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AI APPLICATION FOR ACHIEVING GLOBAL ECONOMIC GROWTH

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INTRODUCTION

The COVID-19 pandemic had disastrous implications for development all over the world, urging states to introduce lockdowns and suffer economic losses, followed by the crisis in Eastern Europe, which has reshaped traditional supply chains, as well as resulted in the soaring prices for energy bills and food. Global real Gross Domestic Product (GDP) growth is projected to fall in both 2023 and 2024[1].

In addition, many conventional growth factors such as natural resources, population growth, and demographic transitions are being exhausted in a number of countries. Productivity rates are declining and instabilities are mounting in restive areas across the globe.

The overall progress towards achieving Sustainable Development Goals (SDGs) has slowed down, urging the global community to redouble its efforts through multiple instruments, including digital technologies and innovations to close divides. According to the 2022 United Nations (UN) Activities on Artificial Intelligence (AI) Report[2], which assembled joint efforts of the International Telecommunication Union (ITU) under the UN Economic and Social Council and 46 UN bodies and agencies in running 281 AI-enabled projects, with the potential to drive progress across all 17 SDGs, the use of AI can help speed up and scale interventions for this purpose.

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[1]World Economic Outlook July 2023 // International Monetary Fund URL: https://www.imf.org/en/Publications/WEO/Issues/2023/07/10/world-economic-outlook-update-july-2023

[2]United Nations Activities on Artificial Intelligence (AI) 2022 // ITU URL: http://handle.itu.int/11.1002/pub/81f16711-en

In July 2023 the UN Security Council held its meeting to consider risks of AI. Despite the potential benefits of the AI, Member States expressed their concerns over the AI governance, highlighting the need to ensure its compliance with the humanist approach, which is built on values and human rights as well as raising questions about its ambiguous impact on working conditions in national economies. Therefore, the global community has to find balance between AI regulations and its wide adoption, considering the abilities of the UN Member States and the level of AI development's transparency. Given the high level of uncertainty regarding potential outcomes of AI global implementation and application, countries should address all the associated issues through dialogue and consultations, thus, the Economic and Social Council – supreme UN Body responsible for organizing high-level socio-economic forums must be involved.

CHAPTER 1. ECONOMIC GROWTH: STATED OBJECTIVES AND THEIR ACHIEVEMENT

In theory economic growth is a process by which a nation's wealth increases over a prolonged period of time. The most widely used measure of economic growth is the real rate of growth in a country's total output of goods and services (gauged by the GDP adjusted for inflation, or "real GDP"). The rate of economic growth is influenced by natural resources, human resources, capital resources, and technological development in the economy along with institutional structure and stability[3]. There are also some minor factors influencing economic growth such as the level of world economic activity and the terms of international trade. In practice, however, there are a number of peculiarities needed to be highlighted and specified.

Firstly, the world is very diverse, considering resources allocation as well as population size, development level, access to technologies, and overall economic structures vary greatly due to geographical, historical, political, and other reasons. For instance, the population of India or China alone is double the size of the entire Europe, while the US economy as of 2022 accounts for 25.4% of the global economy[4] and is four times larger than the economies of all 41 countries and territories of Latin America and Caribbean region combined[5]. These

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[3]Economic Growth //Encyclopedia Britannica URL: https://www.britannica.com/money/topic/economic-growth

[4]25.56 trillion USD out of 100.56 trillion USD // World Bank Data URL: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=US-1W&name_desc=false

[5]25.56 trillion USD versus 6.25 trillion USD // World Bank Data URL: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=US-ZJ&name_desc=true

examples go to extreme lengths, clearly showing how different states are. There is no panacea among conventional approaches and economic policies aimed at economic growth acceleration which could be applied to every economy. Subsequently, achieving global economic growth is not a trivial task at all.

Secondly, the definition of economic growth does not always imply increasing wealth and well-being for all. Essentially there are two types of economic growth: inclusive and exclusive. Inclusive growth is economic growth that is distributed fairly across society and creates opportunities for all. It increases state capacity and the supply of public goods, since states can tax growing revenues and gain the capacity and resources needed to provide the public goods and services that their citizens need: healthcare, education, social protection, and basic public services among others.

In addition to benefits provided by the state, inclusive growth brings wider material gains. Growth creates wealth, some of which goes directly into the pockets of employers and workers, improving their well-being. As people earn higher incomes and spend more money, this enables them to exit poverty and gain improved living standards.

This is the type of economic growth the UN is focusing on within its 8th SDG "Decent work and Economic growth".

