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THE TAXATION OF ARTIFICIAL INTELLIGENCE BETWEEN NEW TAXES AND ADDITIONAL INCENTIVES

ABSTRACT

The profound changes that accompany the history of mankind appear to be largely dependent on the unstoppable strength of knowledge and innovation.

Robotics and artificial intelligences bring about profound changes in production and service delivery patterns (with automated and interconnected productions), in the rethinking of the man-machine and machine-machine relationship (so-called industry 4.0), in work organisation and even in domestic life and everyday life, according to whom “the fourth industrial revolution can act in two directions: an impact on the manufacturing world because the production of goods and services thanks to robots, artificial intelligence, communication technologies, the cloud can be completely reformed and modified and the transformation of society because the entry of robots 4.0 will take place in our midst.

In re – thinking and designing the regulatory models of robotic lex, fiscal discipline, although too often towed with civil and commercial, can and must play a decisive role both in the promotion and dissemination of new models of production and social organization and in the taxation of new forms of wealth, also in the form of savings in expenditure, which the diffusion of new enabling technologies and that of data storage and circulation tools (big data) generate, speeding up transactions and expanding how the information is used.

The aim of the article is an attempt to assess the application of robot taxes and web taxation taking into account specific nature of the subject of taxation. The author tries to present the possible development of the fiscal instrument in the light of technological development.

KEYWORDS: *artificial intelligence, technology, robot, tax, fiscal model*

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INTRODUCTION

The profound changes that accompany the history of mankind appear to be largely dependent on the unstoppable strength of knowledge and innovation. Following some great discoveries such as the wheel, iron, engine, electricity, telephone, television, etc. economy and social organizations have been deeply rethought, as have states legal frameworks and instruments for the protection of individual rights. Indeed, the last decades of the twentieth century and the beginning of the new millennium appear to be characterized by a modification that is unparalleled in the history of mankind; the break-in of the network, digital technologies and artificial intelligence in daily life, in real, financial and virtual markets, in political institutions has determined new ways of managing individual and collective data (big data), of governance of economic processes and activities, and above all has amplified the opportunities for communication and connection of both individuals and public administrations. The new models of social organization, in addition to giving rise to extensive changes in the processes of wealth production (transition from industrialism to information technology), have determined a new way of considering and perceiving the “real” market, no longer appreciated as a physical place for the exchange of proprietary rights according to the interaction of spontaneous forces such as supply and demand, but an open, borderless and always connected place in which you can easily and/or freely access and exchange information of any kind as well as goods and rights of enjoyment, temporary and shared (so-called sharing economy)², giving life to new legal categories (digital goods) and new interests worthy of protection (first of all data protection and so-called privacy). As the economist Jeremy Rifkin pointed out in his book “The Revolution of the New Economy”, the network gradually

² On the tax issues of the *sharing economy*, see R. Schiavolin, *La tassazione della sharing economy attuata con piattaforme digitali*, [in:] Riv. guardia di finanza, 2019, p. 1260, according to which this expression means “the set of agreements between consumers with which one shares his good for temporary use by the other or uses his skills to provide him with a service, as an alternative to the use of the market through the intermediary of production or distribution chains”. On the relationship between sharing economy and taxation see also C. Buccico, *Modelli fiscali per la sharing economy*, [in:] D. Di Sabato, A. Lepore (eds.), *Sharing economy. Profili giuridici*, Naples, 1918; M. Allena, *The web tax and the taxation of the sharing economy. Challenges for Italy*, [in:] European taxation, 2017, p. 7.

replaces markets and replaces them with access, understood as the possibility of taking advantage of services, culture, information, relationships, wealth: to connect and enter into existence and not to be excluded from them, to be somehow actors of this reality that has replaced the immaterial and the material good, the momentary use at the purchase, the service provider-user relationship to the traditional buyer-seller. From this point of view, open access is contrasted with access to demand or limited and confidential access in which private contracts and advertising rules lay down conditions, limits, and methods of protection. Internet, contraction of the English term interconnected networks, i.e. “interconnected networks”, cloud computing, understood as a mode of storage and management of data through virtual clouds by a provider, artificial intelligence (**or AI, from the initials of the two words**) understood as a set of methodologies and techniques for the design of hardware systems and software program systems capable of providing the computer with performance comparable to those of human intelligence open scenarios worthy of being investigated not only through cognitive techniques of but also through the lens of law, economics and taxation. At the same time, robotics and artificial intelligences bring about profound changes in production and service delivery patterns (with automated and interconnected productions), in the rethinking of the man-machine and machine-machine relationship (so-called industry 4.0), in work organisation and even in domestic life and everyday life³, according

³ The term industry 4.0, projected in 2012 by a group of German academics and managers, is now “used in a current way to designate the measures of European governments to support the processes of economic transformation” in the transition to the fourth industrial revolution. According to four main guidelines: innovative investments: enabling infrastructure; skills and research; awareness and governance, the plan has been adopted by many European countries (France and Germany in the first place). Even our country, with full awareness of the rethinking of the relationship between man-machine and machine-machine, has introduced, through a national industry 4.0 plan, tax incentives (deductions, tax credits, hyper and super depreciation that, as we know, recognize a higher tax value than the cost of purchasing the asset) and measures to support venture capital, in order to stimulate private investment in research and innovation (according to estimates more than 10 billion private spending). See L. Beltrametti, N. Guarnacci, N. Intini, C. Laforgia, *La fabbrica connessa, La manifattura italiana attraverso industria 4.0.*, Milan 2017, p. 28, according to which with the fourth industrial revolution “all the elements that have to do with manufacturing operations (suppliers, plants, distributors and the products themselves) are digitally connected to each other giving rise to a highly integrated value chain”.

to whom “the fourth industrial revolution can act in two directions: a) an impact on the manufacturing world because the production of goods and services thanks to robots, artificial intelligence, communication technologies, the cloud can be completely reformed and modified, b) the transformation of society because the entry of robots 4.0 will take place in our midst.

