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"ROBOT TAX" – RECOMMENDATIONS FOR VIETNAM

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Abstract:

The strong growth of artificial intelligence (AI) and robotics is creating a growing concern about the possibility of job loss of workers in other industries and services. This also affects the unequal distribution of wealth in society, reduces annual tax payments, and increases inequality between the rich and the poor. In that context, the proposal of taxing robots is considered a tool to reduce these negative effects. The article analyzes to clarify some issues related to the unified understanding of what a robot is, the concept of a robot tax, and the positive and negative impacts of the robot tax on economy and nation's society, thereby making suggestive recommendations for Vietnam related to robot tax.

Keywords: *robot, Artificial Intelligence (AI), robot tax*

Introduction

The industrial revolution 4.0 has been creating great changes in the economic and social life of many countries around the world, including Vietnam. Not only bringing breakthroughs in technology, and development opportunities for businesses in all fields, the strong development of artificial intelligence (AI) in general and robots in particular in the fourth industrial revolution also brings to society many challenges related to the labor market, taxes, and increasing inequality between rich and poor in society… If robots contribute to increasing inequality between rich and poor and lead to job losses, do they need to be taxed? There have been many opinions for and against this proposal to tax robots. Especially when artificial intelligence is spreading and developing very strongly globally, the issue of robot tax needs to be considered not only within the country but also internationally.

1. Impact of Robots, Artificial Intelligence on today's society

The world economy has been witnessing the process of automation, robotics, and the continuous development of artificial intelligence (AI). The core difference between current and past technology is that the existence of intelligent autonomous machines will gradually replace the old automatic machines (Germana Bottone, 2018). Artificial intelligence not only works automatically without an operator, but it also has the ability to mimic human behavior and intelligence to act autonomously. Artificial intelligence is often referred to as a robot. Advanced robotics, machine learning, and artificial intelligence are found in applications as diverse as Google or Siri digital assistants, capable of speech and image recognition and text translation. Even artificial intelligence is used in the medical system with the ability to diagnose diseases (medtech), and can automatically review contracts (lawtech). In addition to industrial robots, today robots are also being developed for use in service industries such as automatic domestic robots; automatic wheelchair assist mobility for individuals; delivery robots; fire fighting robots; environment cleaning robots; robots are even used to replace humans in risky activities such as placing explosives, space travel, etc.

A concern that is of great concern to society with advances in robotics and AI is the significant job loss of many workers today. In their study in 2017, Frey and Osborne showed that within the next 20 years, technology will displace a large proportion of human labor, a rate that is predicted to be 47% in the United

States and 35% in the UK (Frey, C. B., Osborne, M. A., 2017, 254-280). This job loss is also strong in developed countries in Eastern Europe and Asia such as Japan and Korea (Nedelkoska, L. and G. Quintini, 2018). Studies have even shown that the impact of artificial intelligence on emerging economies is stronger, and more dependent on robot-driven technology transformation than in developed countries (Carbonero, F., Ernst, E. and Weber, E., 2018). The World Bank's The Future of Jobs Report has shown that the risk of job loss in developing countries is even higher than in advanced economies, specifically 69% in India, 72% in Thailand, 77% in China, and 85% in Ethiopia (World Bank, 2018).

In Vietnam, a detailed report on the topic of Vietnam in the 4th Industrial Revolution by the Central Economic Commission indicates that Vietnam will be a country that will be strongly affected by the 4th industrial revolution, also known as the 4.0 revolution, in which workers in the processing and manufacturing industry in Vietnam are said to be at risk of being eliminated by machines with the highest rate in the ASEAN region. The report predicts that 74% of Vietnam's processing and manufacturing workers will have a high level of risk and easily be replaced by automation. This figure is higher than that of countries in the region such as the Philippines (54%), Thailand (58%), and Indonesia (67%) (Bach Duong, 2023).