However, there is another kind of economic growth called exclusive growth. The term is opposite to inclusive growth and is used to denote economic growth which tends to benefit the elites, while the poorer segments of the society are largely excluded from its gains[6].

[6]India's Exclusive Growth, Economic and Political weekly, Vol. 58, Issue No. 6, 11 Feb, 2023 URL:https://www.epw.in/journal/2023/6/special-articles/indias-exclusive-growth.html#:~:text=We%20use%20the%20term%20%E2%80%9Cexclusive,the%20population%20are%20largely%20excluded

Exclusive growth is caused by income, gender and other forms of inequalities, corruption, and weak institutions.

A collusive deals space, with small groups of capitalists making deals with those in power, can lead to rapid economic takeoff. However, in places where rapid growth has come from close relationships between politicians and capitalists, problems can come down the line in converting growth to structural transformation. Structural transformation is important because it can make the gains of growth more sustainable. This is because the productivity of capital increases with greater investment in technology and human capital. Economies move to produce higher value goods and services rather than focusing on backbreaking low value activities[7].

As for statistics and numeric expressions, global economic growth is forecast to slow down from an estimated 3.5% in 2022 to 3.0% in both 2023 and 2024[8]. Multiple crises are placing the global economy under serious threat.

In least developed countries (LDC), the annual growth rate of real GDP per capita dropped from 5% in 2019 to just 0.2% in 2020 before recovering to 2.8% in 2021. It is estimated that growth will resume, with the annual rate

[7]Why should I care about economic growth? Kunal Sen // The UN University World Institute for Development Economics Research URL: https://www.wider.unu.edu/publication/why-should-i-care-about-economic-growth#:~:text=Economic%20growth%20increases%20state%20capacity,protection%20and%20basic%20public%20services

[8]World Economic Outlook, July 2023 // International Monetary Fund URL: https://www.imf.org/en/Publications/WEO/Issues/2023/07/10/world-economic-outlook-update-july-2023

rising to 4.3% in 2022 and further increasing by 4.1% and 5.2% in 2023 and 2024, respectively[9]. However, these growth rates still fall short of the SDG target of 7% (Chart 1.)[10].

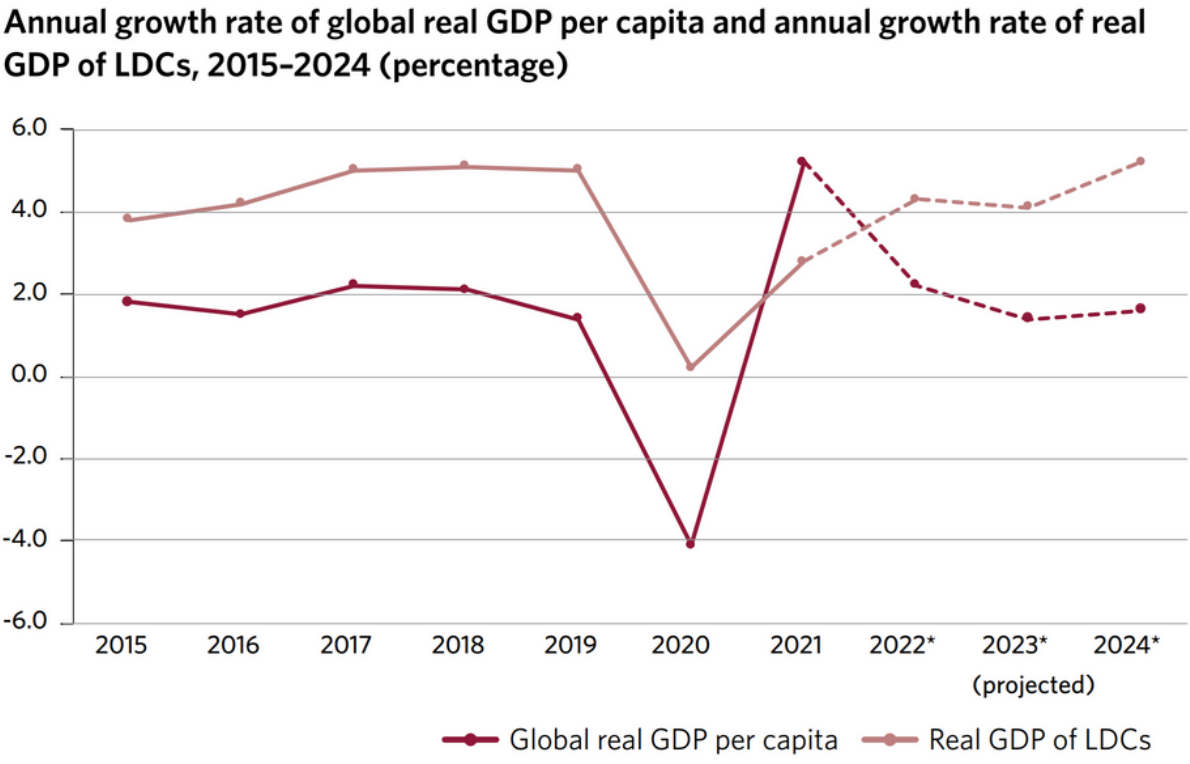

Chart 1. Annual growth rates of global real-GDP per capita 2015-2024 (The Sustainable Development Goals Report 2023, UNDESA[11])

