



Southern China International MUN

Official Background Guide

Group of Twenty: On measures to mitigate the impact of automation on the global labor market

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1. Description of the Issue

1.1 History of the Issue

Automation has changed work practices over many years—from the innovations of the Industrial Revolution to fast-rising robotics and artificial intelligence. Traditionally, such changes have usually been regarded as the tools for improving productivity, sparing workers much physical effort, benefiting the economy as a whole, and shifting the sands of industry in certain directions with time. The modern era indeed brings about unparalleled change in a time when automation, in fact, supplants wholesale human jobs, which further creates a different kind of challenges. However, whereas for developed countries, automation provides the newest avenue for holding their respective places in global hegemony through innovation, developing countries will find themselves being relegated even more by failing to respond due to limited resources⁴. How to manage both benefits and challenges from automation, therefore, is no longer a question of pure economic progress but an assurance that this globally transformative change does not deepen the present inequalities but rather paves ways toward shared prosperity. Such a delicate balance makes this topic not only urgent but one deeply relevant to the future of the global labor market.

As defined by the International Society of Automation, automation is "the creation and application of technology to monitor and control the production and delivery of products and services"⁷. It involves an extremely broad range of applications like business process automation (BPA), enterprise automation, industrial automation, etc. Furthermore, automation can be applied in a plethora of global industries, from finance to healthcare, manufacturing and facility operations, and practically everywhere in between. In other words, automation is the utilization of technologies to automate tasks previously done by humans or tasks that would otherwise be impossible. Automation is oftentimes compared to the term mechanization, which refers to the replacement of human labor by machines in a human-dependent system. This contrasts with the term automation, as automation is the integration of machines into a now self-governing system.

In a greater context, automation can be considered the evolved version of mechanization.

The technology of automation can greatly contribute to the evolution of mechanization during the Industrial Revolution. Automation is widely used in the manufacturing context, which is due to the exponential usage of automation in the automobile industry in 1946. The origin of the word is attributed to D.S. Harder, an engineer at the Ford Motor Company. This means the increased use of automatic devices and control in the mechanized production lines in the automobile industry. Although this allowed for mass production and increased the profitability of the automobile industry, there were major consequences in the labor market. The automation led to the unemployment of numerous factory workers who were previously a part of the assembly line and were replaced by one automated machine. This was a slight glimpse of the consequences of automation within the global labor market ³.

The history of automation can be traced back to the late 18th-century Industrial Revolution, which substituted manual labor with mechanized production in industries like textiles and manufacturing. That epoch was the first large labor-market disruption in the world where steam engines and other mechanical innovations increased productivity enormously but substituted traditional artisans and workers doing manual labor. By the early 20th century, this change had been further hastened by the advent of assembly lines and electrification, transforming industries like automobile manufacturing in particular. These developments both speeded up economic growth but, at the same time, brought about debates on job displacement and the requirement that workers adjust to new roles—a concern still applicable today.

In the late 20th century, there was a move toward a new era marked by computerization and digitization that spread throughout world industries. Robotics development picked up speed in the 1980s, followed by wide adoption of AI in the 21st century. This brought an unprecedented increase in efficiency and, also, growing unease regarding workforce displacement. Globalization also played a part, in that automation enabled companies to relocate production and cut costs, creating economic opportunities as well as inequalities. The issue has attracted international attention in recent decades, with organizations such as the International Labour Organization (ILO) and the Organisation for Economic Co-operation and Development (OECD) putting pressure on countries to take measures to deal with the social and economic effects of automation. These developments illustrate the continuing challenge of balancing technological progress with the protection of workers and equitable growth globally.

1.2 Recent Developments

Recent developments in automation have rapidly grown in the fields of Artificial Intelligence, Machine Learning, and Robotics, restructuring many industries all over the world. Unlike the earlier phases of automation, these technologies are no longer confined to repetitive tasks in manufacturing but find their applications in areas as broad as healthcare, finance, education, and even creative industries. Whereas countries like China, investing a lot in robotics and AI, have turned into game-changers in this changing game, countries like India come out on the other side to emerge as major contributors, positioning automation within their technological and service sectors. Changes like these suggest that with increasing awareness about the role automation plays in being globally competitive, increased involvement will grow with time from more countries in this arena.

Newer circumstances, such as the COVID-19 pandemic, have also accelerated automation in many sectors. The call for social distancing and the shortage of labor within these industries, such as logistics, retail, and healthcare, meant that industries relied increasingly on automation to keep up with growing demand. This has brought into sharp relief the pros and cons of automation. It has enabled companies to maintain productivity during a crisis, but it has heightened concerns about workforce displacement and inequality². The debate on automation has slowly moved toward more policy development that balances technological advancement with social equity – a reflection of the serious need to address its global implications in a fair and inclusive manner.

