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Taxation for environmental protection: the road towards a sustainable future

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LOTTA AL
CAMBIAMENTO
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Abstract

La tesi si propone di investigare le possibili soluzioni del problema della crisi climatica attraverso gli strumenti offerti dal diritto, in particolare dal diritto tributario. In una società mutevole ed in continua evoluzione, la tassazione diventa, infatti, ancora più rilevante dato che gli scambi diventano veloci quanto quasi le connessioni che rendono le persone più vicine. Il diritto tributario si insinua, così, in ogni azione che preveda uno scambio, anche quando quest'ultimo avviene a distanza. Pertanto, nei capitoli seguenti la dissertazione seguirà un percorso lineare, dalla descrizione alla proposizione di soluzioni. Infatti, nel capitolo 1 verrà analizzato lo *status quo*, con particolare attenzione agli avvertimenti forniti dagli accademici che da anni si interessano alle sfide poste dal cambiamento climatico, sottolineando l'importanza di una transizione giusta. Nel capitolo 2 verrà affrontato il tema della tassonomia, importante sia nell'ambito tributario che in quello della finanza verde. Successivamente, nel capito 3 verranno descritte le opportunità offerte da una corretta tassazione del lavoro, in particolare nel settore dei green jobs. Nel capitolo 4 verrà trattato il tema della tassazione del mercato digitale, sia in ambito italiano che internazionale. Infine, nel capitolo verranno formulate le proposte risolutive della tesi, che comprendono soluzioni per il breve e il lungo periodo, grazie all'utilizzo di strumenti diversi. La scelta di tali strumenti sarà correlata anche ad una approfondita analisi di alcune recenti pronunce della Corte Costituzionale in tema di tassazione. Inoltre, alcune modifiche alle teorie economiche esistenti verranno proposte, anche per approfondimenti future, nel campo della giurisprudenza e dell'economia.

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Introduction

Kenji Miyazawa[1] wrote "*Ame ni mo makezu*"[2], which can be translated as the exhortation "*don't give up to rain*". As the climate crisis represents the current challenge of the world, Miyazawa's metaphor suits to the time we live in. Environmental disasters are more frequent every day, and the public consciousness appears to be too often detached from realty. For the first time after the '60s, the new generation appears to be very far away from their parents' one. A discrepancy of reasoning exists, and the youths are demanding for their right to grow old. Planet Earth is undeniably in danger and, even if, a unique reason of that hasn't been identified yet by scientists, everyone understands the importance of fixing it. The modern society, now more than ever, seems to be a schizophrenic entity. The world has probably never been as united and divided at the same time, as it is today. States have to face new generations' demands while containing other issues coming from the current socio-political global conditions.

The present dissertation aims at digging in the current issue of the climate crisis, and what comes with it, from a legal perspective. More precisely, since the new challenges ask for innovative solutions, and thus new funds, the present work analyses the battle against the climate crisis fought utilising the tax law artillery. In an always changing society, taxation becomes even more relevant, since faster the connections are, more common the exchanges happen. Therefore, tax law lies in between every action of our lives, where an interaction in the exchange form is subtended.

Cicerone's reasoning[3] comes to mind when the contrast between generations becomes so hard that starting a dialogue appears almost impossible.

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[1] Japanese poet, lived from 1896 to 1933.

[2] Title of the poem in japanese 雨ニモマケズ.

[3] See: G. Giliberti, 2015, *L'ius gentium romano come ordinamento transnazionale*, in Cultura giuridica e diritto vivente, Rivista on line del Dipartimento di Giurisprudenza Università di Urbino Carlo Bo, Saggi, Vol. 2, nota n. 70: "*Cic., Off., 3.69 s. La distinzione fra diritto positivo e naturale, che Cicerone attinge soprattutto dagli Stoici e da Aristotele, può essere fatta risalire almeno a Eraclito.* See: E. Costa, 1927, *Cicerone giureconsulto, Bologna 1927, p. 17;*
p. 10: "*Secondo Cicerone, iI* 'commune ius gentium'*, che tutti i popoli conoscono, potenzialmente coincide con la* 'lex naturae'. *Esso è il* 'verum ius'. *I suoi eterni principi di giustizia sono universali e interculturali, validi per l'intera societas hominum e per ciascuno dei gruppi etnici (gentes, ovvero*

Globalisation, though, seen through the *ius gentium*'s lenses turns into a more relatable and human being-oriented conception.

With reference to the climate crisis, youths are asking clearly for their right to live. Therefore, many States, Italy included, are incorporating in their fundamental charts an intergenerational obligation recalling the importance of fundamental rights existing before a civil society. In this way, the *ius gentium* becomes the starting line where to begin to rebuild a sustainable society. Hence, to provide the needed revenues to offer services and opportunity for the gentrification, building up a sustainable society, a sustainable fiscal system is mandatory.

The following chapters will begin from an analysis of the *status quo*, of which academics have been warning about for almost ten years, when the concerning from the climate experts were rising but not listened to, until the more recent time, when the problem has been fractionated. In particular, the theme of the current climate crises will be described in chapter 1, focusing on the response of the nature to the human activities in order to explain why the green transition must encompasses the concept of justice. Subsequently, the interactions and connections existing between tax law and the environment will be explained in chapter 2, describing the taxonomy's issues tackled also by the European Union. In chapter 3, instead, the opportunities offered by a proper taxation within the labour sector will be analysed, and the peculiarity of the green jobs sector will be investigated. Then, the specific issues faced by the taxation of the digital market will be deepened in chapter 4, where the importance of a global approach to taxation will be described. Finally, the conclusions and new propositions of the thesis will be reported in chapter 5, suggesting some upgrades to the current economic approaches and new types of taxation to be applied on the short and long term, in order to achieve a sustainable and fair green transition.

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nationes) che la compongono. Il diritto naturale vige anche all'interno di quei gruppi sociali più ristretti e vincolanti che sono le comunità politiche (populi, civitates)".

Chapter 1
The climate crisis

1. Extreme environmental weather events

The climate change phenomenon, which has been triggered by human activities mostly, evolved over the last twenty years in a true crisis for the planet Earth's climate conditions.

Until ten years ago, extreme weather events used to happen in south-Asian continents, but nowadays, with the general upgrading of earth's temperature, Europe, and the Mediterranean area also have been touched.

In 2023, Emilia Romagna was impacted by a flooding that destroyed agricultural fields, houses, and lives. That has been an example of what is called an extreme climate event, turning out into an environmental disaster, that cost Italy (only in terms of money) almost 9 billion euros[4]. Environmental disasters like the one described are the most visible effect of the current climate crises.

In 2023, at the same time as the flooding was happening in Italy, some customers were buying t-shirts, in a mall, made by any globalised brand for 10 €, knowing that the price should theoretically be only the result of the production's cost added to the VAT[5], in Italy the 22% of the price. Those customers might not be aware that the production of that single item is, on scale, one of the many triggering human activities which have been determining the raise of the climate crisis, and thus of the flooding. Unfortunately, the same reasoning can be applied to any good when Corporate Social Responsibility principles are not observed. Therefore, in terms of costs, those initial 10 € paid for an item representing the total

[4] To read more about the cost of the climate crisis in Italy: GREENPEACE, 2021, *Quanto costa all'Italia la crisi climatica?* Focus su eventi estremi come alluvioni e frane, http://greenpeace.it.
[5] VAT: Value Added Tax.

price, should have had included not only the production cost plus the VAT, but also the effects of that production and delivery process had on the environment. Thence, to that initial price also the Emilia Romagna's reconstruction cost, which is paid partially by the same customers as taxpayers, should have been added. Considering all the implications then, those consumers would have probably chosen a different item.

The example above is extremely simplistic, but it highlights the strict interrelation existing between tax revenues, corporates' behaviour, and customers' aware choices related to the current climate crisis issue. In this respect, as it will be seen later, economics' scholars are starting to calculate the real price of a good as described above, in order to implement consumers' awareness.

1.1. Unsustainable lifestyles

In order to try to find solutions to a problem, identifying and defining it is necessary. As already said, extreme weather events are the most terrifying head of a multiple headed monster that humanity is currently facing, which is the climate crisis. Unsustainable lifestyle gave birth to it. In fact, the latter is a multidimensional threat since it involves an individual's lifestyle and global community consumption's trends, which constitute a mirror and an amplifier to individual behaviours.

Moreover, unsustainability assumes a temporal dimension, since its effects fall back on future generations for the years, and maybe, the eras to come.

As it is easy to understand, unsustainability has a twofold dimension in industrial relations. In fact, an unsustainable consumers' lifestyle coincides with an unsustainable production style. Humankind, at least in those countries affected by the first and the second industrial revolutions, has always produced, and consequently consumed, in a linear way. With the third industrial revolution, which happened in the second half of the XX century, western countries initially lost the chance to pave a different path, since the digitalisation exacerbates the unsustainable consumption lifestyles already put in place, instead of reconciling men with nature. Through this boundless way of production and consumption, the earth has been exploited too much. Thus, our planet Earth is now exhausted.

In this regard, many studies have analysed the relationship between a certain consumption mechanism and an unsustainable lifestyle. According to the Veblen effect[6], "*lower ranked individuals work more to replicate the lifestyle of higher ranked individuals*"[7]. This upbuilded cultural necessity is, at the same time, the cause and the effect of the globalised economy, and more specifically of the linear economy. The latter is just the mirror of a society that proceeds at a too fast paced endangering the natural equilibrium needed for its own survival.

2. Sustainability: concept and definitions

As a starting point, identifying the meaning of sustainability appears to be useful in order to deepen the analysis of the theme. Humanity has always wanted to grow, to evolve, and to develop. In present days, we are assisting to the development of many countries, located in the southern and the eastern part of the world. The only way to conciliate the human willingness to progress and its own survival on the planet is to foster a sustainable lifestyle, thus a sustainable development. Many definitions of sustainable development have been followed over the years, recalling the ones which contributed to create the most recent definition might be useful and enlightening.

In 1987, the WCED[8] in its Report's conclusions wrote that "*Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs*"[9].

[6] See: L. S. Bagwell, B. D. Bernheim, 1996, *Veblen Effects in a Theory of Conspicuous Consumption*, The American Economic Review, 86(3), 349–373, http://www.jstor.org/stable/2118201. In particular, at p. 1 it reads: "*In his celebrated treatise on the "leisure class," Thorstein Veblen (1899) argued that wealthy individuals often consume highly conspicuous goods and services in order to ad- vertise their wealth, thereby achieving greater social status*".

[7] See: L. Chancel, A. Hough, T. Voituriez, 2018, *Reducing Inequalities within Countries: Assessing the Potential of the Sustainable Development Goals*, in Global Policy Volume 9, Issue 1, pp. 5-16.