The first trend will have disruptive effects, because the combination of a robot’s physical and mechanical potential with an artificial intelligence cognitive system, its control system and the perceptual experience shared in the cloud, can overcome some substantial limitations of robots to make them truly capable of performing physical tasks—such as navigating unsorted environments and manipulating objects—and able to perform both cognitive tasks, for example, the recognition of the objects themselves, their selection and understanding of their functionality, according to the functional specifications of a given task”.

Through robotics, ubiquitous connections and the availability of a virtually infinite number of computer identities (especially with the new IPv6 protocol), economic operators and private entities carry out economic and social activities, digitally dialogue plants and people, and above all achieve incomes and savings of expenditure in ever new ways; at the same time, users offer and use information, experience, documentation, knowledge and more generally communicate with each other, allowing individuals as well as network lords to benefit and benefit or achieve cost savings. We need only to think, for example, of entrepreneurs who, by presenting their products on the network, can reach a higher number of consumers, achieving, on the one hand, higher revenues and, on the other hand, saving on advertising costs, on the costs of displaying goods in physical places, on the cost of employees (clerks and other sales agents) or on the parasubordinate one (commercial agents promoters, etc.). From a different point of view, one can think of the advantages, including in terms of cost reduction (e.g. travel, postage, research, etc.), that a private individual can derive from the acquisition of information or the saving of expenditure from which he can benefit by comparing goods and services of different operators on the global market and by purchasing goods on cheaper terms. Yet, as he rightly pointed out, “the time is ripe for an organic foundation of robotics law, capable of consulting a manifesto of legal mediation in the field of artificial intelligence, with particular reference

to self-learning, the engine of the industrial revolution”⁴. In re – thinking and designing the regulatory models of robotic lex, fiscal discipline, although too often towed with civil and commercial, can and must play a decisive role both in the promotion and dissemination of new models of production and social organization and in the taxation of new forms of wealth, also in the form of savings in expenditure, which the diffusion of new enabling technologies and that of data storage and circulation tools (big data) generate, speeding up transactions and expanding how the information is used. The promotion and stimulation of technological and digital innovation, both to acquire new revenues, taxing new manifestations of contribution capacity, in full adherence to the principles of distributive equity. However, it is precisely fiscal policy and doctrine which have appeared rather “conservative”, showing great resistance to the profound changes in production and social nature, caged in traditional taxation models (income and consumption taxation) and insensitive to the demands of the “detrital production upright in the field of robotic lex”. However, in policy mix measures⁵ (regulation, prohibitions, authorisations, controls), taxation can play a decisive role not only through new forms of levy, which are more in line with economic changes, but also through incentives of different kinds (deductions, tax credits for research and development, hyper and super depreciation which, as we know, recognize a higher tax value than the cost of purchasing the property) and recipients (large companies, start-ups, innovative companies), some of which have already been introduced. In this respect, it should be remembered that, at different historical stages,

⁴ On the relationship between digital revolution, real economy and law, see extensively F. Gallo, *Il futuro non è un vicolo cieco. Lo Stato tra globalizzazione, decentramento ed economia digitale*, Palermo 2019, p. 21.

⁵ Cfr. F. Gallo, *Il...*, p. 21, according to whom “one should not tax technology itself and that is robots as Bill Gates argues but shift the levy from income from work and business to other types of income and overprofits, to large assets and to the same economic added value as those digital enterprises that have very low marginal costs and a high, I would say almost disproportionate, stock market value. The reference is to the taxation of both financial assets, and real estate assets of a significant amount that give low returns and consequently produce small property incomes, both the use of non-renewable raw materials (the so-called internal European carbon tax and at borders) and above all the positions of rent, such as that of the digital economy, deriving from the collection and use of data and information against private individuals (the so-called web or digital taxes of the type of one on digital services recently introduced in Italy by Art. 1, paragraphs 35-50 of the Budget Law for 2019, 30 December 2018, n. 145)”.

technological innovation has often enjoyed favourable tax rules motivated by the aim of not hindering its diffusion and development. This happened in the 1990s in the face of the spread of the network which for a long time (and still makes use to a large extent today) of a kind of tax moratorium (so communication from the Commission of the European Union “an economic initiative in the field of electronic commerce”, the Bonn Declaration of 6 July 1997 signed by the Ministers of the Countries of the European Union, and the announcement made by 132 members of the World Trade Organization, in May 1998, the Internet Tax Freedom Act in the USA). This is still the case today because the diffusion and use of robots (still in the development phase) does not pay specific taxes and on the contrary can benefit from measures to mitigate the tax burden through the ordinary instruments of depreciation of capital goods (or hyper depreciation of industry 4-0) or deduction of costs according to the rule of inherence.

The break-in in the different production, social and domestic structures of robots able to carry out more diverse functions and activities raises the theme, the subject of the first reflections of new tax models (robot income tax, dedicated capital taxes, possession tax, etc.) that appreciate their production capacity (also through comparison with human work), which measures the savings in expenditure that they can generate or the intrinsic value. It is therefore time to establish and apply new forms of levy aimed at striking at the different forms of wealth that the network, the cloud, artificial intelligence, and the new enabling technologies can generate, thus giving a new structure to taxation, preferably shared at international and European level⁶. Referring to the new forms of taxation on “free data collection by companies in the digital economy”, it highlights the importance “of new forms of taxation, not sufficiently considered, often opposed and considered unconstitutional for

