THE NEW TAX ISSUE: TAXING ROBOTS

Yeni Vergi Konusu: Robotların Vergilendirilmesi

Dr. Gülşen GEDİK*

Abstract

Robots can be used as, inter alia, soldiers, journalists, car drivers, doctors, bankers, nurses and even lawyers. For example, if they are used for the performance of work in social areas, they can then analyze thousands of documents in a very limited time frame and can eventually replace hundreds of lawyers and/or paralegals in the research process. Accordingly, there will undoubtedly be no limit to the income that robots can earn.

All of the areas of law will be affected by new issues raised by the development of robotics technology. An EU Report has started to clarify the rights and liabilities of robots in civil law and has defined a new term called the "electronic person," and as a result, this new term will affect the tax laws. Robot taxing not only creates income tax or corporate tax issues, but it may also create issues related to Value Added Taxes, Special Consumption Taxes, Motor Vehicle Taxes or any other taxes and tax agreements. In Turkey, there has been no preparatory work done related to the new issue of "robot taxing," but there is an urgent need to start to prepare specific reports and to develop specific regulatory rules.

Keywords: Robot Taxing, Robot Taxes

Özet

Robotlar, askerler, gazeteciler, araç sürücüleri, doktorlar, bankacılar, hemşireler ve hatta avukatların yerini alabilirler ve örneğin eğer sosyal alanda kullanılır ya da çalışırlarsa, araştırma süreçlerinde, binlerce dokümanı çok kısa bir süre içerisinde ayrıntılı biçimde inceleyerek yüzlerce avukatın ve/veya stajyerlerin yerini alabilirler. Buna bağlı olarak da hiç şüphesiz robotların elde edeceği gelir konusunda bir sınırlama olmayacaktır.

Robot teknolojisinin gelişiminden tüm hukuk alanları etkilenecektir. AB Raporu robotların, medeni hukuk alanında hakları ve sorumluluklarını açıklamış ve yeni "elektronik kişi" tanımına yer vermiş olup, bunun bir sonucu olarak da bu yeni terimden vergi hukuku da etkilenecektir. Robotların vergilendirilmesi sadece gelir vergisi ve kurumlar vergisi alanında bir sorun olmayıp, aynı zamanda katma değer vergisi, özel tüketim vergisi, motorlu taşıtlar vergisi veya diğer vergiler ve vergi anlaşmalarını da etkileyecektir. Türkiye'de henüz yakın gelecekteki robot vergilendirilmesi tartışması hakkında bir çalışma bulunmamaktadır; ancak acilen özel bir rapor düzenlenerek özel yasal düzenlemeler yapılmalıdır.

Anahtar Kelimeler: Robotların Vergilendirilmesi, Robot Vergisi

Introduction

For many years, technological and scientific developments and improvements have changed society, from the invention of the wheel to agriculture, the computer and the Internet;[1] in the near future, robot technology will also be a societal change.

* Dr. Faculty Member, Bursa Uludag University Law School, Tax Law Department. gulsengedik@uludag.edu.tr

1 Brederode Robert van, "Introduction", Science, Technology and Taxation", Editor: Brederode Robert van, Wolters Kluwer, Series on International Taxation, Volume 40, 2012, p. 1.

The eight significant issues the courts and the public at large will face if robots are placed side-by-side with human officers are the following:

(1) Robots will be smarter, faster, and more efficient than human officers.

(2) Robots will intrude on the citizens' rights to privacy more often than will human officers, as robots will have access to more third party data in a shorter period of time.

(3) Robot capabilities will require a complete rethinking of the Fourth Amendment doctrine, based upon the amount of information they will access on a daily basis

(4) Free-thinking robots will require human intervention and supervision.

(5) Robots and human officers may follow the same laws but may use different standards to arrest people, i.e., the use of inflexible programming versus discretion.

(6) Robots will have less people skills and common sense than human officers, and it is unclear how they will handle tense situations.

(7) The community will perceive robots differently from the way the community perceives human officers.

(8) Robots should be treated identically to their human counterparts when it comes to law enforcement and Fourth Amendment issues, e.g., motions to suppress evidence filed on the basis of a robot's action (or omission), or abuse of civil rights claims filed by suspects against a robo-cop while in performance of the robot's duties[2].