Robots and AI are not only having an impact on workers whose jobs are automated but also on governments. Almost all countries collect taxes. One of the dominant taxes in the state budget revenue is income tax collected from the income of workers and production and business activities. When workers earn income from their workplace or business, that income is taxed. The income is then used to purchase various needs and services that may be subject to value-added tax or other taxes based on the subject of the tax. The purchase becomes income for the seller subject to income tax. The emergence of automation by robots and AI caused some workers to lose their jobs and the government to lose some potential taxes as well (Nur Arif Nugraha, 2021). At the same time, because the income of labor in particular and human labor in general decreases, consumption will decrease, negatively affecting the development of the economy (Xavier Oberson, 2019).

In addition to tax problems, automation causes income inequality. Jobs without skills or special skills will be less profitable because the value is less and automation offers more advantages than humans. On the other hand, skilled jobs will increasingly earn higher wages as the advantages brought by automation will change the role of the unskilled workforce. Without government intervention, economic inequality due to the industrial revolution is certain. Problems that can often arise from income inequality are difficult education and healthcare access, leaving those with low incomes even further behind despite their potential to contribute more to the country (Nur Arif Nugraha, 2021).

It is clear that although the advancement of technology helps people to improve their quality of life, it can still cause negative social, economic, and political impacts if left unchecked (Acemoglu, Daron, Claire Lelarge, and Pascual Restrepo, 2020). In this context, the role of governments and state legislation becomes crucial to avert an undesirable scenario in which technological change comes at the expense of mass unemployment and increasing equality. However, the source of government revenue is likely to be significantly reduced by automation and the need to protect the public is increasing in the face of automation. Therefore, the idea of Robot Tax is considered one of the solutions to solve the above situation of countries.

2. Robot Tax Identification

Bill Gates's famous proposal in an interview with Quartz Magazine in 2017 was to tax robots (Quartz Magazine, 2017). This idea is also supported by economist Robert J. Shiller - who won the Nobel Prize in

economics in 2013 (Robert J. Shiller , 2017). Even before that, in 2015, the proposal to tax robots appeared in the Draft Report to the European Parliament drafted by MP Mady Delvaux of the Committee on Legal Affairs (Committee on Legal Affairs , 2016).

The new idea of a robot tax is receiving the attention of many consensuses as well as disagreements. However, a very important issue to help identify the robot tax is to first understand what a robot is.

Definition of Robot

"Robot" is a fairly new term in English, coined by Czech writer Karel Čapek in his 1922 play "*Rossum's Universal Robots".* The term comes from the Czech word "Robota", which means "toil, forced labor, compulsory duty". Nowadays, the term "Robot" is used more widely and there are many definitions of Robot. In the article *"What is a robot? Definition and examples"*, MBN (Market Business News) magazine has given many different understandings of Robots in many different fields. Specifically: "A robot can be understood as a machine, usually a machine that engineers can program, capable of performing a series of actions. In science fiction, a robot is a machine with human-like artificial intelligence. Artificial intelligence refers to software technologies that help devices think and behave like humans (Market Business News, 2023).

The United States of America Merriam-Webster dictionary gives the following definitions of Robot: "1. A machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects), such a machine often built to resemble a human being or animal in appearance and behavior". "2. An automated device that performs complex, often repetitive tasks (as in an industrial assembly line)". "3. A person is like a machine that seems to function automatically or lacks normal sensations or emotions." (Merriam-Webster Dictionary, 2023)

Some organizations such as the EU Parliament and the International Federation of Robotics also provide criteria to define Robots. All definitions include two main criteria: degree of autonomy and ability to learn (Led by Rossana Merola , 2022). A robot can also be a virtual software agent, in such cases, a "Bot". Bots, Internet Bots, or Web Robots are software applications that run scripts over the Internet (Market Business News, 2023). In the article *"A tax on robots? Some food for thought"*, author Germana Bottone also said that Artificial Intelligence (AI) is often called "robot" (Germana Bottone, 2018). According to the author, artificial intelligence (AI) not only works automatically but also has the ability to imitate and simulate human behaviors, thoughts, intelligence, and the process of acquiring knowledge, and from there, act autonomously.