[8] World Commission on Environment and Development.

[9] WCED, 1987, Report of the World Commission on Environment and Development: Our Common Future, Our Common Future: Report of the World Commission on Environment and Development (un.org), par. 3; retrieved at url https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf.

Therefore, the concepts *needs of the present* and *future generations* started already to be the focus of the discussion.

In 1991, the IUCN[10], the UNEP[11], and the WWF[12] defined sustainable development as "*improving the quality of human life while living the carrying capacity of supporting ecosystems*"[13]. In the *Caring for the Earth* document, it is possible to find almost every aspect of sustainability that has been developed and considered in the following similar reports and statements, published by institutional or para-institutional bodies. In fact, the writers were already conscious of the interpretational utilisation of the adjective *sustainable*. Thus, they attached it to diverse spheres of interest, such as economy, society, and use[14].

Another element that deserves to be understood, is the similarity between the objectives, or better, the spheres of action, proposed by the cited document and the more recent UN 2030 Agenda for sustainable development structure. In this respect, the year 2000 had been already set by the *Caring for the Earth* document as a sort of deadline by which the goals should have been achieved has been sadly past due.

In 1992, the so-called *Rio Declaration*[15], issued on the occasion of the *United Nations Conference on Environment and Development*, can be considered as a milestone for the sustainability movement. A series of principles have been set, but again, sadly, almost none of them has been fully achieved up to date. Relevant to the industrial relations focus is principle number eight of the Declaration, which states "*To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies*"[16]. Despite its international reputation, the *Rio Declaration* appears to be less visionary than the

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[10] International Union for Conservation of Nature.

[11] United Nations Environment Programme.

[12] World Wild Fund.

[13] See: IUCN, UNEP, WWF, 1991, *Caring for the Earth*, A strategy for Sustainable Living, url: https://wedocs.unep.org/20.500.11822/30889.

[14] See "Box 1" of the document *Caring for the Earth*, p. 10.

[15] General Assembly of the United Nations (1992), *Report of the United Nations Conference on Environment and Development* (Rio De Janeiro, 3-14 June 1992), Annex I Rio Declaration on Environment and Development, A/CONF.151/26 (Vol. I).

[16] Principle no. 8 of the Rio Declaration on Environment and Development, url: https://www.cbd.int/doc/ref/rio-declaration.shtml.

Caring for the Earth document. In fact, several principles report's words recall individualistic concepts. Primarily, principle number 2[17] is keener to the States' right to exploit their lands, than to the collective wellbeing. Moreover, in principle number 5 a reference to the "*majority of the people of the world*"[18] can be found, instead of a mention of all the inhabitants of the world, probably considering that such an extension could have been exposed to the risk to be judged as a bit utopistic, since they usually embody the best hope of a community. For the reasons exposed, the present thesis will not utilise the definitions given by the *Rio Declaration*, except for a critical analysis.

In the late nineties and the early twenties, a variety of definitions for sustainability, and thus for sustainable development, have been created at European and international level, but it is only in 2015, with the signature of the UN 2030 Agenda[19] that a renewed institutional interest for the matter has been put on the decision table. The Assembly assumed three dimensions of interest for sustainable development: the economic, the social and the environmental ones; in order to set the "*17 Sustainable Development Goals with 169 associated targets which are integrated and indivisible*"[20].

The fiscal topic falls in goal number 10[21], together with social protection, because they are strictly linked. As of now, the choice of considering two dimensions for fiscality (the national, and the international) must be underlined, since equality within and among countries will be largely discussed in the following chapters. Another aspect that needs to be highlighted is the lack of the use of nouns such as circular or circularity, even if only ten years have passed since then, and the

[17] Principle no. 2 of the *Rio Declaration*, Annex I: "*States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction*".

[18] Principle no. 5 of the *Rio Declaration*, Annex I: "*All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world*".

[19] General Assembly of the United Nations, 2015, *Transforming our world: the 2030 Agenda for Sustainable Development*, (A/RES/70/1).

[20] See the *Preamble* of the UN 2030 Agenda.

[21] Goal no. 10 of the UN 2030 Agenda: Reduce inequality within and among countries. "*10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality*".

importance of a circular approach to make the difference in the sustainability challenge is today widely recognised and welcomed.

On the contrary, the climate change is extensively considered in the UN 2030 Agenda, as well as for its effects as a phenomenon to be tackled through the sustainable development. Besides those critical considerations, the importance, and the impact of the UN 2030 Agenda on States' policies cannot be neglected[22].

2.1. A sustainable development: the European path

With reference to the UN 2030 Agenda, in 2016 the European Commission subscribed to the Union's full commitment to the achievement of the Sustainable Development Goals (SDGs)[23]. In fact, between 2018 and 2019 the EU put in place several regulatory acts belonging to the *Clean Energy Package*, which set the energy efficiency and renewable energy goals for the 2030 horizon.

In 2020, when the pandemic of COVID-19 hit the world, the European Union Member States initially closed their borders, physically and metaphorically. But eventually, they came up with the reasoning that the only way out from the pandemic effects was together. Therefore, they enabled a series of measures, which still are contributing to create a more sustainable development within Europe, and indirectly out of it.

In this respect, in 2021 was announced a new package aiming at reducing emissions in Europe, the *Fit for 55 package*. Through it, the "*European climate law makes reaching the EU's climate goal of reducing EU emissions by at least 55% by 2030 a legal obligation*"[24].

From a broader perspective, the *European Green Deal* (see chapter no. 2) aims at achieving climate neutrality by 2050, accomplishing the commitments assumed with the *Paris Agreement*. The European Union's institutions realised that a future for Europe cannot exist without a sustainable development programme.

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[22] The Sustainable Development Goals replaced the Millennium Development Goals (MDGs), adopted in 2000.

[23] See the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Next steps for a sustainable European future*, European action for sustainability, SWD(2016) 390 final.

[24] See: *Fit for 55 - The EU's plan for a green transition* - Consilium (europa.eu).

Cooperation is mandatory. A recent milestone for the European Union has been achieved with the adoption by the European Parliament of the *Nature Restoration Law*[25], which aims at ensuring "*the recovery of biodiverse and resilient nature across the Union territory*"[26], according with the European Green Deal's roadmap. In article number 3, the Law sets many definitions, such as ecosystem[27], restoration[28], habitat of a species[29] and good conditions[30], which need to be shared between Member States in order to adopt coherent strategies in different territories. Also, the deadlines scheduling appears to be strict, since the first goal is set for 2030, similarly to the UN 2030 Agenda's timeline. However, Member States "*shall, as appropriate, until 2030 give priority to restoration measures in areas that are*

[25] See also: Position of the European Parliament adopted at first reading on 27 February 2024 with a view to the adoption of Regulation (EU) 2024/… of the European Parliament and of the Council on nature restoration and amending Regulation (EU) 2022/869, P9_TA(2024)0089, Nature restoration, European Parliament legislative resolution of 27 February 2024 on the proposal for a regulation of the European Parliament and of the Council on nature restoration, (COM(2022)0304 – C9-0208/2022 – 2022/0195(COD)).
[26] European Parliament, COM(2022)0304, Whereas no 1: "*(1) It is necessary to lay down rules at Union level on the restoration of ecosystems to ensure the recovery to biodiverse and resilient nature across the Union territory. Restoring ecosystems also contributes to the Union climate change mitigation and climate change adaptation objectives*".
[27] See article number 3, par. 1: "*'ecosystem' means a dynamic complex of plant, animal, fungi and microorganism communities and their non-living environment, interacting as a functional unit, and includes habitat types, habitats of species and species populations*".
[28] See article number 3, par. 2: *"'habitat of a species' means habitat of a species as defined in Article 1, point (f), of Directive 92/43/EEC*" - *…habitat of a species means an environment defined by specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle*.
[29] See article 3 (3): *"'restoration' means the process of actively or passively assisting the recovery of an ecosystem in order to improve its structure and functions, with the aim of conserving or enhancing biodiversity and ecosystem resilience, through improving an area of a habitat type to good condition, re-establishing favourable reference area, and improving a habitat of a species to sufficient quality and quantity in accordance with Article 4(1), (2) and (3) and Article 5(1), (2) and (3), and meeting the targets and fulfilling the obligations under Articles 8 to 12, including reaching satisfactory levels for the indicators referred to in Articles 8 to 12*".
[30] See article 3, par. 4: "*'good condition' means, as regards an area of a habitat type, a state where the key characteristics of the habitat type, in particular its structure, functions and typical species or typical species composition reflect the high level of ecological integrity, stability and resilience necessary to ensure its long-term maintenance and thus contribute to reaching or maintaining favourable conservation status for a habitat, where the habitat type concerned is listed in Annex I to Directive 92/43/EEC, and, in marine ecosystems, contribute to achieving or maintaining good environmental status*".

located in Natura 2000 sites"[31]. *Natura 2000* was set up in 1992 by the European countries, and it is still the most extended network of protected areas in the world[32].

Furthermore, the *Nature Restoration Law* introduces a monitoring and a reporting system, according to which the monitoring systems shall be carried out by Member States at least every six years, and the EEA[33] by 31 December 2028 and every three years thereafter, shall provide to the Commission a technical overview of the progress made to achieve the targets.

Another important act adopted recently is the proposal for a Directive on the protection of the environment through criminal law[34], since it gives a definition of 'legal person' at the extent of the directive's matter, that Member States shall embrace and insert in national regulations. For this purpose, legal person, in the adopted version of the Directive[35] "*means any legal entity having such status under the applicable national law, except for States or public bodies exercising State authority and for public international organisations*"[36].

Anyway, in this case the European institutions have missed the opportunity to draw, and thus include, financial crimes related to fiscality which have a direct impact on the environment. In fact, as will be seen in the next chapters, tax avoidance practices put in place especially by large enterprises can affect the climate conditions of the countries where they operate.

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[31] See article number 4, titled *Restoration of terrestrial, coastal and freshwater ecosystems*, "*1. Member States shall put in place the restoration measures that are necessary to improve to good condition areas of habitat types listed in Annex I which are not in good condition….)"*.
[32] See European Environmental Agency's website: "*In 2021, there were about 27,000 Natura 2000 sites, covering 18.6% of the EU's land area and 9% of its marine territory. The effective management of these sites is key to achieving Natura 2000's conservation aims*".
[33] European Environmental Agency.
[34] Council of the European Union (2023), Proposal for a Directive of the European Parliament and of the Council on the protection of the environment through criminal law and replacing Directive 2008/99/EC - Confirmation of the final compromise text with a view to agreement, 2021/0422(COD).
[35] Directive (EU) 2024/1203 of the European Parliament and of the Council Of 11 April 2024 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC.
[36] See article number 2 of the Directive (EU) 2024/1203.

