States and assist them in participating equitably in the global economy.

As the main UN body for economic and development issues, UNCTAD's work can be summarized by three synergistic pillars of work. First, reflection in a platform of undertaking economic research, producing innovative policy analysis and recommendations, and collecting data that assists the government in their decision-making. Then, dialogue in the form of a forum, where all Member States can freely engage in intergovernmental deliberations while also promoting cooperation at the multilateral level. Lastly, action by providing technical assistance that helps in the capacity-building of every country to achieve equitable integration in the global economy.

As a subsidiary body of UNGA, UNCTAD's mandate comes from UNGA and its subsidiary organs such as the UN Economic and Social Council and other conferences. In line with this, the Quadrennial Conference, a subsidiary organ of UNGA, is the highest decision-making body that sets the four-year mandate and priorities of UNCTAD Secretariat. Additionally, the results of the conference set forth the work programme of UNCTAD in the next four years. The first Quadrennial Conference was held in Geneva, Switzerland in 1964, while the recent one took place in Nairobi, Kenya. The Secretariat is tasked around five areas of work, namely: globalization and development, trade and commodities, investment and enterprise, technology and logistics, and least developed States. Lastly, UNCTAD has its own separate governing body, the Trade and Development Board, with the main responsibility to oversee the work of the secretariat during the conference.

AGENDA I:

THE TOURISM AND HOSPITALITY INDUSTRIES: ROLE AND SIGNIFICANCE IN GLOBAL DEVELOPMENT

I. Introduction

The COVID-19 Pandemic has wounded the global economy with its impact on the interconnectedness of trade liberalization. The spread of the virus has severely halted the necessary activities that make global trade possible through trade restrictions on high-risk States, migrant worker repatriation efforts, high rates of unemployment, low revenue sources and income from Micro, Small and Medium-Sized Enterprises (MSMEs), and various local or national quarantine protocols. In response, the United Nations Convention on Trade and Development (UNCTAD) calls for the collective efforts of the international community to reassess and transform their approaches to recovery and to development. Member States should coordinate on strategies through the necessary legal tools that could mitigate the loss of revenue and inequalities exacerbated by the global pandemic with the coordination of the relevant international bodies such as the United Nations Framework on the Convention on Climate Change (UNFCCC), World Health Organization (WHO), World Trade Organization (WTO), International Monetary Fund (IMF), and the International Labor Organization (ILO) to pursue a resilient and sustainable recovery of the global economic system.

Tourism and hospitality industries are among the most severely impacted by the pandemic given that most of the services and activities by it are contact-intensive. Approximately 7% of global trading exports and 10.4% of the global GDP is dependent on the tourism sectors of all Member States. It also accounts for more than 320 million laborers and 100 million from that are at risk of unemployment, not to mention the disproportionate effect it has on women that comprises 54% those laborers (Quinn, 2020). As of December 2020, 62 million of those jobs were lost and it represents an 18.5% of the remaining 272 million people that are currently unemployed in the tourism and hospitality industries globally. These statistics have accounted for 4.4% global economic contraction in the last quarter of 2020 that projects full recovery similar to 2019 levels by 2023. This amounts to a loss of almost US$4.5 trillion in 2020 that resulted into a 49.1% decrease in comparison to 2019 (World Travel & Tourism Council, 2021). If these numbers are not mitigated, UNCTAD estimates that more than 130 million people more will be living in extreme poverty by 2021 (Behsudi, 2020).

A. COVID-19's Most Impacted Groups in Global Tourism

In UN Secretary Antonio Guterres' Policy Brief Tourism and COVID-19, he mentions the need for a human-rights based approach for the most vulnerable workers in the global economy. Those include women, youth, and informal workers. This group, even in pre-COVID situations, have been getting little to no access to social protections, and receive below minimum wage salaries. In the context of tourism, their situation is worse as their income is dependent on factors such as seasonality, and unmonitored labor regulations (Guterres, 2020). This is exacerbated by the existing local or national quarantine protocols set by their respective national governments. In an international scale, a 1.5% to 2.8% decrease in the global GDP was projected in the last quarter of 2020 and this amounts to at least a loss of US$ 910 billion to US 1.2 trillion in exports from tourism (UNWTO, 2020). Tourism has become an income and development driver for many Small Island Developing States (SIDS), Least Developing States (LDCs), and African States. Approximately 30% of exports income for the majority of SIDS and almost 80% for some are sourced from their tourism sectors alone. For most of them, the revenue from tourism are critical financial resources for natural and cultural heritage conservation efforts.

II. Background

A. Transportation Accessibility as Precursor to Tourism and Travel

Leisure travel or tourism can be understood through two historical eras, namely The Mobility Era (1800 to 1944) and The Modern Era (1945 to present). The Mobility Era is characterized by the increased accessibility of travel to the working class as an impact of the First Industrial Revolution because many have shifted from labor-intensive to office or administrative work in cities. This influx of migrants to cities have demanded the need for more transportation systems, modes, and increased speed of said modes (IATA). In 1841, Thomas Cook, the Father of Tourism, first arranged the idea of a "tour package." He was the first person in recorded history to use travel as a business scheme. He managed to tour 570 people to travel to Loughborough to Leicester, England for a temperance rally inclusive of lodging and food (Ramjit, 2016). In 1914, Henry Ford released the Model T. At the time, it was the most affordable automobile in the market. Its operating system is like the manual drive of cars today and its machine was transformed into the basis for other transportation vehicles like sports cars, utility machines, trucks, sawmills, and snowmobiles (The Frontenac Motor Company, 2016). In 1903, the first successful flight of a powered aircraft was thanks to the Wright Brothers. Their engine flight at Kitty Hawk, North Carolina became the basis for many fuel engine-based aircrafts today (Hsu, 2019).