It can be seen that there is still a lack of a unified definition of robotics. The difference between a machine and a robot or between a computer program and an AI is still unclear (Rossana Merola, 2022). It seems that the understanding of robots does not just stop at an automatic robot with human-like or non-human shape, but also virtual software - bots, and artificial intelligence. In order to provide a unified understanding of robots, the author agrees with Xavier Oberson's point of view, they exist in the form of robots, bots, and similar forms of artificially intelligent which are autonomous and automatic (Xavier Oberson, 2017). Thus, the robot tax is a tax that is not only levied on robots as it is commonly understood, but the object of the robot tax can also be virtual software bots or even similar forms of artificial intelligence (AI) machines with automation. Or we can also call it by another name like Tax related to automation.

Perspectives on Robot Tax

The main goal of taxing robots and automated processes is to fund the training costs needed by people who have lost their jobs to adapt to new areas of business. Taxes can also offset a drop in tax revenue that

the government collects from wages (Nur Arif Nugraha, 2021). For Bill Gates, another problem that the robot tax solves is to slow down investment in robots and help people overcome anxiety about technology encroachment into the workplace (Tim Dunlop, 2017). Therefore, robot tax should be one of the important agendas of the world, especially developed countries because it impacts many parties and needs harmony in production (Nur Arif Nugraha, 2021).

In his proposal for a Robot Tax, Bill Gates argues that we should tax the Robot itself by the same amount of wages paid to a worker displaced by this automation (Quartz Magazine, 2017). However, this solution is extremely complicated to put into practice, as robots are not capable of replacing humans in their entire tasks. What is more common is that Robots only take on some tasks previously performed by humans, and therefore, it is difficult to find a direct link between the robot and the displaced worker (Rossana Merola, 2022). In addition, from a legal perspective, robots in particular and artificial intelligence (AI) in general are not currently considered as an independent legal subject in the laws of many countries around the world and Vietnam's laws, so the robot is not subject to tax according to the current tax laws of many countries. At the same time so far, the robots themselves do not receive a share of the profits from their owners nor earn any income (Sam Mitha, 2017), so it is unlikely to become a taxpayer (Xavier Oberson, 2019). Bill Gates' proposal to tax robots themselves can only be put into practice when the law recognizes the robot's independent legal status as natural or legal entities in the future. This is entirely possible because, after all, we have seen in the past that states can, when necessary, introduce new forms of legal status for example how the law considers Corporations emerged in the late 19th century as a new form of legal entity (José M Durán-Cabré, 2019).

Unlike Bill Gates, the proposed Draft Report to the European Parliament on Robot Tax argues that the taxable object is not the robot itself, but the businesses that use the robot (Committee on Legal Affairs , 2016). It can be a tax such as an amount that the business should pay the worker, this amount as well as a tax on the income that the worker would have received if not replaced by the robot (Xavier Oberson, 2019). Alternatively, another option could be to tax the use of robots, i.e., to impose a higher corporate income tax rate on the use of robots, as companies earn higher profits through the efficiency and powerful results of robots (Rossana Merola, 2022). But it is a reality today that the cooperation between robots and humans to complete a task and jointly contribute to generating profits is very large, this cooperation is also known as "cobotization". Therefore, it is not easy to separate the profit or value generated by the robot from the profit or value generated by the human worker so that a tax can be calculated on the portion of the business income resulting from the use of the robot.

3. Regulations related to robot tax in some countries and some suggestions for Vietnam

South Korea has become the first country in the world to announce a tax policy on robots (Hoang Long, 2017). A report by Koracev in 2020 says South Korea has held the title of "World's Highest Robot Density" since 2010 - with a record 710 robots per 10,000 employees in the manufacturing industry in 2017 (Robert J. Kovacev, 2020). The 2014 Korean Restriction of Special Tax Act stipulates that companies that have invested in industrial automation equipment are eligible for a deduction of 3%. up to 7% on corporate income tax (Restriction of Special Taxation Act, Korea, 2014). These rates vary based on the size of their business. By 2017, Korea reduced the preferential rate to 2% (The Robotics Law Journal, 2017). The new tax policy of Korea will limit incentives for investments in the field of automation and robot-operated manufacturing. This tax will be levied when companies in South Korea buy equipment related to automation such as warehouses, factories, and robot factories (Hoang Long, 2017).