3. Corporate social responsibility: the companies' role

The concern for the *status* of the planet Earth has been raised by scientists, politicians, and activists for many years, but so little has been done so far. Enterprises, multinational companies, and influential entrepreneurs are aware of what is at stake, but only the wiser are trying to fix the problem. Once again, since sustainability is a concern of survival for people, doing something about it is always profitable in the long run.

Corporate social responsibility[37] can come in help as a way to manage the businesses, which encompasses the hunger of the companies while respecting the lives of the creatures, humankind and other species.

Only one definition of CSR does not exist but defining its boarders can be useful. The baseline of the analysed concept is considering stakeholders as part of the company. Then, how much broader the definition of stakeholders is, the more encompassing the concept of CSR will become.

According to Freeman[38] a stakeholder can be identified as someone who can affect or be affected by the organisation's behaviours put in place to achieve its objectives. With Donaldson and Preston's work[39], stakeholders became valuable for their only existence, without references to the companies' business. Post, Preston and Sachs[40] included in their definition even involuntary individuals (or groups) and their potential value. The last characteristic is worth to be underlined, because it has introduced the potentiality of the risk that everyone engages for the only fact of living in this pacey era of consumption. The right of living, or better said the right to grow up, that the new generations are asking for is strictly linked to the value at risk cited by Post, Preston and Sachs, which in this case is the existence of those future adults itself.

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[37] CSR.
[38] See: R. E. Freeman, 1984, *Strategic Management: A Stakeholder Approach*, Pittman, Marshfield, MA, p. 52.
[39] See: T. Donaldson and L. Preston, 1995, *The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications*, Academy of Management Review, 1(20), pp. 65-91, doi:10.2307/258887.
[40] See: J. E. Post, L. E. Preston and S. Sachs, 2002, *Redefining the Corporation, Stakeholder Management and Organizational Wealth*, Stanford University Press, Stanford.

Despite CSR has been under the spotlight for the past few years, the the bias effect phenomenon has been happening frequently. The so-called green washing[41] can be considered antithetical to a management inspired by Corporate Social Responsibility's principles. In fact, green washing practices mainly consist in creating an environmentally friendly image of the brand, only as a cover for what really happens in factories, supply chains' laboratories and logistic warehouses.

As many other topics related to sustainability, Corporate Social Responsibility can be investigated from several perspectives, the most popular of them is undoubtedly the one concerning the management's issues.

However, from a legal point of view small steps have been done in the last years to persuade enterprises to take accountability for their actions, and thus to shift the focus from a sort of charity issue to binding mechanisms which would allow people, as stakeholders, to ask for companies' responsible behaviours.

4. The role of the States: the green transition

The International Energy Agency[42], in the *World Energy Outlook 2023*[43] underlines that the risk of further disruption in the energy world is still present, even if the global energy crisis has recently eased. Moreover, the Agency represents that the "*global demand for coal, oil and natural gas to all reach a high point before 2030 in the STEPS*[44]"[45]. For this reason, States which want to foster the green

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[41] To deepen the green washing topic, see: C. Río, K. González-Álvarez, FJ. López-Arceiz, 2024, *Examining greenwashing and SDG-washing: an analysis of corporate engagement with the SDGs*, Sustainability accounting, management and policy journal (Print), 2024;15: pp. 412-456;
J. Diener, 2023, *Impact case or impact washing?* An analysis of investors' strategies to influence corporate behavior, Sustainability accounting, management and policy journal (Print), 2023;14: pp. 1002-1021.
[42] The IEA.
[43] See: International Energy Agency, 2023, *World Energy Outlook 2023* - Executive Summary, IEA Publications.
[44] Stated Policies Scenario.
[45] In particular, the World Energy Outlook 2023, Executive Summary, p. 4, remembers us that "*We are on track to see all fossil fuels peak before 2030 A legacy of the global energy crisis may be to usher in the beginning of the end of the fossil fuel era: the momentum behind clean energy transitions is now sufficient for global demand for coal, oil and natural gas to all reach a high point before 2030 in the STEPS. The share of coal, oil and natural gas in global energy supply – stuck for decades around 80% – starts to edge downwards and reaches 73% in the STEPS by 2030. This is an important shift. However, if demand for these fossil fuels remains at a high level, as has been the case for coal in recent years, and as is the case in the STEPS projections for oil and gas, it is far from enough to reach global climate goals*".

transition and achieve the goal of a 1.5° temperature reduction should move fast and together. Luckily, a hard nudge is coming from China, which is one of the heavyweight nations in negative externalities.

Nevertheless, many experts warn the public audience about the risks related to a not so green transition, meaning that the way chosen to put in place the transition will become very important in terms of effects on the health of the planet and the humankind. For example, one of the problems is represented by the waste produced by processes which are considered green, such as radioactive waste coming from nuclear energy production and the disposal of devices, such as batteries used for electric mobility.

Comparing the IEA's World Energy Outlook 2023 to the OECD[46]'s *Global Material Resources Outlook 2060*[47], some observations can be marked.

Firstly, in line with the IEA's report, the OECD highlights that technological development will help to drop the future production of externalities in the industrialised processes. However, according to the OECD, since the production and consumption area of interest is shifting from developed countries to the developing countries, the increase of their *pro capita* income would produce a growth of materials utilisation of about six times in 2060 compared to 2011.

The projections traced by the OECD are important and closely linked to the worries expressed by some scholars and scientists about the materials that will be used to actuate the green transition. In fact, even when the GHG[48] emissions are under control, detrimental consequences can be generated from production processes, especially when the extraction of materials is involved. According to the *2060 Energy Outlook* "*If materials use were to keep up with economic growth (measured as growth of gross domestic product) total materials use would surpass 350 Gt*[49] *in 2060*"[50]. For this reason, at the end of the report the OECD recalls the

[46] The Organization for Economic Cooperation and Development.
[47] OECD, 2018, *Global Material Resources Outlook to 2060 – Economic drivers and environmental consequences*, OECD Publishing, Paris.
[48] Greenhouse Gases.
[49] Gigaton.
[50] See: OECD, 2018, Global Material Resources Outlook to 2060 Economic drivers and environmental consequences HIGHLIGHTS, OECD Publishing, Paris, p. 10.

importance of a sustainable solution: the *RE-CIRCLE Project*[51]. This project aims at quantifying the impacts of those policies which foster a circular economy, and reports such as the *Global Material Resources Outlook 2060* help to demonstrate that linear schemes of production and consumption are no longer sustainable.

Against this complex global backdrop, in which the legitimate hunger of growing that the developing countries have must be considered, some decisions coming from the so-called developed countries are shocking. Analysing the green transition having an omni comprehensive view is mandatory. The planet Earth is complex and contains various diverse ecosystems, as the *Nature Restoration Law*[52] underlines.

As António Guterres said, "*We need better management and sustainable use of the ocean's resources to foster not only a green, but also a blue recovery from the COVID-19 pandemic*"[53].

Recently the Norway government took a controversial decision, which has been opposed by scientists and environmentalists all over the world, but the news has not had the deserved attention due to the current geopolitical world's situation. In fact, Norway's decision to realise deep-sea extraction of valuable minerals is the opposite of what the environmental community expected from a country which co-chair the *High Level Panel for a Sustainable Ocean Economy* (now called the *Ocean Panel*[54]). In this respect, only in 2020 a report commissioned by the *Ocean Panel* called a pause on deep-sea mining, waiting for a definitive ban, because "*If mining was to go ahead with the current state of knowledge, species and functions could be lost before they are known and understood*"[55].

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[51] To read about it, consult: OECD, 2022, The economics of the transition to a more resource-efficient, circular economy The OECD RE-CIRCLE project, policy perspectives, OECD Environment Directorate.

[52] See whereas no. 5 of the European Parliament, COM(2022)0304: "*The UN Sustainable Development Goals47, in particular goals 14.2, 15.1, 15.2 and 15.3, refer to the need to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands.*

[53] António Guterres, former secretary-general of the United Nations, during a speech given in London, December 2nd, 2020, for the *14 World Leaders Commit to 100 Percent Sustainable Ocean Management to Solve Global Challenges*, url https://oceanpanel.org/14-world-leaders-commit-100-percent-sustainable-ocean-management-solve-global-challenges/.

[54] Italy is not a member of the Ocean Panel.

[55] L. A. Levin, D. J. Amon, H. Lily, 2020, *Challenges to the sustainability of deep-seabed mining*, Nat Sustain 3, 784–794, https://doi.org/10.1038/s41893-020-0558-x.

Actions like this, that appear to be schizophrenic and adverse to the *European Green Deal*, destabilise the current globalised commitment for the climate crisis issue, making it more difficult achieving a victory. As a matter of fact, *Ocean Panel*'s committed papers had previously shown that a healthier ocean represented a smart investment, and that including ocean economy in the recovery way out to the COVID-19 pandemic's effects would have been a wise choice. The authors of the paper *A Sustainable Ocean Economy for 2050* assert that "*every $1 invested in increasing production of sustainably sourced ocean-based protein (to ensure a healthy, balanced diet by 2050) is estimated to yield $10 in benefits*"[56].

Losing opportunities such as this one underline that the incapacity of policy makers at committing to fair and just initiatives, often because even if they are profitable on the long run, they do not respond to the immediate urgency of *consensus* that politicians seem to need in order to be confirmed. In this respect, Walter Rathenau[57]'s reasoning should be briefly recalled. He thought that the economic sphere could not be separated from the political sphere[58]. They are knotted together. This teaching cannot be left out, because of the recent changes that the world is facing.

4.1. The green transition must be JUST

It is important to remember that sustainability is a broad concept, in which the environment is considered as a multifaceted ecosystem. In order to maintain, or restore, nature's equilibrium, sustainability has to encompass every aspect of the human life. Hence, the environmental segment of sustainability cannot be embodied in the narrow and strict view of a greener habitat.

In several countries, some steps forward to the effective setting of policies for the time to come have been already put in place. Regulations like these are pivotal to make the people's request for sustainability legit. In this regard, it should

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[56] High Level Panel for a Sustainable Ocean Economy, 2020, *A Sustainable Ocean Economy for 2050*, Approximating its benefits and costs, p. 5.
[57] 1867 – 1922.
[58] See: C. Joerges, 2022, *Economic Constitutionalism and "The Political" of "The Economic"*, in The Idea of Economic Constitution in Europe, Leiden, The Netherlands: Brill | Nijhoff, https://doi.org/10.1163/9789004519350_027.

be noticed that many States committed to the achievement of the *Sustainable Development Goals* identified by the United Nations 2030 Agenda. Even the *European Green Deal* cited above, as a matter of fact, is an integral part of the EU Commission's strategy to implement the United Nations 2030 Agenda.