These milestones lead to the fast expansion of tourism and travel in the Modern Era. As the Second World War came to an end, the innovations on both sides of the Allied and Axis Powers in fighter planes prompted the many innovations in the aviation industry. Moreover, George Westinghouse proposed the concept of paid leave in 1948. He posits that giving laborers paid time-off can increase productivity levels. Although it was popularized formally in the 1990s, the post-war era had a lot of demand for travel and leisure activities when gas and petrol was abundant and not rationed anymore. The mass production of cars followed allowing people to travel for leisure (Hoover, 2019). In 1950, the growing popularity of the Diner's Card paved the way for the creation of credit cards, the now most preferred mode of payment in travelling. This invention by Frank McNamara made it the first multi-purpose charge card in the world as it was inclusive of many currency considerations as well (Diner's Club International, 2020). All these factors allowed for the steady rise of travel agencies and their media exposure bolstered the unparalleled growth of the tourism industry in the late 20th century.

B. Development Decline of Tourism and Hospitality Industries

Tourism, in comparison among other industries, is selling goods that are mostly not owned by anyone. Tourist destinations are fragile and need protection but since, we operate in a price-driven market, in which margins are squeezed if the area is degraded, (The Travel Foundation, 2014) this means that the less conservation or maintenance is done for destinations, the area becomes degraded and thus, no one will "buy" or give value to said area. Other invisible burdens that are apparent from tourism are highly unregulated or rarely studied. The expansion of tourism can disproportionately impact the local community life of said destinations. These burdens can range from "the costs of upgrading infrastructure to meet the demands of tourism, maintaining public spaces and ecosystems, increased exposure to climate change risks, and the rising costs of housing and land spaces for the locals (The Travel Foundation, 2019)." This essentially affects tourism-dependent economies to an extent that their government expenditures on upkeeping of destinations might be derailed from other necessary state interests like food security, social services, and national security strategies. Tourism alone can be an unsustainable

development mechanism in upkeeping tourist destinations especially ones of cultural, historical, and environmental significance in its Host States.

International tourist arrivals across the globe have declined by 56% in the 2nd quarter of 2020. This accounts for -58% tourist accumulation in Europe, -47% in Africa, -52% in the Middle East, -47% in the Americas, and -60% in the Asia and the Pacific regions (UNWTO, 2020). Tourism-dependent economies are among the most vulnerable groups in the COVID-19 pandemic. In the case of SIDS, they have built their entire economies because of overseas tourists on their beaches. Out of the top 20 tourism-dependent States, fifteen of them are SIDS (Quinn, 2020) whereas African states still pursue their protected areas management efforts while raking in no income (Kubania, 2020).

III. Discussion

A. Impact on Workers in the Tourism Industry

Women, youth, informal workers, or any combination of the three are particularly disproportionately disadvantaged in the tourism industry. Currently, more than 60% of workers, 80% of all MSMEs are estimated to be a part of the global informal economy and from those are estimated to be 740 million women (International Labor Organization, 2021). These workers fall into either of the three following categories:

1. Work for an employer but the employer does not contribute to social security on their behalf ('employees');
2. Run an enterprise that is not registered with the national authorities or has no formal book-keeping either with employees ('employers') or without employees ('own-account workers'); or
3. Work for an enterprise run by a family member in a paid or unpaid capacity ('contributing family workers')

(Bonnet, Cattaneo , & Pozzan 2020)

The ILO, even during pre-COVID conditions, has been incessantly calling for the "(1) extension legal coverage to those excluded or insufficiently covered; (2) provision an adequate level of legal protection (e.g., no exclusion from social insurance because of a threshold regarding working time); and (3) the ensuring an effective compliance with laws and regulations." Another thing to consider are the touring migrant workers stuck in the Host States such as cruise ships crews and travelling performers. Migrant workers, though legitimate, are not always covered by their Host State's stimulus packages and grants nor have their Sending States expedited means to repatriate them back to their homes. They account for "at least 3.7% of the 14 of the 20 States with the highest number of COVID-19 cases" that makes them just as vulnerable as women, youth, and informal workers (Migration Data Portal, 2021). With all these concepts considered, it is important to note that these groups of workers' exposures to the virus has not been accounted for in any international data organizing initiatives. While there are existing risk assessment data gathering initiatives under the Tbilisi Declaration, tourism and hospitality workers do not generally have the legal mechanisms to be considered for hazard pay like medical front liners in an event that their Host States transition them back into their working environments amidst the pandemic simply because they are not considered to be essential workers in lockdowns.

B. Tourism, Hospitality and the 4th Industrial Revolution

Sustainable tourism is a concept that promotes the responsible use of resources in tourism as it is one of the fastest expanding industries in the world. The term can be alternatively coined as eco-tourism, nature-based tourism, or cultural tourism. The exponential growth of tourism has contributed to various forms of environmental degradation that puts the international community back from the goals set forth by the United Nations 2030 Agenda for Sustainable Development. Its main impact areas are the depletion of natural resources, pollution, and physical degradation. It is also worth mentioning that tourism has both the capacity to preserve vulnerable ecosystems and destroy it. Tourist destinations with natural environments can be tools to heighten tourists' awareness and appreciation toward the intrinsic value of conservation efforts. 7% of global tourism income is allocated to environmental conservation efforts (UNWTO, 2020). In turn, locals of destinations can use tourism as an incentive for additional sources of revenue and income, if done sustainably (Hagelberg, 2017).