⁶ This need was clearly felt by the European Commission in its communication to the European Parliament, entitled “A European initiative on electronic commerce”, in Riv. dir. fin. sc., 1998, 1, 280. See, in this regard, also Cipollina, *I confini giuridici nel tempo presente*, p. 278, according to whom “the solution shared and participated in by all States is sought directly in the international arena, so that the homogeneity and congruence between the nature of the problem and that of the relative solution guarantees the efficiency of the latter...The objective of this global dialogue is to identify principles that protect the fiscal sovereignty of States and ensure the correct distribution between them of revenue from electronic commerce, avoiding the risks of double taxation”.

violation of the principle of qualified contribution capacity. At times such as these, of the state's fiscal crisis, they would have the advantage of achieving the objective of helping to ensure an adequate level of welfare state funding and, at the same time, of reducing the tax burden on income and certain types of assets". Access, network navigation, artificial intelligence and big data store, process, transmit information, experience and knowledge that express an economic value likely to be subject to taxes of a different nature even of a new institution or expanding the sphere or methods of application of existing ones⁷ (think of the rules for the location of the income produced or those in the field of electronic commerce, direct or indirect).

THE DELIMITATION OF THE PHENOMENON OF ARTIFICIAL INTELLIGENCE. POSSIBLE LEGAL IMPLICATIONS

Interesting is the distinction between weak AI, which encompasses systems capable of simulating certain cognitive functions of man without, however, achieving the intellectual abilities typical of man (it is, in broad outline, problem-solving programs able to replicate some human logical reasoning to solve problems, make decisions, etc. as in the game of chess) and strong AI within which systems capable of becoming wise are included (or even self-conscious). **In particular, according to the European Commission for Artificial Intelligence (Communication of 25 April 2018 Artificial Intelligence for**

⁷ On this issue, see also Ficari, *Regime fiscale delle transazioni telematiche*, [in:] *Rass. trib.* 2003, p. 870, for whom "a survey of the tax profiles of the so-called electronic commerce and, more generally, of the economic transactions that take place through and in the world of the web requires to verify the applicability of the rules and legal categories already known to the interpreter and, in hypothesis, the possible regulatory innovations if the regulatory data turns out, in this case, to be inadequate. In other words, the alternative, not necessarily rigid in the light of the different tax systems involved... is between tax law and the new economy and tax law of the new economy". Of different opinion, C. Garbarino, *Nuove dimensioni della transnazionalità dell'imposizione*, [in:] *L'evoluzione dell'ordinamento tributario italiano*, *Atti del Convegno 'I settanta anni di Diritto pratica tributaria'*, Padova 2000, for whom "the internet taxation does not address radically new problems, but old problems in a radically new context... the one constituted by the Internet network and by the interactions that take place in it".

Europe Com. 237) we mean “systems that exhibit intelligent behaviour by analysing their environment and carrying out actions with a certain degree of autonomy, to achieve specific objectives; systems based on artificial intelligence can consist only of software that acts in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and facial recognition systems) or incorporate artificial intelligence into hardware devices (e.g. in advanced robots, self-driving cars). The European Parliament, in its report of 27 January 2017, has also defined intelligent robots, identifying their main characteristics: obtaining autonomy through sensors or other ways to facilitate the exchange or analysis of data, self-learning through experience or through interaction, adaptation of one’s own performance and actions to the environment, at least physical support and the absence of life in the biological sense. Depending on the level of diffusion, it is possible to identify as “emerging” and therefore already practice solutions in language processing areas, related to language processing for translation and text production independently from data; demand forecast, for the planning of production demand and the planning of materials and warehouse capacities; predictive maintenance, i.e. the ability to predict the conditions that are about to occur on the machines; image processing, for the recognition of people’s faces or things on machine learning algorithms, able to identify suspicious transactions, bringing significant increases in the ability to identify fraud; recommendations, which aim to address the user’s preferences, interests and decisions based on information provided by him directly or indirectly, virtual assistant/chatbot solutions, able to provide services to a human interlocutor by interacting through writing and speech, already quite widespread; content design, analysing the data available to create new content or design new services or products; autonomous vehicle, self-driving vehicles capable of perceiving the external environment and identifying the correct manoeuvres to do.

IMPACT OF ARTIFICIAL INTELLIGENCE ON THE LABOUR MARKET. PROSPECTS FOR THE USE OF TAX AND SOCIAL SECURITY LEVERAGE

In the face of the inevitable repercussions of the spread of artificial intelligence on the labour market, being able to penetrate the domain of tasks that until recently were only human, such as reasoning, detection, data analysis and decisions, it is necessary first of all to analyse the reduction of the workforce as a result of the replacement of intelligent robots or a modification of the production system with a growing demand for workers with technological knowledge capable of operating processes (this is the so-called phenomenon). technological unemployment, investigated by many scholars). The reduction in the number of employees could also have significant effects in terms of the sustainability of the tax and social security system if tax measures are not adopted in time to ensure economic and financial balance, which is, moreover, elevated to a constitutional principle⁸. In this sense, a recent work, significantly titled “So web and robots