Analysing the subject, the most recognisable innovation made by the SDGs in comparison with the *Millennium Sustainable Goals* (MSGs) is represented by the space and the multi dimension given to the inequality issue. This is considered not only as an international problem, but also and foremost as a national issue. Inequality existing within the country makes unequal standards even more dangerous, because the visibility of inequality itself is put at risk.

In this respect, the accomplishment of goal no. 1 of the SDGs (*no poverty*), brings with it the effort to overcome the challenges connected to these macro-objectives, which are represented by many of the other SDGs. In fact, sectors such as infrastructures, workers' opportunities, labour conditions, and climate change's awareness must be implemented, in order to eradicate poverty.

From a legal perspective, many countries made it easier for citizens to ask for the right to grow up, since they have inserted the environment as a goal in their fundamental charts as recalled above. When a right acquires constitutional dignity, it becomes a principle that can be used as a parameter to verify adequacy and compliance to the Constitution of national laws and decrees.

In 2022, the Italian Government too modified the Constitution, and the environment was introduced in article 41[59], as a good to be protected before private economic willingness. Moreover, public and private economic activities can now be oriented towards environmental purposes by the law. This represents an enormous step to build up a more aware country, because this amendment gives voice to those who protect their lives through the protection of the environment, they happen to live in.

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[59] Constitutional Law of 11 February 2022, No. 1, in Official Gazette No. 44, of 22 February 2022, provided, by Article 2, para. 1, letter a), for the amendment of Article 41, par. 2; and, by Article 2, par. 1, letter b), for the amendment of Article 41, par. 3: "*Private economic enterprise shall be free. It may not be carried out against the common good or in such a manner that could damage health, the environment, safety, freedom and human dignity. The law shall provide for appropriate programmes and controls so that public and private-sector economic activity may be oriented and co-ordinated for social and environmental purposes.*" (translation retrieved on the Senato della Repubblica website, url: https://www.senato.it/sites/default/files/media-documents/Costituzione)

In addition to that, the reference to the social commitment just next to the environmental one, must be noticed and underlined. In fact, since sustainable development, as previously analysed, is a broad concept, the green transition which is a transition towards sustainability must be just. The word *justice* is not intended, neither by the United Nations nor by the European Union, in a philosophical way. It simply stands for the need for equality, as an up-scaling equality. This clarification appears to be required due to the fact that environmental equilibrium can be achieved also in unequal ways, as Pareto's efficiency[60] explains and demonstrates.

Moreover, a just transition seems to be the only possible transition because dividing the natural world into smaller areas of exploitation or restoration, is not functioning. The ecosystems are linked, they convey in nature which must be seen at the same time as a whole and a set of little ecosystems.

Therefore, as it will be illustrated in the next chapters, the concept of justice must be intended as fairness (see chapter no. 2), since many people who are currently paying in terms of life's quality for the negative externalities, are not the same people who actually acted in order to generate those negative externalities.

[60] To deepen the theme, see: A. Montesano, 1997, PARETO'S ANALYSIS OF EFFICIENCY AND ITS INTERPRETATION. *History of Economic Ideas*, *5*(3), 7–18. http://www.jstor.org/stable/23722572.

Chapter 2

Tax law and the Environment

1. Why is taxation pivotal to protect the environment? – 2. A useful ally: the sustainable finance – 3. Tax law and environment: taxonomy issues – 3.1. Sustainable finance's taxonomy – 4. The European Union's role – 5. Environmental tax law and fairness.

1. Why is taxation pivotal to protect the environment?

The power of taxation is well displayed by the current geopolitical situation, which has exacerbated the cause-effect relationship exiting between taxation, the economic markets, and the financial market[61].

Since taxes' revenue represents the main source of income for the States, a fiscal approach which encompasses the green transition's issues might be either detrimental or appealing when companies decide where to set their tax residency and their productive factories. Therefore, the strict link existing between fiscality and economic political choices emerges when a government chooses what kind of policies enact. In fact, the recent step back on the fossil fuels' dismissal made by many relevant countries would be probably match with the resurfacing of classical impositions, leaving behind the concerns for the Earth's state of health. Moreover, fiscal sovereignty is a disputed theme, and it is one of the reasons why a global approach to fiscality seems difficult to be achieved if national markets closure will be pursued in the near future.

Therefore, if environmental protection and restoration stopped to be the main goal to be achieved, environmental taxation would lose legitimacy. Besides, fostering environmental imposition could guarantee to save money on the long run,

[61] On April 2nd Trump has signed an executive order imposing tariffs on all U.S. imports. Those duties will affect Europe and China, with different percentages. They were scheduled to take effect on April 9th, but they have been suspended for 90 days, except for China. The latter appears prone to respond to the U.S.A. act, trough other tariffs. Economists from all over the world are expressing their concerns about this economic market closure, which is happening.

since extreme weather events affect countries also economically, in terms of gain loss, reconstruction's costs, entrepreneurs' restoration (see chapter no.1).

However, another point of view must be taken into consideration, since revenues coming from taxes which have anything to do with the environment's preservation can be used to restore and protect the Nature anyway. Thus, questioning whether environmental taxation is pivotal to protect the environment becomes crucial. As it will be explained in the next chapters of the thesis (see chapter no. 5) the current way we (as world's population) consume is not sustainable anymore. The change we need in consumption habits must be reflected also into the production system; thus, environmental taxation represents a solid way to make companies commit to sustainability. As a matter of fact, ignoring pollution, the enormous amount of useless goods produced, and the conditions at which the majority of employees are forced to work (see chapter no. 3), and continue to tax entities only based on the profit, no matter how the profit is created, cannot be considered as a successful solution. Hence, the issues related to the current unsustainability will cost always more than the money retrieved by average taxes, which will be set, instead, more or less the same in terms of amount.

2. A useful ally: the sustainable finance

The traditional approaches of financial regulation, which are mainly two: the first one assumes that regulation must fix market failures; the second one, instead, takes into consideration that policymakers intervene through regulation to achieve policy objectives, such as for instance consumers' protection[62].

However, the second approach does not exclude the first one. In fact, since market efficiency is better and easier achieved when consumers are confident and when the market is stable, the second approach sometimes and somehow can englobe the first one. Besides, the first one does not encompass the second necessary, since it focused on the market's results, thus it also does not guarantee justice.

[62] To deepen the theme of the objectives of financial regulation, see: V. Cohalert, 2022, *The changing nature of financial regulation Sustainable finance as a new policy goal,* Working Paper Series, Working Paper No. 2022/04 (April 2022), Jan Rnose Istitute for company & financial law, "*Chapter 1. Traditional objectives of financial regulation*".

However, economics has explained over time that markets are an expression of a socially regulated form of exchange, and so they are a sort of picture that embodies the values incorporated into their schemes. Hence, the market should be useful to and be used by society, in order to fulfil its beliefs.
In this respect, the European Union's financial regulation tries to do so. In fact, the decision to create and foster an internal market starts from the willingness to build a competitive and united European front. Thus, in the financial innovation's race European Member States decided to act at supranational level rather than at national, and that choice goes beyond financial regulation. In this case financial regulation has been a consequence of that first unifying policy objective.

From the European Union perspective, macro-prudential supervision becomes essential, because it allows institutions to consider the financial system as a whole and to correctly address the measures to make financial institutions internalise systemic risk. Moreover, from a global perspective, the OECD discussions on systemic risk management and governance reveals the need for addressing global bewilderment, failures chain effects and for strengthening obduracy and adaptivity. The IRGC's *Guidelines for the Governance of Systemic Risk* state that dealing with systemic risks requires a *"dual process of identifying both problems and their interactions"*[63], therefore the *Guidelines* identify a seven-step approach which allows organisations to calculate their vulnerability in terms of systemic risk.
Considering the difference between the traditional approaches of financial regulation described above, questioning whether sustainable finance should be acknowledged as a new, autonomous objective of financial regulation or as a declination of traditional objectives only becomes pivotal[64]. In order to understand why academics are tackling this theme, recalling the latest steps made by the European Union can be useful. In 2016, the Commission[65] decided to appoint a

[63] The OECD and the International Institute for Applied Systems Analysis, *The Potential of Systems Analysis for Addressing Global Policy Challenges in the 21st Century*, ISSN: 27077934.
[64] In investigating the topic, Prof. Colaert retraces the history of the EU sustainable finance from 1992 to date.
[65] European Commission, 2016, Communication from the Commission to the European Parliament, the Council, the European central bank, the European economic and social Committee and the Committee of the Regions, *Accelerating Reform*, COM(2016) 601 final.

group of experts[66] to draft a re-designed plan. The HLEG has stated that *"more than 30% of respondents*[67] (of the Report's survey)[68] *underlined the importance of a clear policy and regulatory framework setting out a long-term EU strategy on sustainability and providing a conducive environment for sustainable investment and subsequent finance"*[69].

The HLEG has set two imperatives, which can also be found in the *Action Plan: Financing Sustainable Growth*[70], expressed using a different wording and numbering. In fact, the sustainable finance Action Plan includes three objectives, mentioning both ESG[71] factors and long-termism, which are connected as incorporating ESG factors into the investment decision-making would foster long-term investments. Moreover, the *European Sustainable finance package*, firstly published in April 2021 and then updated in June 2023[72], aims at directing finance towards the *European Green Deal*[73].

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[66] High Level Expert Group.

[67] The respondents included institutions, organisations, and private citizens. The latter are pivotal to the transition towards a sustainable finance, because the young investors are different from the previous generations of investors. In particular, millennials ask for transparency, and they are usually able to find out ambiguous or contradictory practices. They also are more educated than their forebears, thus they often have the capability to make conscious decisions. Given the consumers' demand, market players ask for a clear playfield in order to achieve sustainable finance, while continuing to gain profits.

[68] EU-High-Level Expert Group on Sustainable Finance, Secretariat provided by the European Commission, *Financing a Sustainable European Economy - Final Report*, 2018.

[69] HLEG, *Summary of the contributions to the HLEG on sustainable finance - Consultation document*, 2018, p. 5, par. 3. "Most important issues for the development of sustainable finance and comments on the interim report policy recommendations".

[70] European Commission, 2018, Communication from the Commission to the European Parliament, the Council, the European central bank, the European economic and social Committee and the Committee of the Regions, *Action Plan: Financing Sustainable Growth*, COM(2018) 97 final. At page 1, long-termism is already mentioned: "*This is necessary if the EU is to develop more sustainable economic growth, ensure the stability of the financial system, and foster more transparency and long-termism in the economy*".