On February 17, 2017, the following statement was made by Bill Gates, co-founder of Microsoft, regarding the tax issue associated with robots; "*It is really bad if people overall have more fear about what innovation is going to do than they have enthusiasm; that means they won't shape it for the positive things it can do. And, you know, taxation is certainly a better way to handle it than just banning some elements of it. Right now, the human worker who does, say, $50,000 worth of work in a factory, that income is taxed and you get income tax, social security tax, all those things. If a robot comes in to do the same thing, you'd think that we'd tax the robot at a similar level[3]".* Academicians and economists have started to be criticized for their opinions, in newspapers, journals and web pages[4].

---

2 Reid Melanie, *"Rethinking The Fourth Amendment In The Age Of Supercomputers, Artificial Intelligence, And Robots*",West Virginia Law Review, Spring 2017, Lexis Nexis online database (20.06.2017)

3 https://www.ft.com/content/d04a89c2-f6c8-11e6-9516-2d969e0d3b65?mhq5j=e1 (20.06.2017)

4 http://www.businessinsider.com/bill-gates-robot-tax-brighter-future-2017-3?international=true&r=US&IR=T,https://www.theguardian.com/business/2017/mar/22/robots-

Robots can be used as, inter alia, soldiers, journalists, car drivers, doctors, bankers, nurses and even lawyers. For example, if they are used to perform work in a social area, they can then analyze thousands of documents in very limited time frame and may eventually replace hundreds of lawyers and/or paralegals in the research process. Accordingly, there will undoubtedly be no limit to the income that robots can earn[5].

This paper aims to analyze the improvements that are brought about by the use of robots and their potential effects on the tax law system, according to some papers.

1. Definition

A robot is a machine capable of carrying out a complex series of actions automatically, especially a machine programmable by a computer and, especially in science fiction, is a machine resembling a human being and is able to replicate certain human movements and functions automatically[6].

According to the Robot Institute of America in 1979, "Robots are a reprogrammable, multifunctional manipulator designed to move material, parts, tools, or specialized devices through various programmed motions for the performance of a variety of tasks"[7].

This term was coined by the Czech playwright Karel Capek. His use of the word Robot was introduced into his play Rossum's Universal Robots (RUR), which opened in Prague in January 1921. The play was an enormous success, and productions soon opened throughout Europe and the US. R.U.R's theme, in part, was the dehumanization of man in a technological civilization. Subsequently, the word "robotics" was first used in *Runaround*, a short story published in 1942. *I, Robot*, a collection of several of these stories, was published in 1950. American scientist and writer Isaac Asimov also proposed his three "Laws of Robotics", and he later added a 'zeroth law'[8]. According to this documentation, "A robot may not injure humanity, or, through inaction, allow humanity to come to harm. A robot may not injure a human being, or,

tax-bill-gates-income-inequality, https://techcrunch.com/2017/04/22/save-the-robots-from-taxes/,http://www.cnbc.com/2017/06/02/bill-gates-robot-taxeu.html,https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/quora/2017/06/13/should-robots-pay-taxes-no-capitalism-should change/&refURL=https://www.google.nl/&referrer=https://www.google.nl/...etc. (20.06.2017)

5 ObersonXavier, *"Taxing Robots? From the Emergence of an Electronic Ability to Pay to a Tax on Robots or the Use of Robots",*World Tax Journal, 2017 (Volume 9), No. 2, p.248.

6 https://en.oxforddictionaries.com/definition/robot (19.06.2017)

7 https://www.robotics.org/Robotic-Resources (19.06.2017)

8 Dowling Kevin, "*What is Robotics*?", http://www.cs.cmu.edu/~chuck/robotpg/robofaq/1.html (19.06.2017)

through inaction, allow a human being to come to harm, unless this would violate a higher order law. A robot must obey orders given to it by human beings, except where such orders would conflict with a higher order law. A robot must protect its own existence as long as such protection does not conflict with a higher order law"[9].

As robots are increasingly replacing human activities, often in a more efficient way, the legal issue of granting robots a new sort of legal personality has started to emerge. On May 31, 2016, the Committee on Legal Affairs of the European Union published a draft report (EU Report) addressing some recent issues linked to the growing importance of the use of robots in all aspects of modern society, such as in production, commerce, transport, medical care, education and farming. The report clearly takes the view that the development of the "autonomous and cognitive features" of robots "has made them more and more similar to agents that interact with their environment and are able to alter it significantly". The report was accepted by the EU Parliament on January 1, 2017[10].