⁸ On this topic, see *inter alia* Bergo, *Pareggio di bilancio ‘all’italiana’. Qualche riflessione a margine della Legge 24 dicembre 2012, n. 243 attuativa della riforma costituzionale più silenziosamente degli ultimi tempi*, [in:] *Federalismi.it*, 2013, 6, 22; G. Napolitano, *I nuovi limiti all’autonomia finanziaria degli Enti territoriali alla luce del principio del pareggio di bilancio*, in *Riv. giur. Mezzogiorno*, 2013, 1/2, 91; Jorio, *L’efficacia della Costituzione non è differibile*, available on www.astrid-online.it, 24 October 2012; Bilancia, *Note critiche sul c.d. “pareggio di bilancio”*, in *Riv. trim. dir. trib.*, 2012, 2, 350; Morgante, *La costituzionalizzazione del pareggio di bilancio*, in *Federalismi.it*, 2012, 14, 1; Rivo – Secchi, *Il c.d. pareggio di bilancio tra Corte e Legislatore, anche nei suoi riflessi sulle regioni: quando la paura prevails over reason*, available on www.rivistaaic.it, 2012, 3, 1; Cabras, *Su alcuni rilievi critici al c.d. “pareggio di bilancio”*, available on www.rivistaaic.it, 2012, 2, 1. De Mita, *Il conflitto tra capacità contributiva ed equilibrio finanziario dello Stato*, in *Rass. Trib.*, 2016, p. 563, according to whom “the replacement of the expression <budget balance> with <balance> represents the legislator’s intention to allow flexibility in the management of public finance that would otherwise be precluded. It should be recalled that Article 5 of Constitutional Law no. 1/2012, which at letter f) provides for the assignment to the chambers, with due respect for their autonomy, of an independent body to which the tasks of analysing and verifying public finance trends and observing budget rules shall be assigned. Article 5 regulates in detail the criteria that must be observed and which exclude the possibility that the budget review can be reduced to a consideration of the amount of a single tax. Budgetary balance is an overall judgement which concerns, first and foremost, expenditure and which is directed, primarily, to the government. It cannot be limited to a single item, that of a tax, even if it is high, divorced from an overall assessment of revenue and expenditure’.

are stealing work”, signals both the risks of desertification of the traditional manufacturing enterprise and the loss of non-countervailable jobs with work units with technological or IT skills that could find a place in the labour market. Again, in a recent study, it is warned that robotics and artificial intelligence lead in the short term to an increase in company profits and a reduction in unskilled jobs and that “in terms of revenue, it is difficult to tax the higher profits generated by companies can compensate for the loss of income resulting from the loss of taxable wages, due to their exclusion from the production process and the cost of the social shock absorbers that society has to bear”. Faced with these risks, it is necessary for the State to intervene with active labour policies, supporting the training and retraining of human capital, or by adopting fiscal incentive fiscal measures for new recruitment, training of new skills or retraining of staff who have lost their jobs (tax credit, deductions, etc.) and, in any case, reducing labour costs. The recovery of the regulatory favour towards this category of income can be effectively pursued by introducing measures like those provided for in the industry 4.0 programme for new generation machinery (super and hyper depreciation which, as we know, recognize a higher tax value than the cost of purchasing the property) to exploit human capital, providing for a greater deduction of costs. In this context, fiscal measures capable of subjecting new and different manifestations of wealth specific to the economy of the future become necessary and inevitable both to cope with the lower revenue that could result from the reduction in the number of workers and the appropriate reduction in the tax burden on labour. The question then arises as to whether “work” should be understood only as human activity carried out using physical or intellectual energies to derive an economic advantage and, with it, personal satisfaction or whether it can be considered an income likely to be taxed that retractable from the activity rendered by intelligent robots, determined by assuming its normal value, regardless of whether a consideration can be considered as income that can be taxed. In the current tax framework, work is posing as a legal environment suitable to produce waste that can only be carried out in a human conducted which, in turn, is the subject of the contractual obligation to work and which ensures that those who provide it have the right to remuneration or other economic

benefits, ensuring a free and dignified existence (Art. 36 Cost.)⁹. Rethinking the sampling models, also assuming a kind of robot liability where it ensures economic benefits to those who can dispose of the activity provided by these yields must not constitute a heresy but a perspective worthy, therefore, of being investigated and perhaps tested. At the same time, a compensatory social security levy on intelligent robots replacing human labour can lead to a better sustainability of the social security system.

⁹ Conceived for a long time only as a bargaining chip, work has taken on a much deeper meaning over time as a higher expression of personality and human dignity. This does not mean that the employment relationship, although it concerns the person of the worker and is of social importance, cannot be configured as an exchange relationship since it is characterized by the burden and the consideration of the benefits. On the contrary, the obligation to pay work appears to be interdependent with that of remuneration (article 2094 of c.c.). For a complete examination of the different concepts of work expression and employment relationship in legal experience, see Annex II. Prospetti, item Work (legal phenomenon), in Enc. dir., vol. XXIII, Milan, 1973, 332; P. Tosi, F. Lunardon, voce Subordinazione, in Noviss. Dig. it., vol. XV, Turin 1998, p. 256; G. Persiani, M. Prola, *Contratto a rapporto di lavoro*, Padua 2001, p. 3, which observe: “Human work is taken into account by the legal system, and is regulated by it, as it is capable of producing an economically useful result and, therefore, of being the subject of an obligation. The fulfilment of the obligation to work involves, however, necessarily the person of the debtor himself, with the consequence that the discipline of capital aspects often combines with that intended to achieve the protection of the person of the worker”. See also M. Persiani, *Contratto di lavoro e organizzazione*, Cedam, Padua 1966, p. 5, which favours the configuration of the employment relationship as a fundamental situation in the life of the relationship and as a prerequisite for the foundation of the entire system of protection of labour law. See also M. Grandi, voce Rapporto di lavoro, [in:] Enc. Dir., vol. XXXVIII, Milan 1990, p. 313, which, in emphasizing the particularly broad content of the employment relationship “going beyond the limits of the individual relationship based on the contract, considers that it is not “useful or justified to have a concept of relationship understood as a phenomenal element of social reality, since it radically goes beyond the explanation of the constitutive cause of the genetic and functional link in which they are linked (according to the logic of the sources of the mandatory relationship ex Art. 1173, c.c. the qualifying obligations of the respective subjective positions of the worker and the employer”.