[9]The Sustainable Development Goals Report 2023, the UN Department of Economic and Social Affairs// UN Statistics Division URL: https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf#page=1&zoom=100,0,0

[10]ECOSOC, E/2023/64, annex. High-level political forum on sustainable development, Report of the Secretary-General // UN Statistics Division URL: https://unstats.un.org/sdgs/files/report/2023/E_2023_64_Statistical_Annex_I_and_II.pdf

[11]The Sustainable Development Goals Report 2023, the UN Department of Economic and Social Affairs// UN Statistics Division URL: https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf#page=1&zoom=100,0,0

Rising inflation, unsustainable debt burdens, the COVID-19 pandemic, and the impacts of the Eastern Europe crisis on the costs of food and energy and financing have significantly reduced countries' fiscal space, undermining their ability to invest in recovery efforts. In addition, developing countries struggle to gain equitable access to the global trading system and to the benefits of new technologies and the fruits of science and innovation – all of which continue to favor those countries that have benefitted historically from protectionism and global resource extraction. To reverse course and turbocharge the Sustainable Development Goals, it is essential for countries to have the resources they need at scale to invest in both their immediate recovery and in long-term sustainable development outcome.

It becomes more and more evident that conventional factors of economic growth have their limitations. Natural energy sources, namely coal, oil, and natural gas, are non-renewable and their exhaustion is only a question of time.

Population growth and demographic transitions are no longer an option for a number of states, where the fertility rates have fallen even below the replacement level of 2.1 children per woman of childbearing age. This includes but is not limited to most nations of Europe, Canada, Australia, Brazil, Russia, Iran, Tunisia, China, and the United States. At the same time life expectancy in mentioned states has risen steeply. These two factors led to the aging population problem and increased demographic load.

Substantial capital and brain leakages towards developed countries significantly limit utilization of this growth factor in developing countries. Capital control legislation could be a relevant response, but it might decrease foreign investments in the national economies in return.

Finally, technological development and regional stability of many developing countries is under threat because of illegal unilateral coercive economic measures applied by major developed countries and recent financial, military, humanitarian, and political crises around the globe.

This all being said, it is critical for the world to find new economic growth factors and increase utilization efficiency of conventional ones by means of science, technology, and innovation. Development and application of AI is one of the most promising options for that role.

CHAPTER 2. ARTIFICIAL INTELLIGENCE, ITS DEVELOPMENT, APPLICATION AND POTENTIAL RISKS

In November 2021 Member States at the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) adopted the Recommendation on the ethics of artificial intelligence (AI), which rejected any ambition to provide a universal or one single definition of AI. Signatories agreed to refer to AI upon ethical relevance, so the Recommendation considers AI as "systems which have the capacity to process data and information in a way that resembles intelligent behavior, and typically includes aspects of reasoning, learning, perception, prediction, planning or control"[12]. Although such a definition does not cover all the AI features, it resembles the initial definition, which was coined by the British computer pioneer Alan Mathison Turing, who referred to computer intelligence as a machine functioning that is able to progress over its experience, as well as has a possible capability to alter its instructions.

The 1990s embodied the rise of machine learning, which laid the foundation for processing big data in the early XXI century. AI made tremendous strides upon the invention of deep learning, a type of machine learning that mimics the structure and operation of the human brain using artificial neural networks.

This century machines have already acquired such skills as handwriting, speech, and image recognition, while reading comprehension and language understand-

[12]Recommendation on the Ethics of Artificial Intelligence // UNESDOC Digital Library URL: https://unesdoc.unesco.org/ark:/48223/pf0000380455

ing have been significantly improved. AI systems gained dramatic capacities in recent years, including text-to-image synthesis and natural language processing (NLP) with its diverse language models. Generative Pre-trained Transformer 3 (GPT-3), released by OpenAI in June 2020, became a ground- breaking technology, laying the foundation for ChatGPT software, which was introduced in November 2022. NLP is also the basis of such programs as OpenAI's DALL-E, Stable Diffusion, and Midjourney.