First, land degradation of tourism leads to soil erosion, pollution, habitat loss, and species extinction. In 2021, the world has amassed 1.2 square kilometers of land degraded for tourist destinations. This leads to excessive use of water as well. By the end of 2021, 1.2 tons of water will be wasted if no water recycling initiatives will be created. Lastly, tourism contributes to more than 5% of global greenhouse gas emissions largely because of its 90% contribution from transportation (The World Counts, 2021).

Consequently, the Recommendations for the Tourism Sector to Continue Taking Action on Plastic Pollution During COVID-19 Recovery joint document by the United Nations Environment Protection Programme (UNEP) and UNWTO was drafted. Its content is rallying for the responsible recovery of the global tourism industry by recommending the increased engagement of waste service management and recycling systems, fostering transparency mechanisms, and investing in biodegradable alternatives for single use plastics (Global Tourisms Plastics Initiative, 2020). Therefore, it is important to Member States to reevaluate how they are going to achieve their commitments to the UNFCCC if they are going to reopen such industries for economic regrowth.

But in order to fully mitigate the issue, Member States must transition into circular economies. In the past, most talks about circular economic frameworks for development have been centered around production and manufacturing sectors. Similarly, tourism has an interdependent relationship with these industries with multiple assets, commodity value chains, and resource flows. It can range from food acquisition, use of land and infrastructure, and massive use of energy sources. Member States are being called to coordinate their assessment and digital technological monitoring mechanisms to fully create new knowledge platforms to promote and multilaterally create good frameworks to transition to this concept of development with the help of the Silesia Declaration of the UNFCCC. This new paradigm of development is still being studied and monitored closely by UNWTO and other relevant stakeholders as there are no international laws or legal frameworks being created yet by the international community (UNWTO, 2020).

C. Government Action to Mitigate Negative Pandemic Impact

Governments around the world had sought to implement multiple strategies to alleviate and transform the tourism industry during and after the pandemic. Each with a varying degree of success. Below are some initiatives that were implemented by other governments.

a. Travel Restrictions

Many States see travel corridors as a path to a limited reopening of the tourism sectors while balancing the risk of sparking a new cluster of infections. These usually involve an agreement between two nations to allow citizens to travel between their States albeit with more restriction and contact tracing. The United Kingdom has created a stoplight system where nations are grouped as Green, Amber, and Red based on their vaccination rates. Visitors from each category will undergo differing levels of scrutiny with Green nation residents not requiring quarantine and Red nation residents required to quarantine in a designated area for 10 days. Such a system may soon be implemented for a US-UK corridor in the later part of the year (Street, 2021). Bali also plans to open designated areas for tourism related activities while New Zealand PM Jacinda Ardern has announced measures to reopen a travel corridor with Australia last April 2021 (Widadio, 2021; Brockett, 2021). These measures may soon be adapted by other nations as they seek to reopen their borders safely including South Korea and Thailand who are looking into their infection rates before releasing new guidelines. However, rising cases in one country could shut down a travel corridor for a long period of time, with the Hong Kong and Singaporean governments delaying their travel corridor due to the newest wave of cases in Hong Kong (Siu & Tsang, 2021; Brockett, 2021).

b. Financial and Work Opportunities

Governments have also allocated cash aid to help the struggling tourism sector and its workers. In Europe, 4.5 million euros are being allocated to support 5000 tourism and independent workers who had their jobs affected due to Covid 19 (SchengenVisaInfo, 2021). In the Philippines, the government has allocated financial assistance packages either through cash or online debit meant to help the struggling 355,797 tourism workers across the country who have seen massive layoffs due to a rise in COVID-19 cases in the area (San Juan, 2021). Finally in Canada, officials have announced that they will hire laid off tourism workers to help service vaccination centers in a non medical capacity. This is intended to help provide a source of funding to unemployed persons while improving the vaccination process of others (Migdal, 2021). Given the growing economic impact of COVID-19 on workers, it is imperative to establish greater avenues for funding and opportunity for affected workers.

c. Internal and Structural Changes

National governments must also begin to internally restructure their tourism sectors based on pre-COVID-19 indicators of unsustainability. This includes improvements on:

1. Improved job security for vulnerable populations,
2. Diversification of the tourism sector to cover more domestic tourism,
3. Digitalization and the use of new technologies in creating better tourism,
4. Focusing on sustainability and green growth tourism, and
5. Working with coalition partners to enact these changes.

(UNCTAD, 2020)

Officials are also recommended to prepare safer and more resilient systems for post-COVID-19 economic regrowth. Particularly, creating a more hygienic and contactless tourism experience for future travelers along with the exploration of new niches for the future. Flexibility also continues to be a must when facing further problems down the road and such a system must be implemented by multiple stakeholders (OECD, 2020).

IV. Role of International Community

A. UNCTAD

The Tbilisi Declaration is the landmark legal mechanism of UNWTO as its "commitment to making international travel safe again and realigning the sector towards a more sustainable and inclusive future (UNWTO, 2020)." This declaration was made in lieu of the UNWTO in making a joint statement with the WHO as early as January 2020 after WHO declared the COVID-19 spread Public Health Emergency of International Concern (WHO, 2020). It highlighted the need for close coordination of policy-making schemes and other necessary legal frameworks to be based on local risk assessment and to involve relevant persons in the tourism value chain like local governments, private companies, and tourists. This is reaffirmed by the UNWTO Secretary General Zurab Pololikashvili in his statement:
"This crisis is an opportunity to rethink the tourism sector and its contribution to the people and planet; an opportunity to build back better towards a more sustainable, inclusive and resilient tourism sector that ensure the benefits of tourism are enjoyed widely and fairly."
In response, UNWTO's Global Tourism Crisis Committee will be the action group that will lead in harmonizing travel and safety protocols for the world to slowly transition back to the 2019 economic security levels. This is made possible by their UNWTO Tourism Recovery Tracker that records in real time the following necessary data:

- international tourist arrivals;
- seat capacity in international and domestic air routes;
- air travel bookings;
- hotel searches and bookings;
- occupancy rates and;
- demand for short term rentals;
- travel sentiment (Net Sentiment Score); and
- COVID-19 14-day notification rate per 100,000 population (UNWTO, 2021).