In the United States, there have been many proposals on the issue of robot tax collection. New York mayor and 2020 presidential candidate, Bill de Blasio, has pointed to the need for a robot tax to protect jobs

that are at risk of obsolescence. Revenue from the robot tax can be used to create new jobs in green energy, healthcare, and education. Although there has been much discussion from various politicians in the United States about the robot tax, few proposals have actually translated into legal regulations. In the United States so far there is only one tax regulation related to automation activities that is for self-driving cars. To date, California and Nevada are the only two jurisdictions in the United States that have enacted legislation to tax self-driving cars *(Decision adopting rules and regulations for transportation to protect public safety while allowing new entrants to the industry, 2013)*. Although not directly regulated, the current law has opened an opportunity for the legislature to approach the issue of robot tax.

Or in Switzerland, the Grand Council of the canton of Geneva, Switzerland. In 2017, the members of the Grand Council proposed legislation to maintain employment, quality, and locality in the retail sector (imposition of a tax on automatic cashiers) (Robert J. Kovacev, 2020). Under this proposal, retail stores will be taxed 10,000 Swiss francs per month (approximately 272 million VND) for each automatic cashier installed in the store. An automated cashier is defined as "any device for paying for purchases that a customer can use without the intervention of a store employee." Although not yet ratified, this proposal has initially made a direct link between the tax and overcoming the cost of changing jobs, which is the often-talked-about goal of the robot tax (Robert J. Kovacev, 2020).

In general, Korea is the first and only country in the world to have a tax collection policy for robots. This regulation in other countries is just stopping at drafts and proposals. And at the same time, these recommendations are only relevant to a specific object such as self-driving cars in the United States or automatic cashiers in Switzerland, but not universally for all robots.

Like many other countries, Vietnam currently has no regulations related to robot tax. This is a legal issue that Vietnam needs to pay attention to in this day and age in the face of the constant speed of development and the positive and negative impacts of robots and AI on socio-economic development now and in the future. Based on the analysis, the article presents some suggestive issues for Vietnamese law related to Robot Tax.

Firstly, in order to have a basis for the development of tax laws related to robots or automation, Vietnamese law as well as the laws of many other countries in the world need to provide a definition of robots from a legal perspective, so that tax can be easily identified.

Secondly, the application of the robot tax needs to go through stages. A very possible proposal of Xavier Oberson (Xavier Oberson, 2019), should be considered that the first stage should focus on taxing the use of robots or artificial intelligence, and the main taxpayers are businesses using robots and artificial intelligence in their production and business processes. In the next stage in the future, if the law grants legal status or an independent legal entity to robots, the robot tax can be adjusted in the direction of directly levying robots. At that time, the robot is the subject of tax corresponding to the income that the robot has as well as the accompanying liability regimes if the robot violates this tax obligation.

Thirdly, given the cross-border nature of today's digital businesses, robot tax is not a country-specific issue. This is an international issue and should be discussed in international agreements to combat global tax competition and avoid double taxation on the same income. Therefore, in the process of developing national legal regulations, Vietnam also needs to discuss and sign international treaties related to robot tax with other countries in the world.

4. Conclusion

The vigorous development of artificial intelligence has greatly affected human life and posed many legal problems for society. Robot tax is a legal issue that should soon be concerned by countries including

Vietnam. This content also needs to be studied, discussed, and agreed between countries through international treaties. The article does not set out the ambition to analyze all legal aspects of the Robot Tax, but only stops at some identifying content and gives some suggestions for Vietnam related to this tax.

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