[71] Environmental, Social, and Governance.

[72] The latest Factsheet: Sustainable finance: Investing in a sustainable future can be retrieved at the url:https://finance.ec.europa.eu/document/download/fbb0ae0d-3615-4c7d-b71e-edd5288c3027_en?filename=230613-sustainable-finance-factsheet_en_0.pdf. In the box dedicated to the investment's types, investing in new green activities and upgrading production technology are both indicated, as a tool to achieve sustainable finance.

[73] As the European Council describes, "*The European Green Deal is the EU's growth strategy. Launched in 2019, it consists of a package of policy initiatives, which set the EU on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050"*. In 2019 the European Commission adopted the Communication from the Commission to the European Parliament, the Council, the European central bank, the European economic and social Committee and the Committee of the Regions, *The European Green Deal*, COM(2019) 640 final.

Furthermore, managing capital flows towards sustainable investments in order to achieve a sustainable and inclusive growth has been indicated as the second goal listed by the European Commission in the *Action Plan: Financing Sustainable Growth*[74] and, according to the definition of autonomous objective reported above, it can be described as autonomous. Therefore, theoretically sustainable finance can be qualified as an autonomous policy objective of financial regulation, at least in relation with one of the objectives it is composed of. However, the measures put in place until now can be explained without reference to sustainable finance. In fact, the new perspective brought up by sustainable finance seems not to be just a declination of the standard finance, but an autonomous focus point. Financial regulation's role has become broader, it not only has to fuel economic growth, but also it must shape the market according to sustainable development principles. Therefore, sustainable finance would probably become an autonomous objective of financial regulation soon, or it might be comprehended in it. As a possible result, financial regulation could endeavour sustainable finance by default.

3. Tax law and environment: taxonomy issues

Defining a taxation type is always a complex task, since the specificity of national regulations and due to the framework in which the taxation policy is enacted. In fact, an imposition can be theorised a certain type of direct tax, but then acts as it was something different, getting away from the label that the lawmaker put on it.

As a matter of fact, environmental taxes are divided by academics in two main types, such a differentiation is not based on the structure of the levy but on the assumptions and the redistribution of revenues[75]. Indeed, a group of taxes is

[74] Communication from the Commission to the European Parliament, the European Council, the Council, the European central bank, the European economic and social Committee and the Committee of the Regions, 2018, *Action Plan: Financing Sustainable Growth*, COM/2018/097 final. Very significant to the present paragraph are actions no. 1 and no. 2, respectively "*Action 1: Establishing an EU classification system for sustainable activities; Action 2: Creating standards and labels for green financial products*".

[75] To deepen the topic, see among others: F. Picciaredda, *La tassazione ambientale e l'ordinamento interno*, in Politiche fiscali e green economy, Tendenze evolutive della transizione ecologica, ed. M. Martis, Università degli Studi di Cagliari, Pubblicazioni del Dipartimento di Giurisprudenza, Serie II, 49, Edizioni scientifiche Italiane, ISBN 9788849554805, pp. 11-20; L. Salvini, *La tassazione*

considered as environmental taxation since they tax precise behaviour which are in contrast with the goal of preservation and restoration of Nature, in this case the imposition affects the pollutant activities, or the use of pollutants. Another group consists of those taxes whose revenues are invested by the State to foster the goals related to environmental sustainability. In this case, as mentioned before the structure of the imposition can be the classical one, such as direct tax, or duties, or indirect taxation, according to the willingness of the lawmakers. As a premise, to the extent of the present thesis it is important to recall that both of the described groups are taken into consideration, since in chapter no. 5 diverse solutions and conclusions are made for each group. However, it might be useful to say already that the taxation which imposes a fiscal levy on pollutant behaviours better reflects the goals of the green transition, due to the importance given to the entrepreneurs'' choices of production and logistics. Moreover, it helps to achieve more than one of the Sustainable Development Goals (SDGs), since it encompasses a change in how we, as a society produce and consume. That said, such a type of taxation requires a long ride, before it can be enacted properly, and thus, produce its results. It represents a long-term solution.

Besides the taxation which aims at investing fiscal revenues on environmental related objectives is more suitable as a short-term solution, due to the possibility not to modify the existent fiscality's general framework. Anyway, as it will be show later in the text (see chapter no. 5), the maintenance of the frame does not imply the same amount of income for the States, since lawmakers can adapt the taxes' rates and the subjects of the imposition, in order to achieve the set goals and to begin introducing a modular system which could be reshaped when needed.

3.1. Sustainable finance's taxonomy

Regarding sustainable finance's taxonomy, which can be useful in order to build up specific forms of levy, the European Union considers systematics a

dell'energia, in Una nuova politica economica e tributaria per l'Unione Europea, Accademia Nazionale dei Lincei, Atti dei Convegni Lincei 348, Bardi edizioni, p. 199.

serviceable way to scale up sustainable investment and rapidly implement the green transition. Hence, the EU taxonomy would provide companies, investors and policymakers with appropriate definitions of economic activities that can be considered environmentally sustainable.

Moreover, EU taxonomy has been implemented by the *Climate Delegated Act*[76], which has set out, among other relevant cataloguing, the criteria functional to identify when an activity is a help for climate change mitigation referred to each type of activity listed in the Act[77]. These criteria are useful, before all, to overcome information asymmetry and then, to guarantee market integrity, thus they encompass traditional objectives. More recently, in 2023, a new Delegated Act[78] intervened, identifying different sectors of intervention, the macro areas of which are: manufacturing, water supply, urban wastewater treatment, disaster risk management, and information and communication. The CEEAG is collocated next to the EU taxonomy, as a tool that allow the public support in the energy sector, since "*These guidelines apply to State aid granted to facilitate the development of economic activities in a manner that improves environmental protection, as well as activities in the energy sector that are governed by the Treaty…"*[79] as specified in paragraph 2.1.

[76] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives.

[77] At par. 9.2 *Close to market research, development and innovation - Technical screening criteria,* the *Climate change mitigation* is described as "*The activity is not undertaken for the purposes of fossil fuel extraction, transport or use. The projected life-cycle GHG emissions from the researched technology, product or other solution do not undermine GHG mitigation objectives under the Paris Agreement or hinder the deployment of climate mitigation solutions*".

[78] Commission Delegated Regulation (EU) 2023/2486 of 27 June 2023 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to the sustainable use and protection of water and marine resources, to the transition to a circular economy, to pollution prevention and control, or to the protection and restoration of biodiversity and ecosystems and for determining whether that economic activity causes no significant harm to any of the other environmental objectives and amending Commission Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities, C/2023/3851.

[79] Communication from the Commission – *Guidelines on State aid for climate, environmental protection and energy 2022*.

At international level, the *Financial Markets and Climate Transition Opportunities, Challenges and Policy Implications* Report[80] of the OECD describes the existing differences in taxonomy between regional systems, thereby underlining the importance of clear playfield. The same Report underlines the opportunity brought to the table thanks to the insertions of the ESG factors into the decision-making process. In fact, it can unlock information relevant to investors' valuations and cover the gap in terms of information asymmetry on those specific matters, while being crucial to achieve sustainable finance. Then, edging in ESG factors into the decision making would lead to long-term investments, which are at the same time the pillars and the consequences of sustainable finance.

Regarding investment services, the ESG factors have been woven into MiFID in order to implement the *Sustainable Finance Action Plan*. In this field, fostering sustainable finance faces several challenges, since many interests are involved. In fact, intermediaries must assist clients to ensure that they make the best choice according to their willingness and profile. In this respect, on September 23rd, 2022, the ESMA published the *Final Report on Guidelines on certain aspects of the MiFID II suitability requirements*[81], where a paragraph is dedicated to the cost-benefit analysis. In particular, the *Guidelines* aim at integrating client's preferences in terms of sustainability, while integrating sustainability risk into the organisational requirements.

In the field of investment instruments, the case of Green Bonds appears quite peculiar. The *European Green Bond Standard* (EUGBS)[82] is a voluntary standard to help and encourage markets and investors to foster sustainable finance. In early 2021 Italy entered the market of sovereign bonds through the issuance of the new *BTP Green*[83]. The reason why the Italian Government has decided to issue the bonds (through the Budget Law for 2020), can be retrieved in the willingness to commit more to environmental problems and their solutions. The framework, which

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[80] Boffo, R., Patalano R., *ESG Investing: Practices, Progress and Challenges,* OECD Paris, 2020.
[81] ESMA35-43-3172.
[82] It moves from the Final Report 2018 by the High-Level Expert Group on Sustainable Finance Secretariat provided by the European Commission, where at p. 30 delves into the "*Develop and implement official European sustainability standards and labels, starting with green bonds*".
[83] As described on the MEF's website, the Btp Green are the new *Titoli di Stato italiani*, connected to the sustainable finance. Their profits will cover the State's expenses related to a positive environmental impact, and to foster the green transition (translated from italian).

is aligned with the ICMA Green Bonds Principles, contains specifications about eligible projects, allocation of proceeds, and report system. Regarding the eligible projects, the Ministry will publish a so-called *green portfolio* of specific expenditures related to the SGBs and the allocation of net proceeds will take place within twenty-four months. A quite bizarre spill-over effect has been generated by the Italian issuing of SGBs. In fact, the Government of Pakistan has published a document in which a previous partnership with the Italian Government is explicitly mentioned as the base for channelling *"outstanding payments into conservation and climate related investments via NPB*[84]"[85]. However, Natural Performance Bonds are different from green bonds and embody even a step forward in the climate crisis fighting through market solutions.

Moreover, in 2023, the European Union adopted Regulation (EU) 2023/2631[86], on European Green Bonds, according to which "*The designation 'European Green Bond' or 'EuGB' shall be used only for bonds that comply with the requirements set out in*"[87] Title II of the Regulation (*Requirements for the use of the designation 'European green bond' or 'EUGB'*)[88]. The mentioned Regulation is strictly related to the EU taxonomy, since it referred to it in several articles. In fact, regarding the proceeds of the bonds, article 5 establishes that "*issuers may allocate up to 15 % of the proceeds of a European Green Bond to economic activities that comply with the taxonomy requirements*"[89].

Considering the importance of taxonomy within the sustainable finance can be useful to reasoning about different types of taxations related to financial instruments (see chapter no. 5). In fact, the richness coming from market's stocks activities is characterised by the absence of work (intended as a daily job) and the initial investment is often inherited from the family. This type of richness is often compared and assimilated to the ancient land ownership. Therefore, taxing such a

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[84] Natural Performance Bond.