B. ASEAN and EU

Some regional travel networks like the European Union and the ASEAN have adopted destination trackers for leisure travel. It is imperative that travel must transition slowly into the new normal if the conditions allow it. The resumption of safe, cross-border travel can improve the liquidity to tourism and hospitality sectors and restore confidence in travel, all the while following international health protocols for communicable diseases like COVID-19.

C. World Bank

For States to focus on alleviating their severely impacted industries by COVID-19, the World Bank Group responded as early as March 2020 by allocating loans worth US$ 160 billion for States experiencing health, economic, and social shocks. In addition to that, a US$ 50 billion worth of Individual Development Account will be allocated for each country that has applied for loans for critically needed medical supplies. This is further expedited by the World Bank's US$ 12 billion worth of donations to the COVAX efforts by the WHO (World Bank, 2020).

V. Guide Questions

Amidst the UNCTAD and UNWTO's surveillance mechanism on tourism activity and their various recommendations on recovery, there are still gaps that national governments need to fill in order to induce economic regrowth and upholding the economic and social rights of the workers and industries during and after the pandemic. The impending effects of climate

change, even outside the tourism industry, are being felt today and are indicative of the Member States' negligence to their commitments to the UNFCCC. With all these factors considered, sustainable tourism and a human-rights based approach to economic recovery can be the most practical means for all States to bounce back financially and sustainably.

1. How can governments improve the resiliency of tourism and hospitality MSMEs during the pandemic?
2. How could local governments expedite the risk assessment strategies for the tourism and hospitality businesses?
3. How can trade and continued employment for tourism and hospitality industries be facilitated amidst strict lockdown or quarantine protocols?
4. What tax incentives and sound fiscal policies can be implemented in easing the economic fallout that can severely impact the tourism industry?
5. What international financial and legal assistance mechanisms can governments pursue in compensating for COVID-19 risks posed by non-medical and non-essential workers in the tourism industry?
6. What regional, national, or international organizations can advance the interests of the enumerated vulnerable workers in the tourism and hospitality industries?
7. What other relevant stakeholders can be involved in improving the operations and the provisions of incentives for the tourism industry amidst the pandemic and its prescribed quarantine protocols?
8. How can all these issues be addressed in line with the United Nations 2030 Sustainable Development Goals?

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AGENDA II:

SOLVING THE GLOBAL SEMICONDUCTOR SHORTAGE AMIDST THE COVID PANDEMIC

I. Introduction

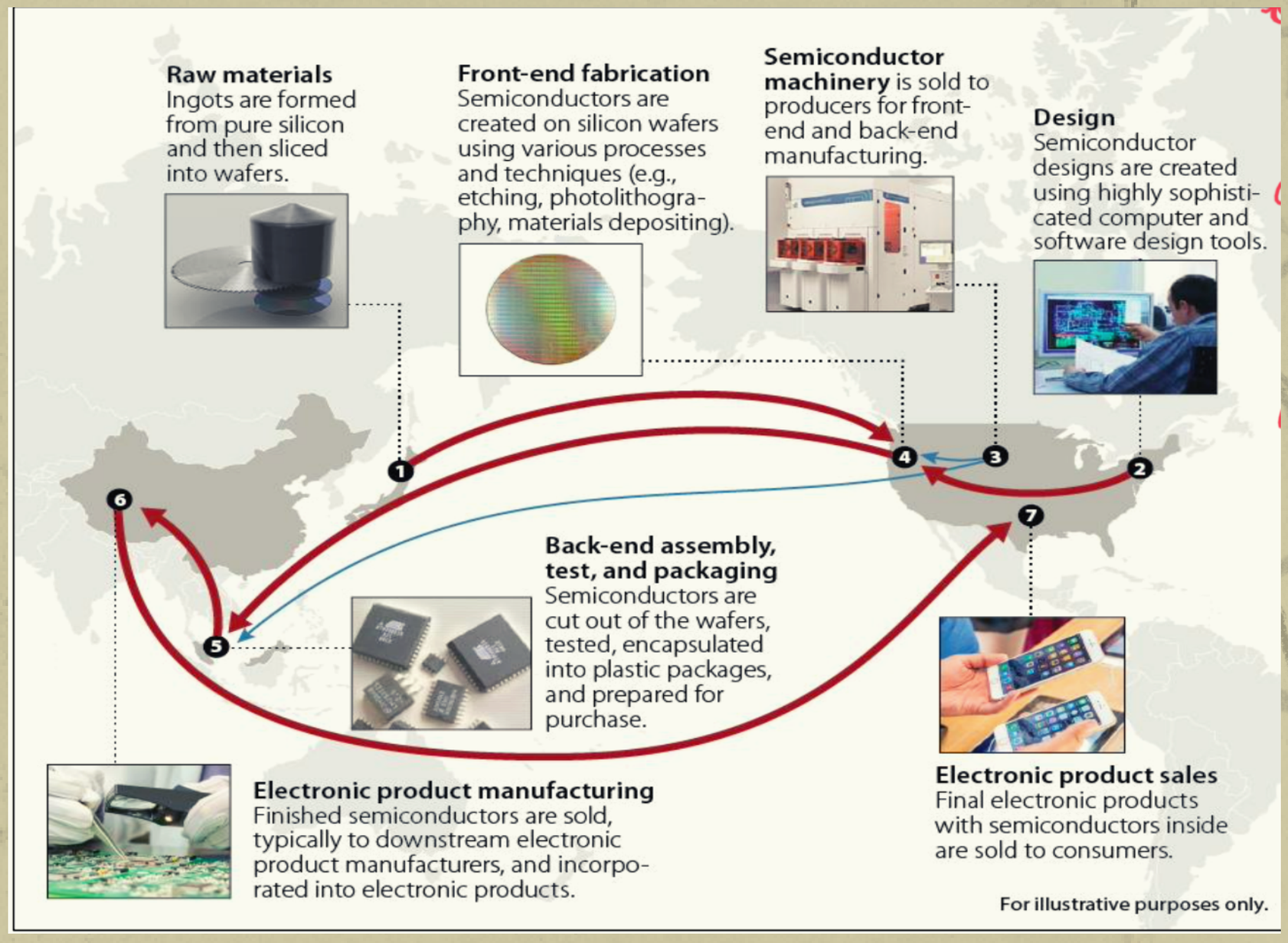
Semiconductors, colloquially known as the world's brains, are in short supply. From PS5's to new cars, production is being halted because manufacturers do not have enough minuscule computing components called microchips. The microchips' semiconductor properties give them the ability to store data and programs in modern electronics, making them incredibly important to the technological development of society. The COVID-19 pandemic has devastated millions of people everywhere, not only by shocking health-systems with mass cases of critical illness but by shocking the global economy. When nations first started instituting quarantines and travel restrictions, the global middle class stayed at home and industry experts foretold that consumer purchases were going to slow down. People stayed at home which led to a decrease in consumer demand, but it surged back as people moved past initial panic. Industry experts did not anticipate the rapid rebound of consumer demand for electronic goods as people accepted work-and-study from-home schemes as their new normal. Electronics companies did not order enough supply early on in the pandemic, and are now continuously being pressured to meet rising demand (Sweney, 2021). The semiconductor microchip supply chain is struggling to meet downstream consumer chip demand, making prices dangerously inflate and provoking digital divides to grow.