PROPOSALS FOR THE INTRODUCTION OF ROBOT TAXES AND WEB TAXATION

In warning of the importance of this issue, international and European institutions, even if only in recent years, have considered that the adoption of fiscal measures in the digital and technological economy, as well as the definition of rules for the allocation of powers of taxation between States, also in the light of the economic globalisation drive that the digital market favours and accelerates, can no longer be delayed. From this point of view, the definition of common principles by European and international institutional bodies through which to express guiding principles about models and criteria for the taxation and combating of harmful competitive practices seems inescapable. In particular, the OECD, in launching the **Base Erosion and Profit Shifting (BEPS)** project, defined Action 7 (Preventing the artificial avoidance of permanent establishment status), Action 6 (prevent treaty abuse), Action 15 (develop a multilateral instrument), helping to define the concept of “stable virtual organization” or “digital”, with consequences on actions to combat the phenomena of evasion and circumvention of the web economy. In particular, Action 1 (Addressing the tax challenges of the digital economy) provides for among the measures to be taken the analysis and identification of the main points of friction between the forms and strategies of the new economy and the rules of international tax law, both with regard to direct and indirect taxation and in particular with regard to “*the evanescent territorial interconnections of the digital presence of companies, on the ways of creating value in this specific area, on the identification and classification of income deriving from new business models and on the collection of VAT with regard to cross-border supplies of digital goods and services*”.

The European Union has also intervened several times mainly with regard to the problems of e-commerce with the so-called e-commerce VAT package, adopted on 5 December 2017 and published in the EU Official Journal of 29 December, consisting first of Council Directive 2017/2455/EU and then by Directives 2006/112/EC and 2009/132/EC, with regard to VAT obligations for the provision of services and distance supplies of goods and with Council Implementing Regulation 2017/2459/EU, amending Regulation 2011/282 laying down implementing provisions for Directive 2006/112/EC. At the

meeting of 21 March 2018, the initiative for new rules to tax digital activities has therefore been promoted through the proposal of a European Directive subjecting to a temporary levy of 3% on revenues from online advertising, social activities and the sale of data by the network's multinationals (companies with at least EUR 750 million worldwide and EUR 50 million at European level) and a levy at full capacity to profits where generated (using one of the following parameters as location criteria: at least seven million euros of annual turnover in a Member State; at least 100 thousand users in a Member State during a given tax year; at least 3,000 commercial contracts also in a given Member State). Although there is still no full consensus, the comparison seems to be evolving towards solutions that adapt the regulatory frameworks to the transformations of the economic circuit produced by digital technologies.

The European Commission Communication of 21 September 2017, on “*A fair and effective tax system in the European Union for the digital single market*”, addresses the tax challenges posed by the digitalisation of the global economy by highlighting the need for a fair, effective, and adequate taxation system. In its conclusions of 5 December 2017, the ECOFIN Council also welcomed the Commission’s proposals, considering the OECD’s thinking, which was central to the challenge of taxing the digital economy, with particular reference to the definition of a permanent organisation, rules on transfer prices and the allocation of profits. The ECOFIN Council also invited the European Commission to investigate possible temporary measures and in particular a contribution to digital revenue in the European Union (**equalization levy**). On 21 March 2018, the Commission therefore presented a Package of measures for the fair taxation of the digital economy, consisting of a Communication,

a Recommendation and two proposals for Directives¹⁰. The Recommendation proposes that Member States adapt double taxation agreements concluded with third countries in order to extend the concept of permanent organization to the “significant digital presence”, by means of which a company carries on all or part of its business. Pending definitive international solutions (OECD), the EU Commission proposes, albeit as a provisional solution, a common system of tax on revenues from the provision of certain digital services. The proposal for Directive COM (2018) 148 final focuses on the concept of “value creation” by users, in coordination with the provisions of the proposal for a Directive on a comprehensive solution, *ut supra*, and the recommendation to member states to include the latter in international conventions on double taxation. The “interim solution” appears to be oriented towards business and business models in which users’ contribution to value-building is “more significant”.

¹⁰ The proposals for Directives on “significant digital presence” COM(2018) 147 final and “digital services tax” COM(2018) 148 final respectively, constitute the implementation of Action – 1 of the BEPS (Base Erosion and Profit Shifting) project, although not fully aligned with the conclusions of Action 1. As part of the Beps (Base Erosion and Profit Shifting) project, the aim was to bring the power of taxation back to the place where the economic substance of the operation manifests itself. In March 2018, the OECD also issued an interim report on measures being adopted at country level, entitled *Tax challenges arising from digitalization: Interim Report 2018*. See Pellegrini, *Annotazioni a margine di una sentenza di merito in tema di esteroinvestizione societaria: la nozione di residenza fiscale delle società tra episodi giurisprudenziali interni e direttrici evolutive BEPS*, in *Dir. Prat. trib.*, 2017, 3, 1148: “It first takes into account how one of the overriding objectives for the implementation of the Base Erosion and Profit Shifting project is to anchor taxation at the place where the economic substance of the operation is located. The aim is to identify the growing difficulty in identifying the state as the source of income, given both the dematerialisation of wealth due to the growing affirmation of new digital economies and the multifaceted structures of corporate groups.” To comment on the BEPS proposals on tax residence, in particular their compatibility with European Union law, please refer, among others, to Braumann, Tumpel, *The tie breaker for dual resident companies, the holding period for intercompany dividends and the modification – tions to article 13 of the OECD Model*, [in:] M. Lang, P. Pistone, A. Rust, J. Schuch, C. Staringer (eds.), *Base Erosion and Profit Shifting (BEPS). The proposals to revise the OECD Model Convention*, Linde, 2016, p. 303. Axingome Circular No. 17/2016 examined the changes to the definition of permanent establishment contained in Action 7 of the BEPS Project, with regard to the stable “personal” organization, the notion of “preparatory and/or auxiliary activities” and the so-called antifragmentation rule; on the point see Avolio, Sencar, *Stabile organizzazione and Action 7 of the OECD BEPS Project*, in S. Mayr, B. Santacrocce (eds.), *La Stabile Organizzazione delle Imprese Industriali e Commerciali*, Milan 2016, p. 87. In a critical sense of some recent legislative proposals with anti-elusive purposes, see D. Stevanato, *Elusione fiscale e abuso delle forme giuridiche, anatomia di un equivoco*, in *Dir. Prat. trib.*, 2015, p. 5, 10695.