In the EU Report, the EU Parliament suggests that the definition of "smart robots" should be based on the following characteristics: the acquisition of autonomy through sensors and/or by exchanging data with its environment (interconnectivity) and the trading and analysis of those data; self-learning from experience and by interaction (optional criterion); at least a minor physical support; the adaptation of its behavior and actions to the environment; and the absence of life in the biological sense.[11] The EU Report also stresses that the development of robot technology should focus on complementing human capabilities and not on replacing them and considers it essential, in the development of robotics, to guarantee that humans have control over intelligent machines at all times[12].

2. Improvements of Robots

When we think back over the past 20 years, we see something that has come true that we could not have imagined: the development of robot

---

9 Clarke Roger, *"Asimov's Laws for Robotics: Implications for Information Technology", Part 1 and Part 2, Computer, December 1993, pp. 53-61 and Computer, January 1994", http://www.rogerclarke.com.au/SOS/Asimov.html (23.06.2017)*

10 Oberson, p. 247.
248. See to report: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8-2017-0005+0+DOC+XML+V0//EN (20.06.2017)

11 Oberson p.247.

12 http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8-2017-0005+0+DOC+XML+V0//EN(20.06.2017)

technology. However, this development affects not only our "social life" but also our "law system".

Some scholars maintain that developments with robotics should have an impact similar to that of other technological developments. However, robots can not only replace the arms and legs of workers; they are also able to "think", repair other robots, learn from past experiences and improve their own capabilities. Following this reasoning, robots can now perform the same activities (usually more efficiently) than humans. They have the capacity to produce, develop and learn, just like humans. They replace human workers in the humans' working activities (for example, the supply of goods and services) and can improve their own capacities even further. This leads to the debate concerning the "autonomy" of robots[13].

When we begin to utilize robotic engineering in our homes or offices, the ability of robots to sense and record information and the likelihood that they will share that information with third parties for storage and processing purposes are clearly legally salient features from a privacy perspective. On the one hand, the fact that robots must take in information to properly navigate an environment (just as a phone call must be made on telephone lines) suggests that the sensing capability might be treated as necessary for their functionality and deserving of legal privacy protection. On the other hand, the known ability of robots to record massive amounts of private information raises the question of whether household robot owners have implicitly or explicitly consented to that recording, by having a robot in the home.[14] It clearly seems that improving technologies bring many law problems. Nevertheless, some universities in the United States have specific "robotics institutes" and continue with development studies in robotics[15].

3. Liabilities of Robots in Law

According to the EU Report, major changes to the current legal system could be contemplated, such as granting robots a sort of "electronic personality" and possibly holding robots liable for actions, not to mention the contemplated changes related to certain aspects of privacy, intellectual property or criminal law[16]. This idea remains, of course, quite controversial. Recent commentators

13 Oberson, p.252.

14 Kaminski Margot E., "*Robots In The Home: What Will We Have Agreed To?",* Idaho Law Review, 2015 (Lexis Nexis online database) (20.06.2017)

15 See lists, https://robotics.nasa.gov/students/robo_u.php(20.06.2017)

16 See about "legal responsibilities of robots"; Yüksel Bozkurt, Armağan Ezgi; "*Robot Hukuku*", Türkiye Adalet Akademisi Dergisi, Yıl:7, Sayı:29, Ocak 2017.

tend to favor the idea of granting robots a legal personality, while others still believe that this is not necessary, or at least not at this stage[17]. Advances in technology will clearly change the tax environment in countries by changing the underlying economy, and countries need political, administrative and judicial safeguards to protect the privacy of individuals and to protect against the potential misuse of information gathered for tax or other purposes[18].

Robot innovation also represents a challenging "wicked problem" that requires creative, collaborative approaches to develop real-world technology solutions.[19] While there is tremendous potential for using robots to perform tasks, there are several studies that need to be done and several questions that need to be answered regarding their use. For example, there is a definite need to conduct research on the economic feasibility of using robots: the costs of using robots, including the implementation cost, need to be determined..[20]

Eighteenth- and nineteenth-century philosophers were not thinking about contemporary robots. However, it is undoubtedly clear that a modern-day definition of an Intelligent Agent (IA) does not meet the requirements of personhood in the idealistic sense. Looking back at the rapid changes that have taken place in computer sciences in recent decades, it is likely, however, that the IA of the future will acquire qualities and capabilities that make them even more like humans. Should these IAs gain the capacity for self-reflection and something like a conscience, the issue of their personhood may have to be rethought[21].