II. Background

A. Semiconductors' Role in Developing the Contemporary World

Semiconductors are tiny devices primarily made of silicon that precisely control the flow of electric currents to store, move, and process data. Integrated circuits or ICs have become integral to modern electronics, constituting semiconductors as the building blocks of all contemporary technology (OECD, 2019a). The following is a list of semiconductor applications: robotics, VR/AR, laptops and computers, power equipment, additive manufacturing, autonomous manufacturing, and autonomous vehicles; smartphones, storage and memory, gaming, medical devices, planes, and even military devices. At present, the development and distribution of emerging technologies such as the Internet of Things, wireless networks, quantum computing, and artificial intelligence rely on the production of the most advanced ICs that are about 10 nanometers or less in size. Certain States have heavily invested in their national semiconductor R&D, with the industry being competitive and covering a breadth of downstream consumer electronics. Thanks to the spread of these electronics such as smartphones, a majority of the world now has access to the Internet and digital infrastructure. Less developed nations such as those found in Africa, South America, and Southeast Asia, have much to benefit from an increased access to digitization made possible by ICs. For every 10 out of 100 people in a less developed country that gets access to a mobile phone, the country's projected GDP has the potential to rise 0.5%. (Heaven, 2019). Modern technological innovation and its benefits rely on the continuous innovation and creation of ICs.

The semiconductor industry hinges on the production and sale of ICs printed on "wafers" or small slices of silicon. The following is a summary of a typical Global Semiconductor Production Pattern (CRS, 2020).



Raw materials such as silicon from quartz rocks are sliced into IC wafers. Wafer size is measured in millimeters (mm), and the larger the wafers the cheaper it is to mass-produce semiconductor chips. Semiconductor performance does not depend on wafer size but instead on feature size or the size of transistor gates, because the smaller the transistors the more you can fit in chips to do complex computations. IC companies design the latest semiconductor patents that efficiently organize transistors to optimize performance for different electronic usages. In order to design, they purchase IP cores, photoligraphy, and electronic design automation (EDA) software from other companies, with physical production being a separate process. IC companies that both design and fabricate or physically produce their chips are called integrated device manufacturers (IDMs). Meanwhile, fabless firms are companies that partner with contract foundries to outsource front-end fabrication and back-end assembly, testing, and packaging (ATP), meaning they only design but not manufacture. The IC supply chain includes IDMs, fabless firms, foundries, outsourced ATP, companies who source raw materials and make wafers, the companies who supply designers with software, and the companies who supply foundries with the necessary machines to do front-end and back-end fabrication. Looking into the downstream value chain, ICs packaged and sold are bought by electronics manufacturers.

The value chain of IC market segments runs the gamut of 1) microprocessors and logic devices, 2) memory devices or dynamic random access memories (DRAM), 3) analog devices, and 4) discretes that also include optoelectronics and sensors, with 2/3rds of global sales falling under the first two groups (SIA, 2018a). Microchip manufacturers specialize in product groups. US-based Intel Corporation has the largest market share for microprocessors for the personal computer (PCs) industry downstream, while South Korea-based Samsung has the largest market share on DRAM sales. ICs end up in various

downstream markets, with the PCs and cell phones segments generating the highest total revenues of $69 billion and $89.7 as of 2017.