The deployment of AI was increasing rapidly – from 25% in 2018 to 37% in 2019, referring to the 2019 Gartner CIO Survey. The overall proportion of hours that may hypothetically be automated by combining technologies now in use has increased from roughly 50% to 60-70% because of the technological possibilities brought on by generative AI. According to the recent McKinsey & Company study, generative AI will likely have a significant impact on knowledge work, especially in the field of decision-making and collaboration. The potential to automate management rose from 16% in 2017 to 49% in 2023.

However, AI may also have a highly disruptive effect on the economy and society. Some warn that it could lead to the creation of super firms – hubs of wealth and

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[13]The economic potential of generative AI: The next productivity frontier June 14, 2023 // McKinsey Digital URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-AI-the-next-productivity-frontier#/

[14]Gartner Survey Shows 37 Percent of Organizations Have Implemented AI in Some Form // Gartner URL: https://www.gartner.com/en/newsroom/press-releases/2019-01-21-gartner-survey-shows-37-percent-of-organizations-have

[15]The economic potential of generative AI: The next productivity, McKinsey Report June 2023, URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

knowledge – that could have detrimental effects on the wider economy. It may also widen the gap between developed and developing countries and boost the need for workers with certain skills while rendering others redundant; this latter trend could have far-reaching consequences for the labor market. Experts also warn of its potential to increase inequality, push down wages and shrink the tax base[16].

Overall fast recovery from the COVID-19 pandemic led to lower unemployment rates compared to the pre-pandemic times: 5.5% in 2019 versus 5.4% in 2022. Projections indicate that global unemployment is expected to decrease further to 5.3% in 2023, equivalent to 191 million people. This decline reflects greater-than anticipated labor market resilience in high-income countries in the face of the economic slowdown. However, low-income countries are unlikely to see such declines in unemployment in 2023. In fact, these countries have not recovered from the pandemic yet, with unemployment rate as high as 5.7% it is only 0.2% change from 2020 and there is no trend for the improvement of the situation observed (Chart 2.).

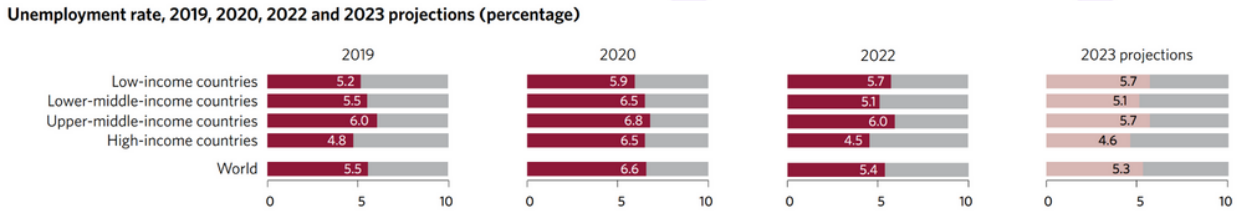

Chart 2. Unemployment rates 2019-2023 (The Sustainable Development Goals Report 2023, UNDESA[17])

[16]Economic impacts of artificial intelligence (AI): briefing // EPRS | European Parliamentary Research Service URL: https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/637967/EPRS_BRI(2019)637967_EN.pdf

[17]The Sustainable Development Goals Report 2023, the UN Department of Economic and Social Affairs// UN Statistics Division URL: https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf#page=1&zoom=100,0,0

Moreover, informal employment stood at 89.7 per cent in 2022 in LDCs, with no improvement since 2015. Sub-Saharan Africa and Central and Southern Asia also continued to have high informality rates, at 87.2 per cent and 84.8 per cent, respectively. Women have been worse off during the employment recovery, with four out of five jobs created in 2022 for women being informal, compared to only two out of three jobs for men[18].

Therefore, it is highly unlikely for the leaders of low-income countries to recklessly follow the AI adoption mainstream since it poses new threats on already unstable working places and slow economic recovery in their countries.

Another issue to be considered is reliability and legality of sources of information used by the AI applications. Mathematical models are trained on publicly available data without sufficient safeguards against plagiarism, copyright violations, and branding recognition risks infringing on intellectual property rights. A virtual try-on application may produce biased representations of certain demographics because of limited or biased training data[19]. Thus, significant human oversight is required for conceptual and strategic thinking specific to the needs of each entity utilizing the technology.