As the existing definition of the legal liabilities of robots was insufficient, a new approach was needed to address this issue. Therefore, the European Parliament approved the "European Civil Law Rules in Robotics" draft on February 16, 2017, which includes 34 pages.[22] However, the European Parliament rejected a proposal to impose a so-called robot tax on owners to fund support for or the retraining of workers put out of a job by robots.

---

17 Oberson, p.249.

18 Bird Richard M. Zolt Eric M., "*Technology and Taxation in Developing Countries*", Science, Technology and Taxation, Editor: Robert F.Brederode, Wolters Kluwer, Series On International Taxation, Volume 40, 2012, p.150.

19 Sixsmith Andrew, Mihailidis Alex, Simeonov Dorina, "*Aging and Technology: Taking the Research into the Real World*", Public Policy & Aging Report, 2017, p.4.

20 Kweku K. Bentil, American Association of Cost Engineers. Transactions of the American Association of Cost Engineers; 1989; Accounting, Tax & Banking Collection ,p.I.1.3.

21 Gless Sabine, Silverman Emily, Weigend Thomas, "*If Robots Cause Harm, Who Is To Blame? Self-Driving Cars And Criminal Liability*", New Criminal Law Review, Summer 2016, Lexis Nexis online database. (21.06.2017)

22 http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_ATA(2017)599250(20.06.2017)

The European Parliament has put forward initial proposals in its resolution on legal rules for machines that are able to act with a high degree of autonomy and make their own decisions through being equipped with artificial intelligence (AI) and having physical freedom of movement. This will not be the final word on the matter from a legal perspective, and we are still some years away from corresponding laws being enacted. In the meantime, technical developments in the field of AI and robotics will not wait for national or European lawmakers and are set to continue unabated. It remains to be seen whether technical progress might not soon overtake the legal discussion[23].

Consequently, EU Reporters used the term "smart autonomous robots" and "smart robot" rather than the term "robotics or robots." The differences in terminology are based on the fact that the smart autonomous robot acquires autonomy through sensors and/or by exchanging data with its environment (inter connectivity), trades and analyses data, is self learning, and has the capability to provide physical support; adapting its behaviors and actions to its environment, smart robots present no operational difficulties, and as scientists label them as smart, this generation of robots is no longer confined to work on fixed production lines and to operate automatically but is able to adapt to changes and instability in their surroundings[24].

From a legal viewpoint, there are still a host of unanswered questions around robotics and the artificial intelligence incorporated into robots. The recommendations of the European Parliament relate to general principles around the development of robotics and AI for civil use and address various topics involving these new technologies. Key points include the desire to establish ethical principles for developing and using AI-based robotics and resolving the numerous liability issues that arise. In this context, the European Parliament is calling on the Commission to consider introducing a specific legal status for intelligent robots in the long term. The Parliament's resolution also advocates the establishment of a European agency for robotics and artificial intelligence, with the aim of providing in a timely and informed manner the technical, ethical and regulatory expertise required to meet the challenges and opportunities arising from the development of robotics. There are also recommendations with regard to setting up a register of robots across the European Union and introducing mandatory registration and insurance for intelligent robots.

---

23 Hauser Marcus, *"Do Robots Have Rights? The European Parliament Addresses Artificial intelligence and Robotics",*http://www.cms-lawnow.com/ealerts/2017/04/do-robots-have-rights-the-european-parliament-addresses-artificial-intelligence-and-robotics (20.06.2017)

24 http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_ATA(2017)599250(20.06.2017)

The Parliament's proposal to consider introducing a specific legal status for robots in the long term is likely to spark a huge debate. Should robots really be given a special legal status, often referred to as an "electronic person" or "e-person"?