Key Terms

Data Privacy – The protection of personal data from those who should not have access to it and the ability of individuals to determine who can access their personal information (Cloudflare).

Encryption – The process of converting information or data into a code, especially to prevent unauthorized access.

GDPR – General Data Protection Regulation. One of the strongest privacy and security laws in the world. It defines the individuals' fundamental rights in the digital age, the security of their data, the methods used for ensuring surveillance, and sanctions for those in breach of the rules⁸.

Artificial Intelligence (AI) – The ability of a digital computer to perform certain tasks that mirror the tasks usually performed by intelligent beings. The development of artificial intelligence could potentially impact the data protection protocols developed prior to the creation of such algorithms¹.

AES – Advanced Encryption Standard. It was developed in 2001 and has been used, even till now, by the U.S. government to protect classified information. This system encrypts important data by chopping the data into unrecognizable pieces of 128 bits. When sending encrypted messages, the AES simply slices the plaintext into smaller blocks that are converted into ciphertext ⁶.

Confidentiality – The dictionary defines confidentiality as “the state of keeping or being kept secret or private.” (Oxford 1) But in this case, it means protecting personal information. This information might include the user’s lifestyle, health, and hobbies which they might want to be kept private.

2. Emphasis of the Discourse

2.1 Right-Wing Approach

Although some countries may lean towards either a right-wing or left-wing nation, it is important to keep in mind that there is no distinctive line that distinguishes whether a country is entirely liberal or conservative. As a matter of fact, in most countries, governments are a contribution from both parties’ beliefs.

Traditionally, conservative parties have approached automation with free market principles, emphasizing minimal government intervention to ensure the prosperity of the government. Strictly following the foundational conservative belief that market forces, if left undisturbed, will naturally guide businesses to successfully adopt and adapt to the integration of automation within the market, while at the same time creating new opportunities for economic growth. This view springs from the motive of maintaining economic stability, encouraging innovation, and encouraging individual responsibility.

However, the evolving economic realities have led to a more nuanced and mixed conservative perspective. For example, in the United States, conservative parties have begun to acknowledge the serious, potential disruptions caused by the integration of automation. This has led to a desperate search for targeted solutions to mitigate these issues. Initiatives such as advocating and initiating partnerships between public-private partnerships that incentivize businesses to invest in workforce training programs have been taken on by the conservative parties. Putting great emphasis on the avoidance of large-scale government expenditure to minimize government intervention. Data from the Pew Research Center shows significant conservative support for such issues, highlighting a shift toward a more interventionist yet market-friendly stance.

Similarly, Japan's conservative government, under the leadership of the Liberal Democratic Party, has introduced similar limited intervention strategies while still maintaining the foundational free market principles. Specifically, the *Future Classroom project* is a project launched by the conservative government that supports the integration of advanced technologies like AI while equipping workers with the skills necessary to thrive in automated industries. These policies underline the hands-off approach of the conservative party: ensuring economic stability and business innovation, all the while making sure government involvement is being considered in addressing the challenges of automation.

2.2 Left-Wing Approach

In contrast, left-wing nations have a more liberal approach to addressing the challenges of automation, focusing on government-led initiatives to ensure a fair and inclusive transition to an automated global economy. These nations fully acknowledge the potential risks involved in integrating automation technology into the market without proper management but are also aware of the powerful capability of automation. Therefore, they adhere to the liberal ideologies of initiating government policies in hopes of mitigating the potential dangers. Their policies often include large-scale public funding initiatives and retraining programs to assist workers in developing the required skills for newly emerging industries. A controversial policy that was developed by liberal parties to mitigate the impacts of automation is universal basic income (UBI), which provides financial support for people who lose their jobs due to automation³. This ideology comes from the belief that governments have a duty to protect their citizens from the negative effects of rapid technological changes.

An example of a liberal approach to addressing the detrimental impacts of automation is France's Personal Training Account (Compte Personnel de Formation), which was a large-scale government-led initiative combining educational job training programs to prepare workers for technological changes. The program allowed workers to accumulate credits for vocational training throughout their careers. This was a significant government investment, aligned with the liberal commitment to equity and assisting large-scale populations to adapt to automation.