[18]The Sustainable Development Goals Report 2023, the UN Department of Economic and Social Affairs// UN Statistics Division, URL: https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf#page=1&zoom=100,0,0

[19]The economic potential of generative AI: The next productivity. June 2023 // McKinsey URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

CHAPTER 3. THE IMPACT OF ARTIFICIAL INTELLIGENCE ON GLOBAL ECONOMIC GROWTH

The recent research by McKinsey and Company[20] estimates that generative AI could add the equivalent of $2.6 trillion to $4.4 trillion to global economic growth. By comparison, the United Kingdom's entire GDP in 2021 was $3.1 trillion[21].

About 75% of the value that generative AI could deliver falls across four areas: Customer operations, marketing and sales, software engineering, and R&D:

I. Customer operations: Improving customer and agent experience.

Potential increase: 38% of global functional spendings or worth of $404 billion.

a) Customer self-service: by improving the quality and effectiveness of interactions via automated channels, generative AI could automate responses to a higher percentage of customer inquiries, enabling customer care teams to take on inquiries that can only be resolved by a human agent.

b) Resolution during initial contact: generative AI can instantly retrieve data a company has on a specific customer, which can help a human customer service representative more successfully answer questions and resolve issues during an initial interaction.

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[20]McKinsey & Company is a global management consulting firm that offers professional services to corporations, governments, and other organizations. McKinsey is the oldest and largest of the "Big Three" management consultancies.

[21]The economic potential of generative AI: The next productivity, McKinsey Report June 2023, URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

c) Reduced response time: generative AI can cut the time a human sales representative spends responding to a customer by providing assistance in real time and recommending next steps.

d) Increased sales: because of its ability to rapidly process data on customers and their browsing histories, the technology can identify product suggestions and deals tailored to customer preferences.

II. Marketing and sales:

Potential increase: 14% of global functional spendings or worth of $949 billion.

Generative AI has taken hold rapidly in marketing and sales functions, in which text-based communications and personalization at scale are driving forces. The technology can create personalized messages tailored to individual customer interests, preferences, and behaviors, as well as do tasks such as producing first drafts of brand advertising, headlines, slogans, social media posts, and product descriptions.

The technology could also change the way both B2B and B2C companies approach sales. Firstly, increase probability of sale by automatic identifying and prioritizing of sales leads via analysis of structured and unstructured data. Secondly, improve lead development by synthesizing relevant product sales information and customer profiles and creating discussion scripts to facilitate customer conversation.

III. Software engineering: Speeding developer work as a coding assistant

Potential increase: 32% of global functional spendings or worth of USD 414 billion.

Software engineers can use generative AI in pair programming and to do augmented coding and train LLMs – artificial neural networks which can contain a billion to a trillion weights, and are trained using self-

supervised learning and semi-supervised learning – to develop applications that generate code when given a natural-language prompt describing what that code should do.

IV. Product R&D: Reducing research and design time, improving simulation and testing

Potential increase: 12% of global functional spendings or worth of USD 328 billion.

Generative AI can help product designers reduce costs by selecting and using materials more efficiently. It can also optimize designs for manufacturing, which can lead to cost reductions in logistics and production. In addition, using generative AI in generative design can produce a higher-quality product, resulting in increased attractiveness and market appeal. Generative AI can help to reduce testing time of complex systems and accelerate trial phases involving customer testing through its ability to draft scenarios and profile testing candidates.

Generative AI will have a significant impact across all industry sectors, including banking, high tech, and life sciences. These industries that witnessed the biggest impact as a percentage of their revenues from generative AI (Chart 3.). Across the banking industry, for example, the technology could deliver value equal to an additional $200 billion to $340 billion annually if the use cases were fully implemented. In retail and consumer packaged goods, the potential impact is also significant at $400 billion to $660 billion a year.

Chart 3. Generative AI use cases across industry sectors (McKinsey Report, June 2023[22])

Today, frontline spending is dedicated mostly to validating offers and interacting with clients, but giving frontline workers[23] access to data as well could improve the customer experience. The technology could also monitor industries and clients and send alerts on semantic queries from public sources. For example,

[22]The economic potential of generative AI: The next productivity, McKinsey Report June 2023, URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

[23]Frontline employees are service professionals who work directly with customers. They can work in a variety of industries, including sales, dining services, marketing and retail. For example, the host who greets customers at a store is a frontline employee.

Morgan Stanley[24] is building an AI assistant using GPT-4, with the aim of helping tens of thousands of wealth managers quickly find and synthesize answers from a massive internal knowledge base.

Generative AI could reduce the significant costs associated with back-office operations. Such customer-facing chatbots could assess user requests and select the best service expert to address them based on characteristics such as topic, level of difficulty, and type of customer and has the potential to change the anatomy of the whole employment concept, augmenting the capabilities of individual workers by automating some of their individual activities.