ISD (tax on digital services) is a tax on the risks generated by the provision of certain digital services, characterized by the fundamental contribution of user participation in digital activity, i.e. those provided by business models, the report reads, “which could not exist in their present form without the participation of users”. In essence, taxation concerns revenues from the processing of user contributions, not user participation per se. The taxable amount of the **ISD (tax on digital services)** is the company’s gross revenues received in exchange for the provision of digital services, as outlined above, net of **VAT (Value added tax)** and other “similar” taxes. The nature of indirect taxation is evident, with profiles of similarity to the tax assumption and the tax base of **IRAP (Regional production tax or regional tax on productive activities)**: the “value produced” by the contribution of users in the use of services, provided by a “self-organization” of the enterprise, through a digital platform.

THE ROBOT TAX ALSO IN THE LIGHT OF THE CONSTRAINTS OF A CONSTITUTIONAL NATURE.

As the Constitutional Court has made clear, “*the ability to contribute, as a suitability for the tax obligation, which can be deduced from the economic assumption to which the tax is linked, must, in principle, be identified in any wealth-detecting index, according to assessments reserved for the legislature, except for the control of constitutionality from the point of view of arbitrariness and irrationality*”. It follows that the search for new taxable cases and new taxation criteria must not only be arbitrary but must reflect the criterion of eligibility for the contribution of the case and of the person obliged in the

light of economically appreciable situations¹¹. In this sense, the Committee on Legal Affairs of the European Union on 31 May 2016 published a report (then accepted by the European Parliament on 1 January 2017) on the growing importance of the use of robots in modern society in which it highlights how the cognitive skills of robots make them like subjects (“more and more similar to agents that interact with their environment and are able to alter it significantly”). He adds the report “In this context, major changes to the current legal system could be contemplated, such as granting robots a sort of “electronic personality” and the possibility to be liable for actions, not to mention aspects related to privacy, intellectual property or criminal law.” In this respect, the concept of smart robots is proposed, since it cannot extend subjectivity to computers or software, nor to tools such as driverless cars that remain self-driving (so-called weak artificial intelligences).

Decisive for a future recognition of tax subjectivity is the robot’s ability to make decisions independently and to increase its skills and knowledge (hard artificial intelligences). To distinguish intelligent robots from those with mere materiality, the European Parliament, in its Resolution of February 2017, attached particular

¹¹ See, in this regard, Constitutional Court, judgement, 22 April 1997, 111, which finds in the concept of contributory capacity the prohibition of arbitrariness and irrationality of the legislator’s choices and the constraint on the specific aptitude to contribute according to the economic premise, since not every phenomenon of social life, provided with an economic substratum, can be taken as the basis of taxation. In doctrine, see, on this subject, Boria, *Il bilanciamento di interesse fiscale e capacità contributiva nell’apprrezzamento della Corte Costituzionale*, in Perrone, Berliri, *Diritto tributario e Corte Costituzionale*, p. 64, who, after pointing out the self-limiting nature of the Constitutional Court’s review in tax matters to the advantage of the ordinary legislator’s margin of appreciation, notes that “the balancing between the two constitutional values of the tax interest and the ability to pay must be sought through mediation on the basis of the criterion of internal consistency and rationality of the regulatory system”. In this regard, Antonini, *Dovere tributario, interesse fiscale e diritti costituzionali*, Milano 1996, observes that, in the light of the consolidated orientation of jurisprudence, “the only element potentially suitable to limit the discretion of the legislator seems, therefore, to reside in the <absolute arbitrariness or irrationality of the measure of taxation>, thus resulting in the establishment of a delimitation that tends to exhaust the review of constitutionality within art. 53 of the Constitution, with respect to which the profiles of constitutionality relating to the right of property do not seem to find entry. Given this premise, the further problem of establishing when the aforementioned hypotheses (<absolute arbitrariness or irrationality>) can be considered to be concrete remains open, with respect to which, although it is evident that it is difficult to reach a prior definition, disconnected from concrete cases, it is nevertheless possible to note that the main criterion followed by the Court was that inherent in the internal consistency of the individual taxes, or rather the need for the structure of the tax to be consistent with its economic premise”.

importance to the autonomy of the robot, understood as “the ability to make decisions and implement them in the outside world, regardless of an external control or influence”, with a level varying according to the degree of complexity with which human-machine interaction was designed. According to the European Parliament, “the more autonomous robots are, the less they can be considered as mere tools in the hands of other actors (such as the manufacturer, operator, owner, user, etc.)”.

The “autonomous machine” is then defined using characteristics such as “obtaining autonomy through sensors and/or through the exchange of data with its environment (interconnectivity) and the exchange and analysis of such data”, “self-learning from experience and through interaction” and “adaptation of one’s behaviour and actions to the environment”¹². It is also worth mentioning the proposal, included in a European Parliament resolution on the proposal of the Luxembourg MEP Mady Delvaux, of the Group of the Progressive Alliance of Socialists and Democrats, which places at the expense of companies that choose to automate their production to pay training courses for workers who lose their jobs.

The sums to be allocated for these purposes could be configured as a purpose levy, the amount of which could be matched to the higher profits made through automated robots. Indeed, however difficult it may be to assess the models of tribute on artificial intelligences also for the technical and scientific profiles involved and for the difficulty of appreciating its present and future economic effects, it seems necessary to adopt shared choices at least at European or International level also in order not to give rise to market distortions to the detriment of local companies, thus also preventing further relocation. In a devolved perspective, the robot tax, adopted at European level, could also finance the Union budget, thus allowing the acquisition of resources for redistributive purposes or for research and development.