[85] Government of Pakistan, *Updated nationally determined contributions 2021,* 2021, par. 4. Climate finance, market & non-market base approaches, p.71.

[86] Regulation (EU) 2023/2631 of the European Parliament and of the Council of 22 November 2023 on European Green Bonds and optional disclosures for bonds marketed as environmentally sustainable and for sustainability-linked bonds.

[87] Regulation (EU) 2023/2631, *Article 3 Designation 'European Green Bond' or 'EuGB'.*

[88] Title II of REG(EU) 2023/2631.

[89] Regulation (EU) 2023/2631, *Article 5 Flexibility in the use of the proceeds of European Green Bonds.*

kind of wealth would represent a huge opportunity for States, which are always looking for revenues that do not affect the middle class too much, in order also to be perceived as fair (see *infra*).

4. The European Union's role

As mentioned before, the *European Green Deal* represents the Union's strategy in order to achieve green transition while fostering the growth of the Member States' economy. It has been put in place on the base of the Regulation (EU) 2020/852[90] of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, entered into force on July 18th of 2020. The said Regulation at *memorandum* n. 48 states that *"the Commission should give priority to the establishment of technical screening criteria for the economic activities that potentially contribute most to the environmental objectives"*[91] to ensure the investments' channelling towards environmental objectives.

Hence, in 2021 the European Parliament adopted the so-called European Climate Law[92], which aims at establishing a framework useful to reduce the anthropogenic greenhouse gas emissions due to the final goal of achieving the EU's climate neutrality by 2050. To the scope a European Scientific Advisory Board on Climate Change, called the Advisory Board in the Regulation has been established[93], and several Intermediate Union climate targets have been identified, thus they should be achieved by 2040.

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[90] Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.

[91] Regulation (EU) 2020/852, memorandum no. 48 "*(48) To ensure that investments are channelled towards economic activities that make the greatest positive impact on the environmental objectives, the Commission should give priority to the establishment of technical screening criteria for the economic activities that potentially contribute most to the environmental objectives*".

[92] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law').

[93] Art. 3, par. 2, of the Regulation (EU) 2021/1119 titled *Scientific advice on climate change* states that "*2. The tasks of the Advisory Board shall include:*
(a) considering the latest scientific findings of the IPCC reports and scientific climate data, in particular with regard to information relevant to the Union;

Moreover, the European Commission decided to use also instruments such as the EU Solidarity Fund and the EU Civil Protection Mechanism, in order to give support to the communities who need it the most, especially when extreme weather events happen. Fostering the investment to the green transition represents another important aspect of the European Union's activity, thus NextGenerationEU[94] and REPowerEU[95] funds aim at fostering clean investments.

Then, in February 2023, the Commission adopted the Green Deal Industrial Plan[96], which aims at providing a framework capable of boost the manufacturing sector in order to be compliant with the climate standards set by European Union. Furthermore, the *Carbon Border Adjustment Mechanism*[97], represents a first step to a global approach to sustainability, that can encompass, in the future, provision in terms of fiscal levy regardless to the place the good is made or where the raw materials are located.

Regarding the taxation possibility, the *New Corporate Sustainability Reporting Directive*[98] must be recalled since it aims at tracing down all the activities

(b) providing scientific advice and issuing reports on existing and proposed Union measures, climate targets and indicative greenhouse gas budgets, and their coherence with the objectives of this Regulation and the Union's international commitments under the Paris Agreement;
(c) contributing to the exchange of independent scientific knowledge in the field of modelling, monitoring, promising research and innovation which contribute to reducing emissions or increasing removals;
(d) identifying actions and opportunities needed to successfully achieve the Union climate targets;
(e) raising awareness on climate change and its impacts, as well as stimulating dialogue and cooperation between scientific bodies within the Union, complementing existing work and efforts".

[94] NextGenerationEU is a temporary instrument. The activities can be pursued thanks to the Recovery and Resilience Facility (RRF), which is funded by each Member State and provide grants and loans in order to support reforms adopted by other EU Member States. Those funds must be invested towards activities which foster a green and just transition.

[95] The Commission presented the REPowerEU plan on 18 May 2022, after the beginning of the war in Ukraine, in order to free Europe from the dependence on Russian fossil fuels.

[96] It encompasses the *Critical Raw Materials Act* and the *Net-Zero Industry Act*. The latter is the Regulation (EU) 2024/1735 of the European Parliament and of the Council of 13 June 2024 on establishing a framework of measures for strengthening Europe's net-zero technology manufacturing ecosystem and amending Regulation (EU) 2018/1724. The first one is the Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020.

[97] The EU's Carbon Border Adjustment Mechanism (CBAM) consists into out a price on carbon emissions produced outside the EU's borders for goods whose market is the European one. Therefore, the CBAM is built up in order to assign a carbon price to imports which must be equivalent to the carbon price of domestic production.

[98] CSRD - Directive of the European Parliament and of the Council amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting. The Directive amends the requirements identified by the *Non-Financial Reporting Directive (NFRD)*, helping SMEs throughout the difficulties they have had to

put in place by big companies, in order to calculate their carbon footprint (see also chapter no. 5). As said before, investors ask for sustainability information from companies, especially big companies listed on regulated markets. Therefore, the draft standards developed by the *European Financial Reporting Advisory Group*[99] in February 2021 are tailored according to the EU policies. Linked to the CSRD's goals, the proposal for the *Directive on Corporate Sustainability Due Diligence*[100] upheld by the EU Commission in February 2022, responded to the fact that voluntary actions haven't had been enough to reduce significantly negative externalities inside and outside European boundaries. Hence, the Directive[101] in force since 2024, complements the current NFRD *"by adding a substantive corporate duty for some companies to perform due diligence to identify, prevent, mitigate and account for external harm resulting from adverse human rights and environmental impacts in the company's own operations, its subsidiaries and in the value chain"*[102]. Article number 5 of the Directive titled Due diligence contains a reference to the duty of Member States that shall monitor companies' behaviour. Therefore, companies shall "*conduct risk-based human rights and environmental due diligence as laid down in Articles 7 to 16 ('due diligence') …*".

5. Environmental tax law and fairness

The concept of fairness is one, and maybe the most, significant aspect of the green transition. Since sustainability encompasses different matters and segments of production and consumption's processes, the transition must be fair to all the subjects that would be involved. For this reason, in the following chapters diverse

face lately, like Covid-19 pandemic effects, since the CSRD would apply only to a small group of them and only three years after being applied by big companies.

[99] EFRAG, *Final report proposals for a relevant and dynamic EU sustainability reporting standard-setting*, 2021.

[100] Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, COM (2022) 71 final.

[101] Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859.

[102] Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, COM (2022) 71 final, p. 4.

aspect of justice within the transition will be investigated, not only related to the taxation's recipients.

As seen in chapter no. 1 the people affected the most by the happening of the so-called extreme weather events are those who pollute the least. This is the main visible expression of the current unfairness we are living.

Another aspect of tax fairness that engages scholars is represented by the perception of the taxation that people have. This varies according to the nationality, the social position, and the privileges those people are used to have. Such a study will be not analysed by the present thesis, since it falls off the legal perspective, and it is nearer to the sociology and psychology's fields of study.

However, investigating whether fairness could be inserted as a guideline principle or a value to be fulfil in terms of legal compliance is pivotal to understand how far environmental taxation's tools could go in terms of detection of new expressions of richness, and how much a tax rate could affect a capital (of a person or of a legal person).

In this respect, at international level the commitment of the United Nations must be recalled, since the SDGs identify those practical goals, which becomes unachievable if fairness among people is not guarantee in every country. In fact, the concept of fairness used by the United Nation is declined as social justice, which is "*an underlying principle for peaceful and prosperous coexistence within and among nations*"[103]. In order to accomplish social justice several requirements must be fulfil; they are:

- equity, as the remembrance of the different needs of different people.
- access, as equality providing to each person the same opportunities according to his/her starting point.
- participation, as guarantying to everyone the right and the freedom to be part of the political life of the country.
- protecting universal human rights.

[103] This sentence is an extract from The Secretary-General's Message on The World Day of Social Justice, given by Ban Ki-Moon, Former Secretary-General, on February 20th in 2009.

- diversity, as valuing the differences among people as an opportunity of growth.

A link between social justice, in the wide sense described, and fairness in taxation exists, due to the need for respecting those values that ensure the Rule of Law. Our Constitution[104] identifies two principles, the Rule of Law and the progressivity principle, that must lead the lawmakers not to create arbitrary fiscal measures. Furthermore, taxation must be fair on two level, the theoretical one and the practical one, at the enactment phase. In fact, income's distortions phenomena should be avoided. The attention given to those hypothetical bias effects over the years shows that the reasoning about fairness has been a topic for the classical tax law.

Regarding environmental taxation such an issue becomes even more complex to be tackled, because other values enter the equation. In fact, taxing products which ruin or destroy the nature has become a political choice, rather than a logical reaction to the climate changes we are testifying. However, since even classical taxation must be fair, identifying natural elements as undividable and no-renewable goods, can make easier to legitimise a taxation aiming at equalising the usage of natural elements. In this respect, the necessity of avoiding bias effects is pivotal, since people who put in place harmful behaviour for the environment are those who cannot act differently, because of their economic *status*. Therefore, a differentiation between those who deliberately choose to pollute, like people who use private jets and private flights[105], and those who can only buy items produced through unsustainable processes.

The described unwanted effects represent a complex challenge, which requires the commitment of different social parts at national and international level. Regarding the fiscal system, anyway, there is no reason why it should stay neutral when the issues of the present era require an omni comprehensive intervention. Environmental taxation can be inserted within the fiscal system, since it actually

[104] Art. 23 of the Italian Constitution (as reported in the translation made by the Senato della Repubblica) reads as: Art. 23 "*No obligation of a personal or financiai nature may be imposed on any person except by law.*"; art. 53 reads as "*Every person shall contribute to public expenditure in accordance with their capability. The tax system shall be progressive.*" It will be taken into account in chapter no. 5.
[105] See chapter no. 5 for specifications.

represents a tool in order to protect people's health, since pollution can be calculated and its danger for human life is globally recognised by the scientific community. Therefore, the need for a proof of the link existing between humankind's actions and the climate change, loses its important, since harming human health can be consider a sufficient cause, in order to reduce an activity or to tax it as to control its effects.

Chapter 3
Tax law and labour law in the green transition

1. Green transition in the labour sector: new opportunities and flows

As the popularity of the green jobs has been spreading, concerns about potential loss of obsolete jobs have been increased. The issue has been addressed by the ILO[106], which has focused its studies on the manufacturing sectors and in the not-renewable energy sector[107].