Nevertheless, several issues have arisen from this approach. Large-scale, publicly funded programs require significant financial investment, often leading to imbalances within the economy: increasing taxation and government borrowing. Critics have raised concerns over the efficiency of these high-cost initiatives, as they are prone to inefficiencies like mismanagement or

bureaucracy potentially undermining their effectiveness. Another critique is that higher taxes on businesses benefiting from automation could dissuade further investments in automation innovation and eventually slow economic growth. Furthermore, mitigation measures like UBI also face scrutiny for reducing incentives for individuals to actively participate in the workforce or pursue skill development. Despite these criticisms, supporters of the left-wing approach maintain that such measures are essential to ensuring the economy and full social benefits of automation integration. In the long run, fostering stability and resilience in an increasingly technology-driven world.

2.3 Stance of Intergovernmental Organizations

The substantial impact that automation has brought to the global labor market has drawn significant attention from an array of intergovernmental organizations (IGOs), each of which addresses the issue through a distinct approach. The International Labour Organization (ILO) is a prominent intergovernmental organization tackling the impact of automation on the global labor market. In order to support workers who are displaced by technological advancements, the ILO advocates for a proactive approach that emphasizes the importance of skill development, lifelong learning, and social protection programs ⁵. The group stresses that automation must be managed in a way that supports decent employment and inclusive growth to guarantee that the change benefits all workers, especially those in vulnerable areas. The ILO's stance is based on its mission to promote social justice and decent employment globally, emphasizing that no country should lag behind in the automation race.

Another key intergovernmental organization involved in mitigating the effects of automation is the Organization for Economic Co-operation and Development (OECD). While aligned with the ILO's emphasis on workforce development, the ILO places greater emphasis on advising the government on policies to balance technological advancements with labor market needs ². The OECD highlights investment in collaboration among member states to address shared challenges like income inequality and workforce displacement. Additionally, the United Nations Educational, Scientific and Cultural Organization (UNESCO) brings a unique perspective to the table. In contrast with the ILO and OECD, UNESCO highlights the importance of education in addressing automation's challenges. They put their main focus on the integration of digital skills and innovation into youth education systems to lay the groundwork for future generations.

More economically developed countries (MEDCs), such as the United States, Germany, and Japan, remain dependent on ILO and OECD mitigation initiatives to help guide their course of

action in balancing the widespread impacts of automation with social and economic stability. On the other hand, mitigation efforts led by UNESCO are primarily targeted toward Less Economically Developed Countries (LEDCs) or Newly Industrialized Countries (NICs) like India and Brazil, which require substantial improvements in education systems to equip future generations with the necessary skills. The World Bank plays a role in providing both financial and technical support to LEDCs and NICs in these mitigation initiatives.

2.4 Stance of Developed Countries

Developing countries like the United States, Germany, Japan, or South Korea that seek economic growth, innovation, and competitiveness all at once in a worldwide context, automation is a big tool that these countries seize every opportunity to push forward with, with the dream of remaining economic leaders through domestic issues related to workforce demands and demographic challenges. For instance, the US relies on market-driven solutions to promote private investment, tax incentives, and retraining programs to manage job displacement. In contrast, Germany is finding a balance between leading in Industry 4.0 and having one of the world's best social safety nets and vocational training systems to ready workers for the challenges to come. Conversely, Japan and South Korea rely heavily on robotics and AI to avoid dependency on the hard labor of human beings and boost productivity at the same time.

Although these countries all share the common goal of advancing the technology of automation, they have different priorities: the U.S. with private initiative; Germany, with strong social protections entrenched within its policy; and Japan and South Korea's main priority has been fighting demography by using automation because their workforce is shrinking day by day. These strategic solutions are very different from the struggles to be faced by developing nations short of infrastructure and resources in pursuit of this race. While developed countries focus on their priorities of dominance in technology and global markets, developing nations call for equal access to automation and international support in narrowing the gap. The difference in priorities underlines the greater need for collaboration in trying to solve the unequal effects of automation across the world.

2.5 Stance of Developing Countries

On the other hand, developing countries like India, Brazil, and South Africa view automation as an opportunity as much as a challenge. They see automation as an opportunity to indulge in the world of modernization and growth in crucial sectors such as manufacturing, agriculture, and

services. Meanwhile, they are also apprehensive about the negative impacts, particularly losses of jobs in labor-intensive sectors that make up large components of their economies. For example, India has been working on embedding digital skills into education systems and building innovation hubs to prepare the workforce for the future. Similarly, South Africa has introduced programs for workers' upskilling in technology, while addressing the economic inequalities that could exacerbate with automation ⁹.

Although developing nations face challenges common to most, such as a lack of technological infrastructure and an inability to widely train large workforces, objectives are often shaped by specific domestic needs. The Indian government is thus developing automation to enhance its IT/technology sectors, while Brazil is building on its agricultural productivity. These contrast with the priorities of the developed nations in the development of pioneering technologies and protection of their lead over other economies. Developing nations, in effect, call for equal access to automation technologies and international support in catching up with more affluent countries. This reflects their dual objectives of mitigating the risks of automation while trying to enter the global economy on an equal footing.