Although the idea sounds rather strange and downright bizarre at first, on closer inspection, it is actually based on very practical considerations. If a robot has its own specific legal status, it can also be made responsible for its own actions and decisions via this status. If it causes damage, for instance, the robot itself could be sued for compensation. That will only be worth doing if the damage is covered by insurance, of course. For this reason, Parliament is also proposing the introduction of obligatory insurance for intelligent robots. From a legal perspective, the introduction of an "electronic person" could make sense when combined with obligatory insurance for intelligent robots.

Human responsibility will decline in importance as machines become more autonomous and make more decisions on their own. Increasingly, humans will deny responsibility by saying that they were entitled to rely completely on intelligent technology. After all, the whole aim of automation and artificial intelligence is to avoid the need to continuously give instructions to and monitor such devices. It is also debatable whether continuous human control will even be feasible in the case of intelligent, sophisticated systems that act autonomously.

In addition, it will not always be possible to determine who is responsible or to establish the exact degree of responsibility if damage is caused, particularly in situations in which an interaction between multiple intelligent systems is involved.

In this context, robot legislation will be a collaboration between experts in the fields of jurisprudence, philosophy, psychology, sociology and technology. However, having said that, over-intervention and strict rules may decrease or restrain the growth and innovation in robotics[25].

Robot technology may not only create problems that have to be resolved in the civil or criminal legal system but may also create issues that have to be resolved through the tax law system.

4. Taxing robots

4.1. General Aspect

Although Bill Gates started a recent discussion of the concept, the idea of a tax on robots was raised on May 31, 2016, in a draft to the European Parliament[26] (EU First Report) prepared by Mady Delvaux from the Committee

[25] Bozkurt Armağan Ebru, p.107.
[26] http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML%2

on Legal Affairs. Emphasizing how robots could boost inequality, the report proposed that there might be a "need to introduce corporate reporting requirements on the extent and proportion of the contribution of robotics and AI to the economic results of a company for the purpose of taxation and social security contributions"[27]. However, this draft was rejected in the final Report.

Critics of a robot tax have emphasized that the ambiguity of the term "robot" makes defining the tax base difficult. The critics also stress the enormous, undeniable benefits of robotics to productivity growth.

Introducing a tax on robots or on their usage would result in recognizing a specific tax status of robots. It could therefore be argued that the tax law should grant a legal capacity to robots, introducing a new type of legal personality into tax law. Similar to the justification used for recognizing other existing legal entities (such as corporations), it follows that recognition of robots as a separate legal entity is possible. Following such recognition and from the activities exercised by robots (work or services), it appears at least arguable that a "specific tax ability" of robots to pay should be recognized, resulting in accepting the robots' "electronic ability to pay"[28].

In a recent interview, Bill Gates discussed the option of tax on robots. He argued that if human workers' income is taxed today, and then a robot comes in to do the same thing, it seems logical to think that we would tax the robot at a similar level. While the form of such taxation is not entirely clear, Gates suggested that some of the tax could come from the profits that are generated by the robot's labor-saving efficiency, and some could come directly in the form of some type of robot tax.

The idea of regulating robotics has been an issue that has been discussed over the past months. Earlier in February 2017, the EP called EU-wide legislation to regulate the rise of robots, including an ethical framework for their development and deployment and the establishment of liability for the actions of robots including self-driving cars. However, the EP rejected a proposal to impose a robot tax on owners to fund support for the retraining of workers put out of a job by robots. According to the Reuters report, the decision to reject the robot tax was hailed by the robotics industry, which said it would have stunted innovation[29]"

BCOMPARL%2BPE-582.443%2B01%2BDOC%2BPDF%2BV0//EN(20.06.2017)

27 https://www.weforum.org/agenda/2017/03/taxing-robots-this-is-why-we-might-need-to(20.06.2017)

28 Oberson, p.251.

29 Merler Silvia, "*Taxing Robots*", http://bruegel.org/2017/03/taxing-robots/(20.06.2017)

4.2. Problem for Companies

Returning to Bill Gate's opinion, although he stated, "*If a robot comes in to do the same thing, you'd think that we'd tax the robot at a similar level",* the International Federation of Robotics (IFR) objected to this idea with the following argument: "*A robot tax would make these much-needed investments in technology more expensive for companies. Profits, not the means of making them, should be taxed"*[30].