Meanwhile, the automotive vehicle and Internet of Things segments have shown rapid growth potential with their compounded annual growth rates (CAGR) projected for 2016-2021 having been 13.4% and 13.2% CAGR respectively (CRS, 2020). Going back upstream to the IC supply chain, the US holds the largest market share overall on semiconductor sales, with major IC companies based in the US accounting for 47% of total sales. South Korea (19%), Japan (10%), Europe (10%), Taiwan (6%), and China (5%) follow, albeit specific States dominate specific segments (Yinug, 2020). Most US companies, if not the biggest ones being IDMs, are fabless firms that outsource their fabrication to companies based in East Asia. Taiwan's TSMC currently has the largest market share as a contract chipmaker and contract foundry in the world, capable of making transistors that are 10nm or smaller: only Samsung and Intel can compete against this. The semiconductor supply and value chains have become globally integrated with production steps reliant on outsourcing and imports, while revenue on exports.

a. The Role of the Semiconductor Supply Chain in the Pandemic Response and Recovery

With semiconductors having grown into such large use, governments need to recognize they are crucial to implementing overall pandemic responses and recovery programs (SIA, 2021b). In the health crisis, a steady supply of microchips ensures there are enough life-saving machines that include ventilators, nebulizers, ultrasound equipment, and X-ray equipment; electronic beds, vital sign monitors, drug delivery robots, disinfection robots, and infusion pumps. In 2019, the downstream market for medical end use devices led to $5.6 billion sales in semiconductor chips, driven by portable and wearable devices, aging populations, AI, and Telehealth. In 2021, the pandemic has only bolstered this demand with microchips now needed more than ever in healthcare systems across the globe. Besides medical machines, semiconductor chips are also used in the informatics systems that make public testing and tracing, along with vaccine development possible. Public health actors collect data on people's temperatures and symptoms to control the transmission of the virus, and they rely on software run on semiconductor powered hardware. Meanwhile, AI technology has made research lightning fast through natural language processing improvements to search engines, and by reducing the time needed to model epidemiological scenarios. Lastly, the need for remote healthcare or Telemedicine has sharply increased, especially for vulnerable populations at risk for a severe response to a COVID-19 infection. Quality and timely healthcare can be provided to the elderly, people with comorbidities, and those with special conditions, with the help of IT infrastructure underpinned by semiconductors. Overall, prioritizing semiconductor parts as 'essential goods' prevents disruptions by trade restrictions imposed by quarantines; thus, eliminating any shortage of these needed equipment in the time of crisis.

b. Growth Forecast of Semiconductor Exports and ICTs/History of government regulation on trade related to microchips

Innovation and rising consumption are bolstering the pace at which market value is increasing, but industry dependency to country-specific companies and higher tariffs is slowing this pace (Fortune Business Insights, 2020). In 2019, the global semiconductor market accumulated $513.08 billion and is projected to grow into $727.73 billion by 2027.

International imports of information and communications technology (ICT) goods reached $2.1 trillion, with electronics components trade at an annual growth rate of 8% (UNCTAD, 2019a). China is the top exporter of consumer electronics, with the United States being the top importer. Globally, electronics manufacturing has centered itself amongst Chinese companies that import the microchips they need from other States. Though certain governments have created plans to build their domestic semiconductor production capabilities in an effort to make themselves more self-sufficient, companies spread around the world specialize in specific components. Innovation has driven companies to become competitive with their R&D, prompting specialization in categories and niches. As of now, semiconductor fabrication and ATP is decentralized just like many other transnational industries, and the volatile nature of the pandemic has only made business harder alongside trade sanctions and tariffs.

c. Timeline of COVID19 Disruption to Semiconductor Production

With the semiconductor industry already affected by recent protectionism and industry reliance on select actors, the COVID-19 pandemic catalyzed the current shortage. In March 2020, car companies canceled their orders for parts, including the microchips needed for electronic components. Thinking demand would not rebound for awhile, car companies were not prepared when demand rose in the 3rd quarter of the year. Unfortunately, chip manufacturers had already prioritized other customers in consumer electronics and IT. In 2021, chip manufacturers are now struggling to sell enough chips not only to the automotive industry but to other industries. Average lead times in 2021 or the duration between an IC order and finished product rose to 15 weeks on average, with outliers skewed at 22 weeks, compared to to the 2020 mean of 12 weeks. Some semiconductor companies now have 1-year long lead times, due to massive order queues. At the highest level, the semiconductor production bottleneck stems from the monopoly the largest semiconductor foundries have on fabrication and ATP (King, Wu, and Pogkas, 2021). Intel Corp. is launching a $20 billion plan, with semiconductor industry representatives asking for government subsidies and investment tax credits (Johnson, 2021). Though certain IDMs have already built domestic foundries and have announced plans to bolster their fabrication capacity, investing in fabs takes long and is expensive.

Because semiconductor companies rely on outsourced manufacturing and equipment, their supply chain was shocked when they could not buy what they needed. The current production bottleneck is mainly due to an estimated 91% of global fabrication being done by TSMC and Samsung, with Samsung's niche being DRAM but not logic processing chips. Though TSMC has increased its capital spending budget to $28 billion in 2021, their lead times are not decreasing. Nearly all major fabless firms contract TSMC to fabricate their chips, because not a lot of other foundries can churn the same volume and quality the market needs. Right now, TSMC is struggling to meet a very imbalanced demand, having $537 million in shares for Qualcomm, and $498 million for Broadcom to name a fraction of its customer scope. These two companies in turn supply technology companies like Apple, Samsung, HP, Dell, and Amazon, with the logic processing chips they need. Besides office and home computers, many of these technology companies also produce the chips in medical devices, and other important applications like military security. Chip companies like Qualcomm and Broadcom are currently unable to provide downstream electronics companies with the chips they need.