However, even if the green transition represents the issue of the present time, recalling past solutions that have been already used during transitional eras can be useful. For instance, in the past when the coal mines had been closed, several political and social measures were put in place by the involved governments in order to reallocate workers whose jobs were related to the coal mining sector.

Utilising a similar approach in order to foster green transition while fulfilling the sustainable development goals of the UN 2030 Agenda must be taken into account. In this respect, the economic current reasoning and the derived production process should be reconsidered, since the number of workers that would need to be reallocated when the green transition will be completed, will exceed the numbers of workers interested by the past transitions. Moreover, the preservation

[106] The International Labour Organization (ILO) was created in 1919 as part of the Treaty of Versailles. As described in its website the ILO "*is devoted to promoting social justice and internationally recognized human and labour rights, pursuing its founding mission that social justice is essential to universal and lasting peace. The only tripartite U.N. agency, since 1919 the ILO brings together governments, employers and workers of 187 Member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men*".
[107] On the topic see the ILO's report titled *Jobs in a net-zero emissions future in Latin America and the Caribbean*, p. 102, box no. 4.3, 2020, ISBN: 978-92-2-133157-5.

of the same contractual conditions and paygrades should be guaranteed to the reallocated workers, although it would cause a problem for the State's finance which is already partially emerged in the solar energy sector.

In this respect, it is important to underline that the current approach to the careers' specialisation should be modified in order to comply with the green transition's productive structure. In fact, graduated workers' profiles are not the most needed at this stage of the transition. On the contrary, employees with a specific technical preparation seem to be the most wanted by companies[108]. The said change in the seeking job's profiles should not be underrated, for two main reasons. Firstly, new generations are more inclined to complete their cycle of studies, accomplishing a master's degree; secondly, a lower academic preparation could be used to justify lower pay grades. The conjunction of these two conditions could drive to a society's cultural flattening, as well as an economic depletion.

1.1. Re-skilling the labour workforce

Workers' reallocation faces several obstacles, since jobs' profile that currently do not exist must be created, since substituting employees cannot be an option, if the transition must be set as sustainable. Moreover, the skills and the new expertise acquired by workers cannot become a certifications' private market, which is a phenomenon that is already happening in the green jobs' sector.

Therefore, training plays a key role in the green transition, and the related issues should be addressed by both developing and developed countries, since the transition must be fair regardless the Nation where it happens. To the scope, utilising information technology represents a way to make the re-skilling process affordable and to improve global cooperation. Information technology is already successfully used as a recruitment instrument, but it has not been tested to retrain workers, yet.

[108] Data retrieved from: IRENA, ILO (2021), *Renewable Energy and Jobs – Annual Review 2021*, International Renewable Energy Agency, International Labour Organization.

In this respect, comparing jobs' tasks and the related skills owned to different types of jobs in diverse sectors become easier when complex software is involved. Through such an approach retrieving the common characteristic existing between standard jobs' tasks and the ones related to their green jobs *alter ego* become easier, resulting in a potential reallocation without even a retraining, when the tasks can be simply translated.

Two other effects of the green transition, that make retraining a global issue, must be taken into account: the creation of migratory waves when jobs' opportunities start to dwindle in specific territories; and unemployed people from the transitioning sectors, who continue to stay in the same country. All those people would weight on the new employees; thus, an opportunity will become a burden. However, an obligation which imposes to hire retrained workers does not exist and it would not be legit in countries, like those which are part of the European Union. In fact, Member States cannot adopt a law that imposes to companies who hire based on personal characteristics, since it would be considered as a discriminatory law's disposition.

Nevertheless, the governments can introduce tax incentives, in order to drive the market towards not only environmental sustainability but also social sustainability (see *infra* par. 2.1.). Such fiscal measures would be theoretically justified, because of the money saved by the State, fostering the employment of people instead of providing for their social welfare subsidies.

Therefore, in order to make employing retrained workers appealing, the acquisition of new skills must be performative. In this regard, the current approach to learning must be overturned, and lifelong learning has to be embraced. Furthermore, information technology makes possible to design a tailored approach, which appears to match the recent Italian legislation related to occupational safety[109]. In fact, the Machine Learning[110] provide for an automatic continuative implementation of the programs, meaning that the system would adjust to the educational level of the workers as it improves.

[109] See the Law Decree n. 146/2021, entered into force the 22nd October 2021, *Misure urgenti in materia economica e fiscale, a tutela del lavoro e per esigenze indifferibili*, converted into Law n. 215/2021.
[110] The Machine Learning is a subarea of the Artificial Intelligence.

Creating an immersive experience becomes possible thanks to the Machine Learning technology, thus, learning through simulation gaming becomes an affordable reality. A similar approach has already been tested during the shifting to the 4.0 industry sector. Moreover, considering the importance of widening reskilling in developing countries, as well, keeping costs low is necessary, and this model that requires a minimum human intervention seems to perfectly fulfil this requirement. Containing costs represents a relevant part of the sustainable transition in terms of fairness.

However, on the web training companies are already promising future employments by gaining certifications that they proclaim as the most required in the green sector. As a matter of fact, the proliferation of uncontrolled certifications involves a twofold risk, since the certifications' attainment is based on the economic capability of the student to pay for the certification's course, and the reliability of these certifications is not assured. Therefore, an agreement between industrial relations' representatives is crucial to the development of a lifelong training system.

In this respect, it must be underlined that Italian legislative system has a peculiarity, since the article no. 35, c. 2 of the Italian Constitution contains a specific reference to lifelong learning as a right of the workers[111], thus employee's training often finds its justification within the job's contract. Hence, supplementary collective bargaining can be considered a useful juridical tool in order to include clauses regarding lifelong learning, as an obligation for both workers and employers. To make those clauses consistent, though, a new mindset must be created, until training becomes a wealthy habit. The latter seems to be easier achievable putting in place a centralised systematic retraining model. Nevertheless, Italy has already a lifelong learning system, which derives from EU legislation, that unfortunately is not working as expected[112].

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[111] Italian Constitution, Title III, Economic Rights and Duties, article 35:
"*The Republic protects work in all its forms and practices.*
It provides for the training and professional advancement of workers.
It promotes and encourages international agreements and organisations which have the aim of establishing and regulating labour rights.
It recognises the freedom to emigrate, subject to the obligations set out by law in the general interest, and protects Italian workers abroad." (Translation retrieved on the Senato della Repubblica website, url: https://www.senato.it/sites/default/files/media-documents/Costituzione).

[112] The European Commission website reports that "*Law no. 92/2012, formally established that 'lifelong learning encompasses learning activity, whether formal, non-formal or informal,*

In addition to that, the fragmented existing framework does not help transitioning to sustainability. In fact, another issue which is affecting the current labour market is represented by the social dumping phenomenon. Moreover, the States' inability to promote mature workers' contribution to the market, is translated into fiscal measures focused on youth's employment improvement only, besides the opportunity of re-introducing elderly workers in the labour market.

An interdisciplinary approach appears to be the most suitable solution to match the economic outlook with sustainability reporting. For example, the cost-benefit analysis could be used to justified when elderly workers should be preferred over younger potential employees. Thence, an almost ethical choice can become a reasoned economic preference, that can boost the fairness aspect of the green transition.

2. Seeking for an equilibrium

Against the described backdrop, recalling the reasons why global community is striving to realise a sustainable society can be clarifying.

The *Sustainable Development Goal* number 8[113] introduces the concept of *decent work*, which is difficult to be delineated, because it encompasses every aspect of the work tasks within the overall system itself. To date, the labour market is not fair, and the work conditions under which the majority of employees still work are not sustainable, thus work cannot be considered as decent. Moreover, many countries are not committed to the environmental transition, and the recent geopolitical changes are underlining a spreading tendency to a reluctancy to embrace a greener approach to lifestyle, opposing the nature's restoration.

Currently, workers are too often put before the choice of working at any condition to survive daily life while endangering their long-term existence or quitting to any source of sustenance. Also, for this reason the definition of decent

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undertaken throughout life with the aim of improving knowledge, skills and competence within a personal, civic, social and/or employment related perspective'.".

[113] Sustainable Development Goal #8: Decent Work and Economic Growth, reads that "*Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*".

work must encompass any phase of the job, from the employment process to the tasks' carrying out.

The required shift has been monitored by the *Organization for Economic Co-operation and Development* (OECD). In fact, the OECD's reports provide support for governments' institutions and academic centres to recognise negative impacts on specific categories of workers related to certain green transition policies' enactment. The OECD's past works have identified "*four main drivers, through which market-based policies can affect economic sectors and labour markets (Chateau, Bibas and Lanzi, 2018[29]). RE-CE policies could influence markets through changes in (i) production modes, (ii) demand patterns, (iii) aggregate income and macroeconomic conditions, and (iv) trade and competitiveness*"[114].

The concept of social sustainability must be brought up when the green transition affects those sectors' production models, where the men are the most employed, because affecting male workers means to indirectly influence female humans too. For instance, in the energy sector studies have sadly shown that a lot of job profiles occupied by male workers, risk not to be converted into their greener *alias*, and this would lead to the dismissal of that workforce. Then, those dismissed workers are often led by desperation to abuse substances or alcohol, which makes them dangerous to their own families' members.

In this regard the *International Labour Organisation*[115] suggested social dialogue over these important themes, already in 2015, and the *International Energy Agency*'s (IEA) *Global Commission on People-Centred Clean Energy Transitions* accepted the challenge for the energy sector[116]. In order to overcome social problems like the one described above, including women into the transition seems to be the only path to be paved. Therefore, European countries are providing scholarships to foster female participation in colleges and universities' STEM[117] programs, since the presence of women in these courses, at a global level, has been

[114] See: OECD, F. Laubinger, E. Lanzi, J. Chateau, 2020, *Labour market consequences of a transition to a circular economy: a review paper*, Environment working paper n. 162, https://dx.doi.org/10.1787/e57a300a-en.
[115] See: ILO, 2016, *Guidelines for a just transition towards environmentally sustainable economies and societies for all*, ISBN 978-92-2-130627-6 (print) 978-92-2-130628-3.
[116] IEA, 2021, *The Global Commission on People-Centred Clean Energy Transitions's report*.
[117] Science, technology, engineering and mathematics.

calculated to be too low, precisely it is around the 35% of the total number of students[118]. At the same time, many developing countries are trying to make young women aware of their potential by pitching and investing in their entrepreneurial projects, to transform them into micro-entrepreneurs of the renewable energy sector. Besides, in rural areas making possible for women to achieve energy independence, in order to exploit the immense power of Internet to stay connected and learn new skills.

The evidence that not every developed country is committed to the environmental transition underlines how difficult it has become protecting workers, especially those who are located along the products value chains which are extended all around the world. Thus, monitoring the GPNs[119] becomes pivotal.