Researchers studying this issue have made similar arguments and have expressed the following: 1. "Getting companies to pay their fair share of taxes won't solve the larger societal challenge that automation will eventually displace low-skilled workers, nor would a robot tax. Instead, governments should focus on using corporate tax revenues to create free or low-cost education programs to prepare people to work alongside automation. For those unable to find work in tomorrow's tech-driven society, governments could provide universal basic income or other safety nets for the least-advantaged. There are no easy answers to the growing divide between rich and poor, which will only accelerate in an automated age that leaves unskilled workers at a distinct disadvantage. But a robot tax is not the answer to this problem"[31].

2. "A robot tax would help offset the reduced revenues flowing into public coffers as machines take some jobs previously held by humans. However, before we start taxing companies that deploy robotics, let's first agree on what a robot actually is. We could narrow the definition of a robot to include only those machines that do tasks once done by a human, but then we'd have to include Microsoft's vast hardware and software offerings, since computers do things like word processing, transcribing, calculating mathematical formulas, and analyzing data—all of which used to be human tasks. Implementing a robot tax wouldn't just be difficult due to the challenge of defining what is and isn't a robot. In reality, robots, like most automation, help people be more efficient and productive, rather than replace them"[32].

3. "Harder and less rational would it be to imagine a system in which

---

30 https://ifr.org/ifr-press-releases/news/world-robotics-federation-ifr-why-bill-gates-robot-tax-is-wrong: " Research shows that automation actually results in a positive tax balance for social systems. Repetitive or dangerous tasks are replaced by industrial robots, leading to the creation of new, safer, higher-skilled and higher-income jobs that increase pension contributions".

31 Cousins Steven, "*Is A Robot Tax Really An Innovation Penalty*", https://techcrunch.com/2017/04/22/save-the-robots-from-taxes/(20.06.2017)

32 Cousins Steven, *"Is A Robot Tax Really An Innovation Penalty",*https://techcrunch.com/201/04/22/save-the-robots-from taxes/(20.06.2017)

robots are individually identified and hit. In fact, the issue is not about taxing technology but about making taxation more equitable, rational and balanced. This would, however, involve reorganization and a rethinking of the design and functioning of current social security systems. In essence, if "robots" are used by companies that increase their profits share with respect to total GDP, it is clear (certain?) that, in the future, these growing profits will become a favorite taxable base"[33].

Another issue in considering a new form of taxation for robots is the direct and indirect impact of robots on employment. First, robots could, in the long term, replace many, if not most, human activities and therefore have a major impact on employment. This may then result in important tax and social security losses linked to the disappearance of revenues, notably, salaries. Second, at the same time, the need for additional sources of state revenue would increase to support the growing number of unemployed people[34].

4.3. Problem for Taxpayer Definition

According to the EU Report, a robot is considered an "electronic person", but there is no country associated with the "electronic person".

Oberson states the following: "*The specific ability to pay robots, or of their usage, it remains to be analyzed how to implement such an ability to pay. Indeed, notwithstanding the legal norm, which recognizes the legal personality of an entity, as of now, the structures to which a tax capacity has been granted also benefit from a capacity to pay. Principle of separation has been used to justify the double economic taxation of profits, first at the level of the company and second upon distribution as dividends, even if recent rules tend to alleviate the tax at the level of qualifying dividend participations. Even if this principle is subject to criticism, it seems that there is a consensus that companies, as legal entities, benefit from a sort of "objective" ability to pay, justified by various privileges (including the limited liability) that corresponds to a capacity of payment. In other words, as long as the profits are not distributed to the shareholders, the company benefits from a sort of "transitory" ability to pay.*

If an attempt is made to transpose this reasoning onto the case of robots, it appears that they indeed benefit from an ability to pay, which is, however, derived from the activities they exercise (work, transfer of goods and services) or that they will perform without consideration (salary or income). As such, the robot does not generally have a financial capacity, such as equity, personal

[33] Visco Vincenzo, "*Getting The Robots To Pay Tax*", https://www.socialeurope.eu/2017/05/getting-robots-pay-tax/(20.06.2017)

[34] Oberson, p. 249.

assets or liquidities. It is the employer (enterprise) or owner who, ultimately, benefits from a capacity to pay"[35].

The discussion of a robot tax should consider what alternative we have to deal with rising inequality. It would be natural to consider a more progressive income tax and a "basic income." However, these measures do not have widespread popular support. If support is not widespread, the tax, even if imposed, will not last. While this would not tax individual human success, as income taxes do, it might in fact imply somewhat higher taxes on higher incomes if high incomes are earned in activities that involve replacing humans with robots[36].