The COVID-19 pandemic has revealed a lack of supply chain resiliency for companies in the semiconductor industry, in design, fabrication, and ATP. The seeds for the current production bottleneck were sown by the trade barriers out of geopolitical tensions, and precipitated by recent circumstances. A comfortable reliance on select actors for semiconductor supply cannot be realized when the industry faces demand shocks in times of crises, such as in the COVID-19 pandemic. Global transportation has been heavily restricted due to quarantine measures and limited air and ship cargo freight. Fewer shipping containers, less air freight capacity, and Boeing 777 fleets with Pratt & Whitney engines being suspended, have made international shipping more costly and limited (Vakil and Linton, 2021). In the earlier part of global quarantines in 2020, safety protocols for laborers in chip factories were not yet instituted, leading to plant shutdowns and delayed production. Meanwhile, a factory fire in Japan cut off the production of special fiberglass used for circuit boards. The production bottleneck is partly due to a lack of wider selection for contracting manufacturing steps and equipment. Shin-Etsu Chemical Co. has a monopoly on chemicals needed in semiconductor manufacturing. Meanwhile, ASML Holding NV has a monopoly on the photolithography equipment needed to print advanced chip patterns onto wafers. All of these factors have coalesced into an escalating situation that must be diffused through sound negotiation, and the decisive implementation of policy.

III. Discussion

A. Downstream Impact on the Automotive and Other End User Markets

Industry analysts like Yole Developpement have reviewed the impact of the COVID-19 pandemic to semiconductor production in electronics manufacturing. They have identified different consequences for different market segments (Mounier and Assogba, 2021). Semiconductor end-use components are not one homogenous product but multiple. Car factories have had to shut down and cut back on production because of supply shortages. Ford, Nissan, Volkswagen, and General Motors are some car companies that have either cut back or even completely shut down production in their factories across North America, Europe, and Asia (Wendorf, 2021). AI hardware for larger automotive parts are one of the many devices that are negatively impacted by the pandemic. The Original Equipment Suppliers Association analyzed the roots and effects of the semiconductor shortage on the automotive industry and identified the following problems: 1) long lead times for chip orders, 2) a high utilization rate of 90%-95%; carmakers are forced to buy chips in more bulk to amortize the manufacturing cost, but if demand drops then they buy chips in smaller batches, driving up the final order price, 3) a surge in chip demand across other industries, and 4) and microcontrollers (MCUs) of which carmakers need high specialized ones that cannot be dual-sourced (Miller, 2021). It is important to note the automotive industry is one of many markets that buy from semiconductor manufacturers. Some industries' supply chain disruptions come from endogenous problems. Large scale risk reallocation for endogenous problems risks disrupting the free market. Besides the automotive market, PCs and server end markets, wireless communication and IoT, wired communication, other consumer electronics, and even industrial usage markets that includes medical devices must be considered in any major COVID-19 pandemic and semiconductor supply chain shock response (Bauer, Burckacy, Kenevan, Mahindroo, and Patel, 2020). Government policy that tries to address semiconductor supply chain concerns must consider not only any individual industry's scope but all industries that drive semiconductor sales.

B. Labor Policy and Market Segment Supply (livelihood)

Besides considering the macroeconomic scope of the issue, policy makers must also remember the individual workers that comprise the labor force in semiconductor plants. Amidst a pandemic, both government and industry must make the connection between the health and safety of individual workers to the growth of market value. In the first year of the pandemic, the labor data analytics firm Emsi surveyed the hiring of semiconductor companies in all key regions, and found out most would continue hiring unabated if not for select positions frozen (Liss, 2020). The data reflects how semiconductor companies continue to operate despite the challenges brought by quarantines and new health risks. Unfortunately, certain semiconductor and downstream companies have had to commit to lay-offs and other work suspensions due to the larger market making them unable to pay back the costs of labor in time (Blye, 2021; Wayland, 2021).

Companies need to be able to pay their workforce to continue operating, but likewise they also need to keep them safe. At an Intel Corp. plant in Chandler, Arizona, workers discreetly reported how social-distancing guidelines and isolation protocols were not being followed and enforced (King, Barr, and VanderMey, 2020). These employee reports were also filed to local government agencies that regulate workplace safety. This is just one of numerous cases where employees have feared for their safety. With semiconductors being an essential good, the lives and livelihoods of workers who diligently assemble chips have to be protected (SIA, 2020c).

The semiconductor industry must not be restricted by lockdowns and quarantines because the production of chips underpins so many other end-use devices, including essential medical devices. The semiconductor supply chain is essential, just as with health supplies and food (OECD, 2020b). Workers must be allowed to traverse areas amidst lockdowns and quarantine travel restrictions, and companies must institute best practice for worker health against COVID-19. Though semiconductor fabrication is an already sterile environment due to the nature of cleanrooms being required to protect chips from dust particles, government agencies must make sure companies are instituting the following protocol: 1) strict controls on travel and movement of employees between facilities, 2) reducing on-site workforce, 3) quarantines for employees who traveled abroad or showed cold/flu symptoms, 4) mandatory daily health declarations, 5) requirements for all employees to wear protective masks, 6) regular sanitation and disinfection practices, 6) social distancing, 7) heightened visitor entry restrictions to company facilities worldwide, and 8) establishing dedicated leadership teams comprised of medical and safety experts (SIA, 2020c). States must enforce these measures to ensure semiconductor production, and by extension electronics production, goes uninterrupted from risks to the labor force.