¹² Cfr. Dorigo, *La tassa sui robot tra mito (tanto) e realtà poca*, [in:] Corr. trib., 2368, according to which the set of ‘favourable tax regimes, which cumulatively create a discipline that is defined in practice as Industry 4.0, denotes the propensity of our system for regimes that favour, through a tax advantage, the technological modernisation of companies and production processes, which also implies the use of robots and procedures based on artificial intelligence. The Italian legislator has therefore, for the time being, adopted the liberal approach in favour of encouraging the robotization of companies, in the knowledge that the return in terms of a greater tax base will help to offset the imbalances in the labour market and social structure that are linked to this process. The overriding objective is to maintain the competitiveness of our economy in a global context where competition, including technological competition, is becoming increasingly fierce.

PROSPECTS FOR THE ENHANCEMENT OF ARTIFICIAL INTELLIGENCES IN A FACILITATING FUNCTION

Of course, taxation could also take place on a presumptive basis, according to reasonable criteria, estimating the economic benefits of using the robot. However, there is a risk that corrective action should be taken to prevent double taxation of the company's profits and of the economic benefits (profits or lower costs) produced by robots used within the simplest enterprise, at least at an early stage, a capital tax could be introduced on intelligent robots, differentiated according to the capacity for data accumulation and knowledge. Such a levy, insisting on a separate assumption from income taxes, would not give rise to any problem of double taxation. It would be easily ascertainable, being traceable and recognizable the presence of the intelligent robot. Its experimental adoption could make it possible to counter, at least at an early stage, the distorting effects that the spread of intelligent robots could have on the labour market, as well as allowing more revenue to be made available, without discouraging development and innovation. Prospects for the enhancement of artificial intelligences in a facilitation function. From a broader point of view, it cannot be considered that the provision of automation incentive tools through the industry 4.0 package or with other instruments can be considered incompatible with the introduction of robot taxes.

On the contrary, it is precisely the set of new taxes and incentives that can best adhere to processes of profound economic transformation, characterized by the emergence of new manifestations of wealth and meritorious activities, which are different. This is the direction of a recent bill on tax concessions for the use of artificial intelligence systems in the production of goods — presented on 3 August 2017 — which states that, in the face of the increasing use of artificial intelligence, “tax intelligence seems to be the best lever: this bill intervenes, in fact, on **corporate income tax (IRES)** increasing the rate by one percentage point if the production activity is carried out and managed directly by intelligent machines. This increase in taxation does not start, however, if the company invests 0.5% of its revenues (i.e., half the amount of IRES it would have paid at the increased rate) in projects for the retraining of its employees or in corporate welfare tools. The aims are two things that

are intended to be achieved: the first is to discourage the brutal replacement of the human workforce with a robotic workforce; the second, already partly illustrated, is to encourage companies to retrain their human workforce and, at the same time, to equip workers with the knowledge and skills to guarantee them a place in the labour market (despite the evolution of production processes)¹³. The European Union also fully appreciates the facilitating dimension of innovation, not least since the productivity it stimulates is now an asset of strong competitiveness, as well as a factor in the multiplication of wealth.

In fact, it points the way to the “Nexus Approach” understood as a condition for the recognition of tax concessions for research and development in the presence of a direct relationship between expenditure and beneficial economic results. It seems very difficult to determine whether investment in innovation can generate positive results in terms of growth, development, and employment, as well as in terms of profitability for the company that makes it; in this area, more than in others, predicting the future is particularly difficult, even because of the high risks of its failure. Here, too, we can recall the “paradox of innovation” in which it is pointed out that over time those who make more mistakes who therefore collect failures in the first phase (the examples are infinite) win. So, the question that must be asked at a time when financial incentives and concessions are being introduced in favour of private research applied: is it right that profits should be privatised and losses should be socialised? It is precisely the answer to this question that leads to the

¹³ As stated in the explanatory report of the bill, “it represents a now peaceful acquisition for which, in just under twenty years, many professionals, especially in the industrial and manufacturing sectors, will be replaced by intelligent robots which will perform the same tasks at a much lower cost; All this with immediate negative effects on employment. Of course, we cannot consider halting scientific progress or neglecting the positive effects of such developments, but it is considered essential to prevent and reduce the negativities that such changes, especially if not governed, can produce on the labour market and, above all, on employment levels. The massive use of robots can, in fact, create a sudden and uncontrolled contraction in the demand for human labour in large sectors of industry and it would, of course, be only the workers who would suffer, who would not be able to compete at all with robotic production systems. It is therefore necessary to ensure that the increasing use of artificial intelligence systems follows the widespread conversion (and updating) of the human workforce, creating new professional figures connected and not conflicting with the presence in the company of intelligent robots or updating the worker’s skills, so that he continues to be indispensable to the production structure. Finally, this measure does not entail additional burdens for the state budget or for that of local authorities”.

development of levy models designed to tax the new manifestations of wealth that technological development produces at a time when it is being supported by tax concessions and public expenditure on research. It is clear, in fact, that while innovative investment produces wealth, economic development, employment and the social use of research products, positive externalities outweigh the costs incurred even when socialized through the financing of research. To this must be added that the new wealth is subject to taxation (although it may enjoy some initial facilitation) with the consequence that the taxation of innovation guarantees a full return on public investment, according to a circular taxation model attentive to the processes of growth and development and fully sustainable¹⁴, promoting innovation, selecting its planning, areas of intervention and assessing its repercussions in terms of growth and social returns. This does not mean, however, returning to dirigiste models, without the freedom of research; It means, on the other hand, making the provision of the incentive conditional on an early assessment of the relationship between investments and possible relapses, which can legitimise and justify that type of investment, avoiding unnecessary waste of public resources or “gifts” to friends on duty. The monitoring of investment in innovation and the traceability of forward results are also crucial.