Obserson states the following: "*To the extent that a practical and justifiable definition of robots may be implemented, the recognition of a new legal personality for robots could lead to the recognition of a new tax capacity. Indeed, robots, as legal subjects, could then have legal responsibilities, and their activities (work, transfer of goods and services), which would normally be subject to tax if effectuated by humans, could then also be taxed. The type of tax would then depend on the legal position of the robot. In the case that the robot is employed by a company, and based on the idea that a robot replaces humans, and consequently prevents such humans from being paid their salaries, a tax on the imputed hypothetical salary that robots should receive from equivalent work done by humans could be introduced. In other words, the tax could be levied on the hypothetical amount of salary that workers would have received to exercise the activity that was replaced by robots. This concept would rely on the legal characterization of the relationship between the company owner (and user of the robot) and the robot itself (as a tax person), in a similar way to a working contract. If the relationship differs from a working contract—for instance, if the robot is owned by a company or a person and acts under a contract of services (entertainment, help, advice, etc.)—then the imputed income could be some approximated amount of an arm's length consideration for similar services rendered by humans*[37].

In parallel with these developments South Korea introduced the world's first robot tax plan in August 2017[38].

In South Korea's announced tax law revision plan, the tax deduction benefits that previous governments provided to enterprises for infrastructure investment aimed at boosting productivity will be downsized and the following

---

35 Oberson, p.253.

36 Robert J. Shiller, https://www.weforum.org/agenda/2017/03/taxing-robots-this-is-why-we-might-need-to(20.06.2017)

37 Oberson, p. 254.

38 https://www.telegraph.co.uk/technology/2017/08/09/south-korea-introduces-worlds-first-robot-tax/,(04.03.2018)

statement was given: "Though it is not about a direct tax on robots, it can be interpreted as a similar kind of policy considering that both involve the same issue of industrial automation"[39].

5. The Effects for Turkey

The Turkish direct taxation system consists of two main taxes: the personal income tax and the corporate income tax. An individual is subject to the personal income tax on his income and earnings, in contrast to a company, which is subject to corporate income tax on its income and earnings. Personal income tax is levied on the income of individuals. The term "individual" is defined as a natural person, and according to Turkish Tax Procedural Code Article 8, a "taxpayer is a natural or juridical person who has tax liabilities".

Robotics technologies will be used in many areas in the near future, and Turkey will be faced with related tax problems, such as the following: Who is the taxpayer? Is the robot considered a real natural person or an electronic person taxpayer? What is the definition of a robot's income and what kind of income pertains to work done by robots, i.e., salary, self-employment income or some other type that is not defined in the existing Tax Code?

In this case, the EU Reports, the EU Member Countries' legal regulations and maybe plans drafted by South Korea concerning robot technology will guide Turkey. First, in Turkey, we urgently need to legislate the definition of robots. After determining the legal definition of robots, The Ministry of Finance should cooperate with other related entities and prepare a specific report that includes definitions of robots, liabilities, civil rights, tax issues and changing legal provisions. In addition, in this effort, tax academicians should collaborate with tax practitioners and develop a draft recommendation.

Conclusion

The development of robots with their exponential possibilities of combination and/or development will create activities performed by robots, which are difficult to compare with human activities. Alternative valuation methods should therefore be considered. In addition, such development could also lead to potential aggressive planning concerns. It appears that some work has already been done to develop rules of "civil law" on robotics. However, the development of a tax capacity of robots, in the form of an "electronic ability to pay", is also required. Well-designed robots should, at the very least, be programmed to be tax compliant, or one day, they may decide to refuse to pay taxes without representation[40].

---

39 http://www.koreatimes.co.kr/www/news/tech/2017/08/133_234312.html. (04.03.2018) "But when this paper was writing the Counrty did not adopt the rule yet".

40 Oberson, p.261.

A generally accepted definition of robots and a tax on robots should be adopted in order to try to mitigate potential conflicts of characterization and/or of attribution of income. In addition, new characterization issues related to the rules on the tax treatment of the robots' income may occur. Furthermore, if we were to recognize a tax capacity of robots, the proper tax treatment, cost allocation rules and transfer pricing rules should be revisited as well.