C. Geopolitical Tensions

Trade disputes account largely for the volatility facing the semiconductor industry. Ideally, free trade is unimpeded when tariffs on offshore manufacturing steps and IC end-use are kept minimal. The Negotiation of the World Trade Organization (WTO) International Trade Agreement (ITA) in 1996, and ITA II in 2015, have significantly prompted semiconductor tariffs to be reduced in an effort to facilitate globalization (CRS, 2020). However, recent geopolitical tensions between certain States are threatening the globalization that has been established. National interest has prompted one party to impose export controls to restrict the other party's imports from it. Semiconductor companies based in the U.S. were banned from selling

to Huawei Technologies and other Chinese firms. Conversely, American firms could no longer buy chips made by Chinese foundry China Semiconductor Manufacturing International Corporation (Vakil and Linton, 2021). $50 billion worth of tariffs towards semiconductor related products was announced by the U.S. over Chinese imports, in response to cases of intellectual property (IP) theft and the other following issues: forced technology transfer requirements, discriminatory and non market licensing practices, and suspicious acquisitions of country specific IP and assets. Solutions must be found to negotiate agreements, especially in a time when COVID-19 brings severe economic strain and less international mobility. If left unresolved, trade disputes will stagnate innovation and impede IC end-use production.

The issues in semiconductor supply chain practice that prompted governments to enact protectionism measures must be acknowledged, and found solutions. Increased tariffs lead to short to midterm disruptions in supply as companies find cheaper bids, and States' governments invest in building domestic fabrication facilities instead of importing from offshore firms. The fragmentation of the already established international supply chain can cascade into a long term barrier to technological advancement when companies and States distrust each other and prevent transnational technology assimilation. Companies with leading IC design and R&D are spread in North America, Europe, and the Asia Pacific while high volume and 2/3rds of global, leading-edge 10nm -7nm, IC fabrication particularly in East Asia. Major companies in Taiwan, South Korea, and Japan have come to dominate the fabrication and ATP steps of manufacturing, with China growing its 12% share of foundries, as of 2019 (CRS, 2020). Companies in East Asia further outsource their manufacturing plants to other Asian States, and electronics companies in them import the chips North American companies had to outsource fabrication for. When a country outsources manufacturing to another country but then buys back their ICs to resell them, their imports are actually re-exports, such as when a North America based company re-exports chips they import from a fabrication and ATP firm in Asia. High tariffs highly discourage these transnational transactions, and tariffs in this context have arisen from manufacturing specific disputes.

IV. Role of the International Community

The COVID-19 pandemic intensified the need for non-contact intensive modes of communication and of other essential services because the global semiconductor industry plays a relevant role in allowing said online communication channels to stay alive. UNCTAD calls for the consideration of national governments in easing the pandemic restrictions of labor policies during their regional and local lockdown schedules all the while following the international standards for social-distancing and risk-communication strategies set by the World Health Organization to curb the spike in COVID-19 cases.

The landmark legal mechanism for this, in the context of labor, is the ILO Centenary Declaration for the Future of Work. It essentially calls the international community into "promoting the acquisition of skills, competencies and qualifications for all workers throughout their working lives (ILO, 2019a)" It highlights that even in pre-COVID-19 conditions that the accessibility to the labor semiconductor market is largely limited to only a few States that are capable of manufacturing them into the electronic goods and operating machines since most of their laborers are highly skilled and scarce (ILO, 2020b). It is also imperative that Member States take into account the manufacturing of said components is necessary for the advancement of automation manufacturing mechanisms, upgrades of existing ICTS and machines, and answering to the rising demand of such components from the global market.

In response, the government of the Republic of India (2019) calls the international community for the coordinated efforts of the following international organizations and international regimes for trade in the ICT market:

- WTO
- The UN and its Bodies (UNESCO, UNCTAD, UNDP, ECOSOC, ESCAP etc.),
- G20,
- Regional organizations (ASEAN, EU, AU, etc.), and
- World Bank and other regional banks.

All these mentioned international actors must expedite and lobby for the safe productions and flow of the necessary supply chains that involve the semiconductor industry in line with the policy frameworks set by the G20 Digital Economy Ministers Meeting in 2020 (G20, 2020). This is because there are no existing international legally binding frameworks that underscore the issue with regards to its labor considerations, inflation probabilities, and severe impact from the COVID-19 pandemic. In conclusion, UNCTAD would like to reiterate the significance of semiconductors, microchips, and other relevant data processing components as essential goods that expedite the dissemination of essential goods, services, and information in and out of COVID conditions.

V. Guide Questions

1. What kind and how much government action is sufficient to avert further crisis in the semiconductor industry and its downstream, end-use, markets?
2. How can governments direct funding for the capital expenditures of semiconductor manufacturing or downstream electronics companies to bolster domestic production and continued trade?
3. What can governments do to prevent supply chain bottlenecks from hampering production and forcing the shutdown of factories either downstream or in the manufacturing of semiconductors?
4. How can intellectual property laws, and other prerequisites of trust to trade, be enforced in a time when States are distrusting and sanctioning each other?
5. How can governments protect businesses in their States, downstream of the largest producers of microchips, in a time when imports are hard to come by?
6. How can blocs safeguard their States from a shortage of ICT and other electronics infrastructure, in a time when sustainable development is reliant on technology?
7. What kind of trade agreement frameworks should be pursued by States during and after this pandemic? More specifically, in which ways should States continue, amend, or cease their multilateral, regional, and bilateral trade agreements?

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Deadline of Position Papers

Position Papers are due at
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