Current generative AI and other technologies have the potential to automate work activities that absorb 60-70% of employees' time today. Generative AI is likely to have the biggest impact on knowledge work, particularly activities involving decision making and collaboration, which previously had the lowest potential for automation. In other words, generative AI's impact is likely to most transform the work of higher-wage knowledge workers because of advances in the technical automation potential of their activities.

Generative AI can substantially increase labor productivity across the economy, but that will require investments to support workers as they shift work activities or change jobs.

Generative AI could enable labor productivity growth of 0.1 to 0.6% annually through 2040, depending on the rate of technology adoption and redeployment of worker time into other activities. Combining generative AI with

[24]Morgan Stanley is an American multinational investment bank and financial services company headquartered in New York City. The firm provides investment banking products and services to its clients and customers including corporations, governments, financial institutions, and individuals.

all other technologies, work automation could add 0.2 to 3.3 percentage points annually to productivity growth. However, workers will need support in learning. new skills, and some will change occupations. If worker transitions and other risks can be managed, generative AI could contribute substantially to economic growth and support a more sustainable, inclusive world[25].

Global economic growth was slower from 2012 to 2022 than in the two preceding decades[26]. Although the COVID-19 pandemic was a significant factor, long-term structural challenges, including declining birth rates and aging populations, are ongoing obstacles to growth.

Declining employment is among those obstacles. Compound annual growth in the total number of workers worldwide slowed from 2.5% in 1972–82 to just 0.8% in 2012–22, largely because of aging. In many large countries, the size of the workforce is already declining[27]. Productivity, which measures output relative to input, or the value of goods and services produced divided by the amount of labor, capital, and other resources required to produce them, was the main engine of economic growth in the three decades from 1992 to 2022. However, since then, productivity growth has slowed in tandem with slowing employment growth, confounding economists and policy makers (Chart 4.).

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[25]The economic potential of generative AI: The next productivity, McKinsey Report June 2023, URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

[26]Global economic prospects, World Bank, January 2023, URL: https://www.worldbank.org/en/publication/global-economic-prospects

[27]Yaron Shamir, Three factors contributing to fewer people in the workforce, Forbes, April 7th 2023 URL: https://www.forbes.com/sites/forbesbusinesscouncil/2022/04/07/three-factors-contributing-to-fewer-people-in-the-workforce/?sh=a52dbb24ae47