Returning to possible facilitating models, in addition to existing measures such as those of the Industry 4.0 package, which may also cover applications of various kinds of intelligent robots, it is necessary to recall other possible interventions that the legislator could introduce both in favour of companies, in favour of families or to pursue meritorious objectives such as the protection of the environment and health. In this regard, tax deduction measures can be recalled, already contemplated today, in the field of disability (Law 104) about machinery of various kinds (e.g., artificial limbs), intelligent agents (software agents) or robots. This does not mean, however, returning to dirigiste models,

¹⁴ On the comparison between the model of taxation in the linear sense, i.e. taxation that maximises revenue because it has to maximise expenditure and sometimes waste, and “circular taxation” that knows how to promote development and how to balance the instruments of taxation with those of incentives, and therefore succeeds, through an effective mix of taxation and tax breaks, in also generating development, see my book, *Percorsi di diritto tributario*, Bari 2017. Moreover, the so-called circular taxation promotes the circular economy, which is one of the other strong assets of the innovation economy, i.e. the economy of the future (reuse, environment, green economy), but at the same time it does not leave ‘social waste’ and, therefore, it also knows how to combine technological innovation with social innovation.

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More specifically, the report refers to six different areas of action which may also be of interest to the tax legislator through appropriate eco-incentives: climate change, the preservation of biodiversity, the protection of the oceans, water safety, protection against air pollution and the prevention of catastrophic events. The use of artificial intelligences in promoting the efficient use of resources against waste appears fundamental, trying to guide production and consumption, making them aware of the scarcity of the earth’s resources and respect for the ecosystem. Here, too, the possible measures are of a different

nature¹⁵ both of a tax nature (taxes on waste of soil so-called Landfill taxes or on food waste) and of facilitating them, precisely linking them to the use of artificial intelligences to reduce or rationalize consumption or prevent the formation of waste. We should also not forget the use of artificial intelligences in tax assessment procedures, already planned and partly carried out in France and the subject of study by our Revenue Agency, which already uses tools for collecting and interchanging information, including big data (so-called Report Registry and Data Interchange System — SID).

¹⁵ F. Gallo, F. Marchetti, *La tassazione ambientale*, [in:] Rass. trib., 1999, p. 115. who highlight how “the protection of the environment is an objective – political, cultural, social – by its nature extra-fiscal. As long as it is considered that the tax instrument should be used for the protection of the environment, it will never be possible to have an environmental tax in which the environmental good, that is, the environmental good, is placed within the tax case. Environmental protection is an effect, hoped for, resulting from the introduction of a levy, including a tax, which, by increasing the cost of the good or the polluting activity, will lead the consumer to turn to other goods with less environmental impact. The shift of the link between tribute and the environment, from the protection of the environment–the latter extrafiscal purpose–to the polluting physical unit, has allowed the doctrine to be able to elaborate the theory presented, in terms of environmental assumption, reversing the traditional theory on the extrafiscality of the environmental toll”. See also A. Dagnino, *La potestà normativa delle Regioni e degli Enti locali in materia di fiscalità ambientale*, [in:] Riv. dir. trib. intern., 2004, 329, for whom the *divisio* trace has significant implications of a dogmatic nature, which deserve to be deepened. (a) Taxes “with an environmental function” (whether taxes or charges) may have two different connotations. a. 1) First, all those “purpose” levies, the proceeds of which are, by law, intended in whole or in part for the construction of environmental protection and/or restoration works, may play an environmental role. The environmental function is highlighted, in a mediated way, because of the specific allocation of revenue, provided for by Law a.2) Secondly, those taxes within which penalising tax institutions are introduced, intended for the pursuit of extrafiscal objectives, of environmental policy must be considered. I. Taxes with an environmental function therefore tax traditional indices of ability to pay (income, wealth, consumption, production, business) but contain a discipline which hits more severely (penalisation) cases in which there is a link between the ability to pay and the performance of an activity harmful to the environment. This increased taxation leads to a difference in tax treatment between cases affected by the levy, which presupposes the adoption of an environmental *tertium comparationis*. In other words, the situation of those who make a certain amount of taxable amount by not polluting is assessed as different, for the purposes of taxation, from that of those who produce the same amount of wealth and harm the environment. The theoretical justification for such charges is therefore *mutatis mutandis*, the same as that which underlies the facilities by which activities which are the subject of promotion and/or protection based on constitutionally relevant principles are favoured. In the case of taxes for environmental purposes, the principle which is considered, to justify the most burdensome treatment, is that referred to in Art. 32, Cost.

Particularly sophisticated is the one used by the Revenue Agency to acquire information related to balances and movements of current accounts as well as other types of reports, by financial intermediaries. The technological characteristics of the system will allow the progressive extension to other types of flows that are characterized, mainly, by the large volumes of data exchanged. Fundamental in this context is the role of **SOGEI (General Society of Informatics. Limited Company or Joint stock company)** in charge of managing and organizing information systems on behalf of the Ministry of Economy and Finance (and also of the Court of Auditors) also through thematic databases to be used for “intelligence”, tax verification and economic policy decisions. In this context, SOGEI has developed control methodologies to give greater effectiveness to actions to prevent and combat evasion and to improve the quality of controls and checks in the access phase and in the reconstruction of income and business volumes, reporting the elements to be detected and the documentation to be acquired. The tools available are integrated and respond to the regulatory and organizational framework provided for the “intelligence” activities of the Administration offices and allow to carry out the controls and to provide support to the phases of contradiction with the taxpayer and tax assessment. From these first remarks, it is all too clear that new scenarios are opening that deserve to be investigated without hesitation and fear. Experimenting with fiscal instruments combined with unstoppable technological developments may therefore offer solutions which the policy-makers will be called upon to evaluate and at some point, introduce.

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