Related to the development of robotics technology, all of the areas of law will be affected by this new issue. The EU Report has started to clarify the rights and liabilities of robots in civil law and defined a new "electronic person". As a result, this new term will affect tax laws. Robot taxation not only raises income tax or corporate tax issues but also raises issues related to Value Added Taxes, Specific Consumption Taxes, Motor Vehicle Taxes and other taxes and tax agreements. In Turkey, there has been no preparation for this future issue of "robot taxation", but there is an urgent need to start to prepare specific reports and to develop specific regulatory rules.

Last Word

"Could taxation of robots ever happen? Certainly it could, but the $64,000 question is whether there is the political will to do it. It would take a major paradigm shift in our attitude towards taxation to see it as a possible force for good, rather than simply a dead weight and burden. However, in the 1960s and 1970s today's attitude towards taxation would have been equally inconceivable. Never say never"[41].

REFERENCES

BOOK

Brederode Robert van, "Introduction", Science, Technology and Taxation, Editor: Brederode Robert van, Wolters Kluwer, Series on International Taxation, Volume 40, 2012

Kweku K. Bentil, American Association of Cost Engineers. Transactions of the American Association of Cost Engineers; 1989; Accounting, Tax & Banking Collection.

[41] Malcolm James, *"Could Bill Gates' plan to tax robots really lead to a brighter future for all"?,* https://theconversation.com/could-bill-gates-plan-to-tax-robots-really-lead-to-a-brighter-future-for-all-73395

ARTICLES

Bird Richard M. Zolt Eric M., "*Technology and Taxation in Developing Countries", Science, Technology and Taxation*", Editor: Robert F.Brederode, Wolters Kluwer, Series On International Taxation, Volume 40, 2012.

Bozkurt Yüksel Armağan Ebru, Robot Hukuku, Türkiye Adalet Akademisi Dergisi, Yıl:7, Sayı: 29, Ocak 2017.

Clarke Roger, *"Asimov's Laws for Robotics: Implications for Information Technology", Part 1 and Part 2, Computer, December 1993, pp. 53-61 and Computer, January 1994",* (www.rogerclarke.com.au)

Cousins Steven, "*Is A Robot Tax Really An Innovation Penalty",* (www.techcrunch.com)

Dowling Kevin, *"What is Robotics?",* (www.cs.cmu.edu)

Gless Sabine, Silverman Emily, Weigend Thom*as, "If Robots Cause Harm, Who Is To Blame? Self-Drıvıng Cars And Crımınal Liability"*, New Criminal Law Review, Summer 2016

Hauser Marcus, "*Do Robots Have Rights? The European Parliament Addresses Artificial intelligence and Robotics*", (www.cms-lawnow.com)

Kaminski Margot E., "*Robots In The Home: What Will We Have Agreed To?",* Idaho Law Review, 2015 (Lexis Nexis online database)

Malcolm James, "*Could Bill Gates' plan to tax robots really lead to a brighter future for all?",* (www.theconversation.com)

Merler Silvia, *"Taxing Robots",* (www.bruegel.org)

Oberson Xavier, *"Taxing Robots? From the Emergence of an Electronic Ability to Pay to a Tax on Robots or the Use of Robots*", World Tax Journal, 2017 (Volume 9), No. 2

Reid Melanie, "*Rethinking The Fourth Amendment In The Age Of Supercomputers, Artificial Intelligence, And Robots",* West Virginia Law Review, Spring 2017,(Lexis Nexis online database)

Robert J. Shiller, (www.weforum.org)

Sixsmith Andrew, Mihailidis Alex, Simeonov Dorina, "*Aging and Technology: Taking the Research into the Real World",* Public Policy & Aging Report, 2017.

Visco Vincenzo, "Getting The Robots To Pay Tax", (www.socialeurope.eu)

Yüksel Bozkurt, Armağan Ezgi; "*Robot Hukuku*", Türkiye Adalet Akademisi Dergisi, Yıl:7, Sayı:29, Ocak 2017.

OTHER SOURCES

www.businessinsider.com

www.cnbc.com

www.en.oxforddictionaries.com

www.europarl.europa.eu

www.forbes.com

www.ft.com

www.ifr.org

www.koreatimes.co.kr

www.robotics.org

www.theguardian.com

www.telegraph.co.uk