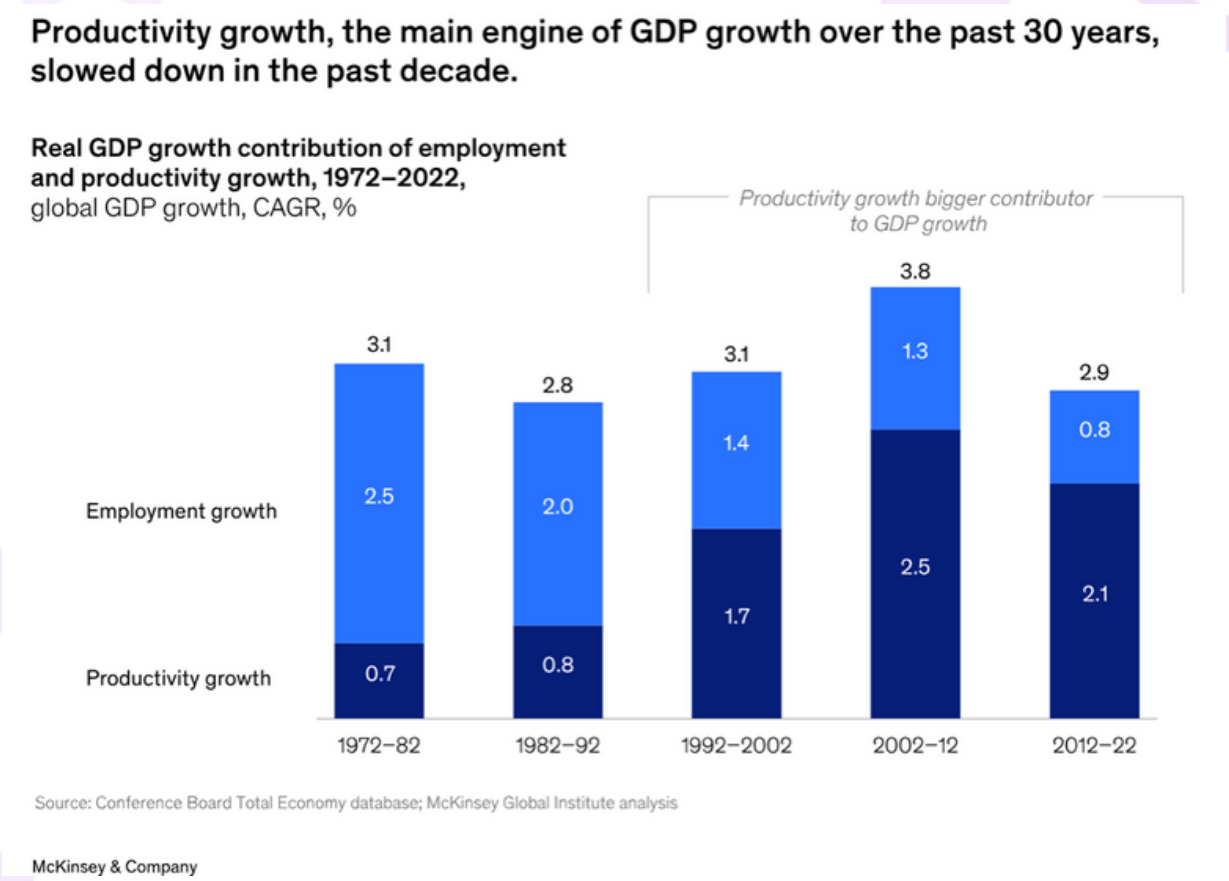

Chart 4. Productivity growth Generative AI use cases across industry sectors (McKinsey Report, June 2023[28])

The deployment of generative AI and other technologies could help accelerate productivity growth, partially compensating for declining employment growth and enabling overall economic growth. The automation of individual work activities enabled by these technologies could provide the global economy with an annual productivity boost of 0.2 to 3.3% from 2023 to 2040, depending on the rate of automation adoption – with generative AI contributing 0.1 to 0.6 percentage points of that growth – but only if individuals affected by the technology were to shift to other work activities that

[28]The economic potential of generative AI: The next productivity, McKinsey Report June 2023, URL: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier

at least match their 2022 productivity levels.

This assessment raises several controversial issues to the policy makers to contemplate upon:

What will the future of work look like at the level of an economy in terms of occupations and skills? How can workers be supported as their activities shift over time? What retraining programs can be put in place? What incentives are needed to support private companies as they invest in human capital?

Can new policies be developed, and existing policies amended to ensure human-centric AI development and deployment that includes human oversight and diverse perspectives and accounts for societal values?

CHAPTER 4. MILESTONES IN ELABORATION OF INTERNATIONAL FRAMEWORKS TO SHAPE THE DEVELOPMENT AND USE OF AI TECHNOLOGIES

Referring to the Recommendation on the ethics of AI by UNESCO, AI systems are represented by "information-processing technologies that integrate models and algorithms that produce a capacity to learn and to perform cognitive tasks leading to outcomes such as prediction and decision-making in material and virtual environments. AI systems are designed to operate with varying degrees of autonomy by means of knowledge modeling and representation and by exploiting data and calculating correlations. AI systems may include several methods, including but not limited to:

- machine learning, including deep learning and reinforcement learning;
- machine reasoning, including planning, scheduling, knowledge representation and reasoning, search, and optimization".[29]

The definition is guided by a humanist approach, considering AI as the tool to achieve shared prosperity for mankind. The international community must make sure that emerging technologies are applied for accelerating global inclusive economic growth.

In 2017 the UN Secretary-General recalled that he had previously stated before the General Assembly that AI "would have a dramatic impact on sustainable development". By 2030, AI is predicted to contribute up

[29]Recommendation on the Ethics of Artificial Intelligence // UNESDOC Digital Library URL: https://unesdoc.unesco.org/ark:/48223/pf0000380455

to $15 trillion to the global economy, and nearly every government, major corporation, and international organization is developing an AI plan.

At the same time wide adoption and implementation of AI-run software without the ethical guardrails "risks reproducing real world biases and discrimination, fueling divisions and threatening fundamental human rights and freedoms".[30]

To eliminate the threat, the world's community had to establish a Global Dialogue on the Ethics of AI. In December 2018, UNESCO was the organizer of debates on AI in several regions of the world. The first round was conducted at the Mohammed VI Polytechnic University in Morocco. The UNESCO Forum on AI examined the future of AI within the African continent, considering ethical hardship and ways in which AI could be applied to leverage sustainable development[31]. Then, an international conference on AI and education took place on the platform provided by Beijing in May 2019. Member States discussed international cooperation for promoting transparent use of AI in education. They adopted the ground-breaking Beijing Consensus on AI and Education. The second international forum was convened in Beijing in 2020 to follow up on the implementation of the Beijing Consensus. The 2021 International Forum on AI and Education was held in Beijing, being titled "Ensuring AI as a Common Good to Transform Education". States' representatives discussed AI governance and AI innovation[32]. In November 2021, 193 Member States