3. Possible Solutions

3.1 In Favor of Developed Countries

The solutions that will be supported by developed countries usually meet their aims of maintaining economic competitiveness and promoting technological innovation. As a rule, most of the developed nations have called for policies that provide fiscal incentives for investment in R&D to further develop automation technologies ⁸. These could involve tax breaks for companies performing R&D and incentives for private sector investments in budding technologies such as AI and robotics. For example, the US adopts market-oriented strategies, which offer industries the lead for automation growth and simultaneously provide workers' retraining programs.

The other way out is to initiate global cooperation between developed nations on setting global standards regarding automation and labor practices. This will ensure their edge in technology is maintained but they remain at par in all different industries. Developed nations can influence legislation related to intellectual property rights, making their investments safe in automation technologies.

While these are good solutions for the developed nations, they really create more problems in

terms of global inequality. The potential cost of prioritizing innovation could be that developing nations fall even further behind because they cannot compete ¹⁰. Those in support, however, note that such measures create advanced technologies that trickle down the benefits to the developing countries eventually. These solutions are pragmatic for the developed nations but may not be so easily implemented on a global scale without additional measures put in place to ensure inclusivity.

3.2 In Favor of Developing Countries

Solutions that would find much support from the developing countries are those directed towards sharing automation technologies on fair terms and support for infrastructure and workforce capability to adapt. Examples include international finance initiatives whereby organizations like the World Bank among developed nations provide finance for developing nations to invest in education, vocational training, and digital infrastructures ⁹. This would further allow countries like India, Brazil, and South Africa to share the benefits of automation with equality in international production chains ¹.

Another proposal is a technology-sharing agreement; in other words, sharing automation technologies at lower costs or in partnership between developed countries. For example, innovation hubs and skill development centers could be set up with collaboration between developed and developing nations. These would enable the local workforce to acquire the necessary skills required to adjust to the shifting labor market and, on the other hand, trigger regional innovation.

These solutions, though essentially in the interest of developing countries, may not go too well with the developed nations on account of the costs involved and competition-related apprehensions ¹. The feasibility of such measures lies in the extent of sharing resources and expertise by the developed nations. However, they would argue that such initiatives offer long-term stability in the world by preventing economic gaps from widening and thereby benefit both developed and developing nations.

4. Keep in Mind the Following

When researching your country's stance on automation and its impact on the labor market, start by examining the current state of automation in your country at a national level. Assess the extent to which automation has already been integrated into key industries and how it is reshaping

employment patterns. Then, broaden your focus to analyze your country's role in the global labor market and how its policies might influence international efforts to address the challenges of automation. Consider how developing or less-industrialized countries could cope with automation's impact, given their current economic capabilities and workforce structures.

Some questions to guide your research include:

- 1. How advanced is automation in your country's key industries (e.g., manufacturing, services, agriculture)? What is the current level of automation adoption and how has it affected employment?*
- 2. Does your country have policies in place to manage the transition of the workforce due to automation? If so, how effective have these policies been in mitigating job displacement and fostering new job creation?*
- 3. What strategies has your country employed to upskill or reskill workers to meet the demands of an increasingly automated job market? How can these strategies be applied to countries with fewer resources or lower technological infrastructure?*
- 4. How does your country view the role of automation in promoting economic growth while protecting workers' rights and ensuring fair wages? What balance does your country seek between technological advancement and social equity?*
- 5. Does your country emphasize the need for a global approach to addressing the challenges of automation, or does it prioritize national solutions such as increased investment in automation and labor market reforms? Why?*
- 6. What long-term solutions can your country propose to ensure that automation leads to inclusive prosperity, rather than widening the gap between high-skill and low-skill workers or between developed and developing countries?*

5. Evaluation

Automation in the global labor market is a very complex challenge that needs to balance the priorities of both developed and developing nations. The priorities of the developed countries are maintaining economic leadership through innovation and technological advancement, focusing on

research, development, and protection of intellectual property. On the other hand, developing countries emphasized the need for equitable access to automation technologies, international support for education and skills development, and even financial support to develop the necessary infrastructure and adjust to the changing nature of work. Overcoming these gaps requires delegates to discuss innovative solutions that would lead to more cooperation-funding initiatives, technology-sharing agreements, and inclusive policies that fairly distribute the benefits of automation. By building global cooperation, the delegates will be able to secure automation as a tool for mutual progress, not a source of division, toward a common future that is equitable and sustainable.

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