[30]Gabriela Ramos, Assistant Director-General for Social and Human Sciences of UNESCO, Ethics of Artificial Intelligence // UNESCO URL: https://www.unesco.org/en/artificial-intelligence/recommendation-ethics

[31]The future of Artificial Intelligence in Africa: a joint responsibility // UNESCO URL: https://www.unesco.org/en/articles/future-artificial-intelligence-africa-joint-responsibility

[32]International Forum on AI and Education Ensuring AI as a Common Good to Transform Education 7-8 December 2021 // UNESCO URL: https://discovery.ucl.ac.uk/id/eprint/10146850/1/381226eng.pdf

unanimously approved the recommendation on AI ethics at the UNESCO General Conference.

Despite the 2021 recommendations on the ethics of AI agreed through UNESCO, the recommendations by the UN Office of Counter-Terrorism, and the "AI for Good" summits organized by the ITU, the international community still lacks regulations on AI and its tools that are difficult to be targeted.

The UN has been tracking progress of AI development thoroughly since 2017. ITU, the specialized agency of the ECOSOC on telecommunications, has been assigned to monitor the compilation of an annual up-to-date directory of all the AI-related initiatives, events and processes within the UN system. ITU in partnership with 40 UN Sister Agencies holds the AI for Good Global Summit annually to promote AI for accelerating SDGs achievement. In 2017, AI for Good Global Summit's discussions resulted in the establishment of ITU-T Focus Group on Machine Learning for 5G Networks (FG-ML5G), which created 11 technical specifications, including interfaces, network architectures, protocols, algorithms, and data formats, enabling machine learning in future networks. The Next Summit resulted in creating the Focus Group on AI for Health by ITU in partnership with the World Health Organization to create a uniform international framework for the assessment of AI-based approaches for diagnosis or treatment decisions.

In 2020, the UN System Chief Executives Board for Coordination and its High-Level Committee on Programs also established an interagency working group on AI, co-led by UNESCO and ITU under the ECOSOC.

In 2022 AI for Good Neural Network – an AI powered community networking and content platform whose aim is to accelerate innovation and collaboration to achieve the SDGs – was launched[33].

[33]United Nations Activities on Artificial Intelligence (AI) 2022 // ITU URL: https://www.itu.int/dms_pub/itu-s/opb/gen/S-GEN-UNACT-2022-PDF-E.pdf

CONCLUSION

AI evolves rapidly, proving the potential to spur significant developments in a wide range of industries. The globe is transitioning from hype to actualization and maturity of AI-driven goods and services, especially the deployment of generative AI. The development of AI leaves no doubt in its ability to accelerate productivity growth, partially compensating for declining employment growth and enabling overall economic growth. The automation of individual work activities enabled by these technologies could provide the global economy with an annual productivity boost of 0.2 to 3.3% within the period 2023-2040.

Following fast development of AI UNESCO produced the first-ever global standard on AI ethics – the Recommendation on the Ethics of Artificial Intelligence – in November 2021, which has become a starting point and an important milestone of global regulation of AI application. Notably, the framework was adopted by all 193 Member States. Since that year the Interagency Working Group on Artificial Intelligence under the ECOSOC and UNESCO has been effective in bringing together knowledge from through the UN system and external stakeholder groups to improve the ethical development and use of AI in the UN while achieving the 2030 Agenda for Sustainable Development.

Undoubtedly, AI has great boosting prospects, however, it does not exclusively bring benefits. Structural shifts in the labor force caused by the wide implementation of the technology may lead to increasing unemployment rates – which are already exceptionally high in developing countries – by making low-skilled professionals redundant. Its impact on inequalities, wages, and tax base remains equivocal.

Finally, the reliability of the technology is yet to be proven, and application experience requires more precise and careful analysis.

AI is a double-edged sword, its application potential looks promising to substantially accelerate economic growth, contributing to better living standards across the globe, but at the same time has a capacity to have a highly disruptive effect on the economy and society. Therefore, it is the UN ECOSOC, whose competence in both economic and social related affairs is underpinned by the UN Charter[34], that is to serve as a platform for the international community to ensure AI is developed and deployed in a manner consistent with the UN's values and principles and to decide whether the technology is a game-changer or implied risks outweigh expected benefits.

[34]Chapter X: The Economic and Social Council, UN Charter // United Nations,
URL: https://www.un.org/en/about-us/un-charter/full-text