2.1. The importance of the GPNs to achieve decent work conditions

The *Global Production Networks* (GPNs) are organisational chains through which international companies can upgrade their business models. They represent a fundamental tool to upscale the entrepreneurs' vision and to expand a brand. However, if misused the GPNs might become a risk for workers, whose conditions get worse according to their need of working at any circumstance.

In this respect an ongoing international policy research programme titled "*Capturing the gains: Economic and social upgrading in global production networks*"[120], must be recalled. In the said programme six key areas of intervention are identified. Those areas have many similarities with the Italian PNRR[121], and in a broader context, with the *European Green Deal*[122].

The six areas are:

- "*Applied research in economics, management, and education.*
- *Ecology, environmental protection and sustainable development.*

[118] Data retrieved from STEM Women, which belongs to the STEM Women Limited and STEM Women Pty Ltd, url: https://www.stemwomen.com/women-in-stem-percentages-of-women-in-stem-statistics.
[119] Global Production Networks.
[120] See the website: capturingthegains.org.
[121] Piano Nazionale di Ripresa e Resilienza.
[122] See more at url: https://www.consilium.europa.eu/en/policies/green-deal/.

- *Human Resource Management for Sustainable Development; Socio-economic drivers of global economic development.*
- *Digital Economy and New Social Challenges: Opportunities; Limitations; Growth Points.*
- *Economics and management of knowledge-intensive industries*"[123].

The most relevant areas to the GPNs' issue are those dedicated to the new social challenges and opportunities, and to the socio-economic drivers of global economic development. The Program aims at guaranteeing workers' safety and social upgrading through the application of information technology. However, as the ILO often reports in its publications, in order to define social upgrading many aspects of the work should be taken into account, not only the eventual increase in wages. Thus, decent work definition can be used as a thermometer when social upgrading (or downgrading) is investigated.

Regarding the real application of decent conditions at work, a change that occurred during the years must be recalled. In fact, to the international global buyers, who have characterised the first stage of globalisation, many smaller buyers have been added. Many of these SMEs[124], the majority of which are set in the fashion manufacturing sector, spoils micro GPNs, in order to be able to put on the produced garments the label *handcrafted*.

Recalling the sentence pronounced by Amartya Sen[125] can be useful to understand the reason why building up a market that is fair and sustainable, should be considered a fundamental goal, *"A society can be Pareto optimal* (functioning) *and still perfectly disgusting"*[126]. Over the years the United Nations have raised the same concern and have tried to make the global community aware of the impact that globalisation has on powerless workers. For this reason, decent work and social upgrading are encompassed in the broader definition of sustainability, as reported in the UN 2030 Agenda[127].

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[123] See url: capturingthegains.org.
[124] Small and medium enterprises.
[125] Amartya Sen received the Nobel Memorial Prize in Economic Sciences in 1998.
[126] See: Atkinson, 2009, *Economics as a Moral Science*, in Economica, vol. 76, JSTOR, pp. 791 - 804.
[127] See among others: J. Lee, 2016, *Global supply chain dynamics and labour governance: Implications for social upgrading*, ILO Research Paper No. 14, May 2016, International Labour Office.

However, participation in the GPNs represents an important source of employment and live hood, especially for workers who are part of a minority. Thence, collective bargaining agreements appear to be effective in those countries where trade unions have acquired the political power and the capability of affecting governments' decisions. Nevertheless, lately even in developed countries trade unions are losing their capability to represent the workers' need, thus the bargaining dumping phenomenon has been implemented, since the number of people seeking a job at any condition is increasing lately.

Related to workers' dignity, the ILO's *Declaration on Fundamental Principles and Rights at Work* needs to be recalled, even if it is dated 1998[128]. There ILO has stated that four fundamental principles and rights at work are universal, thus they apply to all people who work, regardless of the level of economic development of the countries where they live. These principles are reported in the "*Value chain development for decent work*"[129] edited by the ILO, comprehending:

- "*Freedom of association and the effective recognition of the right to collective bargaining;*
- *The elimination of forced or compulsory labour;*
- *The abolition of child labour;*
- *The elimination of discrimination in respect of employment and occupation*"[130].

The ILO's approach to the value chain's development is considered crucial to contribute to fulfil its *Decent Work Agenda* "*by:*

- *creating more and more equal opportunities for productive work for women and men;*
- *increasing incomes;*
- *providing greater income security;*

[128] ILO. 1998, Declaration on Fundamental Principles and Rights at Work and its Follow-up, Adopted at the 86th Session of the International Labour Conference (1998) and amended at the 110th Session (2022), ISBN 978-92-2-037253-1 (print).
[129] ILO, 2016 second edition, Roel Hakemulder and Value Chain Development Team, *Value chain development for decent work How to create employment and improve working conditions in targeted sectors*.
[130] ILO, 2016, p.2.

- *enhancing social integration (e.g. through dialogue, Business Membership Organizations (BMO) and cooperatives);*
- *providing better prospects for professional development t (e.g. learning new skills);*
- *improving workplace safety and health (OSH)*" 131.

As the misused of the GPNs represents a global issue, a multilateral solution should be taken into consideration. In particular, multi-actor global not binding agreements might be an effective solution, since they have already been experienced in the productive sector, to foster sustainability. Such an instrument seems to be suitable in the luxury market, where the prices allow brands to invest in sustainability and customers to ask for information about the products. In fact, new wealthy generations are starting to refuse to pay a lot to buy social unsustainable products. Sustainability along the GPNs is often translated into the products' making process transparency and traceability.

However, as said before, luxury brands owned a privileged position in the market. They can actually count on a different market, the luxury market. Besides, costumers of the retail market do not know anything about the productive processes underneath the items they are buying. In these cases, voluntary based agreement should be helped by lawmakers' intervention, which can dictate guidelines or even trying to lock the concept of decent work within the way of making business. Thus, labour regulation's role should become more impactful.

Delineating how to make business in a sustainable way, can lead to shape the market according to the principles identified by the ILO, cited above. Moreover, by utilising information technology, labour regulation could, in the near future, obtain a control by default on the work conditions, throughout all the GPN.

3. Sustainable transition: new tools

Over the years, many governance theories have emerged, and each one of them has been focused on different elements composing or affecting enterprises.

[131] ILO, 2016, p. 6.

One of the most followed is the *Corporate Social Responsibility Theory*, declined differently according to the authors who analysed it. Therefore, all the CSR theories foster the workers' conditions upgrade as a goal that can be pursued, and achieved, even from an economic perspective. In fact, as the definition of stakeholders is stretched, the potentiality of its application along the GPNs expands exponentially. Recognising a leader role to the stakeholders entitles them to ask for an upgrading in wages and a better treatment of the workers.

Against this backdrop, the *Global Compact*[132] was created by the United Nations to bring under the spotlight workers' issues. Even though the initiatives promoted by the *Global Compact* are not binding, networking corporations which commit to sustainability is pivotal to enlighten what happen along the production chain. In fact, as seen before, transparency is becoming a key part of brands' narrative. Through the traceability, corporations allow consumers to enter their productive processes, giving a reason to a product's price. In this respect, the 2023 *Global Compact*'s report titled *Business leadership in times of crisis* stated that "*CEOs are committing to a living wage*"[133], to an extent that goes beyond the headquarters national borders, encompassing also the suppliers. Therefore, GPNs' traceability becomes a resource to guarantee the opportunity of decent work to those people who do not live in the country where the final product is sold, while providing for future profitability and survival of the company.

According to principle number 1 of the *Global Compact* "*Businesses should support and respect the protection of internationally proclaimed human rights*"[134]. The UN *Interpretive Guide* adopted to enact the *Global Compact*'s principles states that "*the responsibility of business enterprises to respect human rights refers to internationally recognized human rights – understood, at a minimum, as those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration*

[132] The UN Global Compact is a voluntary initiative; its governance framework was adopted by then UN Secretary-General Kofi Annan in 2005. The Global Compact aims at implementing universal sustainability principles.
[133] See: United Nations Global Compact, 2023, *Business leadership in times of crisis,* Collected Insights from Chief Executive Officers into Successes, Challenges and Areas for Future Focus, p. 21.
[134] Retrieved at the url https://unglobalcompact.org/what-is-gc/mission/principles/principle-1.

on Fundamental Principles and Rights at Work"[135]. Regarding human rights, the *International Covenant on Civil and Political Rights*, which is part of the International Bill of Human Rights has been ratified, to date, by 173 countries all over the world.

Therefore, where the Covenant has been ratified, collective bargaining agreements could embed or incorporate by reference the Covenant's articles to the employment contracts, as to rule the employer-employee relationship. Through a legal reference mechanism, collective bargaining has the power to impose equal conditions for all the workers involved in the GPNs, since it is anchored to the job sector's laws and, in European Union's countries the law cannot contradict the EU's normative regulation.

3.1. Translating inspiring principles into duties

As described above, the UN *Guiding Principles on Business and Human Rights* do not have binding effects. Since UNGPs cannot obliged any State to act in compliance with the principles, protecting employees at a global level represents a true challenge. However, the concepts incorporated in the UN *Guiding Principles* can be reported in national, and supranational, normative acts.

In this respect, the first guiding principle declares that "*States must protect against human rights abuse within their territory and/or jurisdiction by third parties, including business enterprises. This requires taking appropriate steps to prevent, investigate, punish and redress such abuse through effective policies, legislation, regulations and adjudication*"[136]. Moreover, the Commentary reports that "*States' international human rights law obligations require that they respect, protect and fulfil the human rights of individuals within their territory and/ or jurisdiction. This includes the duty to protect against human rights abuse by third*

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[135] See: UN, 2012, *The corporate responsibility to respect human rights*, An interpretive guide HR/PUB/12/02.

[136] See: UN Human Rights Office of the High Commissioner, 2011, *Guiding Principles on Business and Human Rights*, Implementing the United Nations "*Protect, Respect and Remedy*" Framework, HR/PUB/11/04.

parties, including business enterprises"[137]. Therefore, territory's borders still represent a limitation to the State's accountability and operativity.

Hence, unless every country around the world commits to the UNGPs' respect, the workers along the GPCs and GPNs will not be protected. In fact, rarely they belong to the jurisdiction of the States where the final product is sold or where the company HQs are located. Nevertheless, the UNGPs offer a partial solution to the issue, since principle number 10 introduces the case of multilateral institution. Thus, when a Nation is a member of such institutions it should:

"*(a) Seek to ensure that those institutions neither restrain the ability of their member States to meet their duty to protect nor hinder business enterprises from respecting human rights;*

(b) Encourage those institutions, within their respective mandates and capacities, to promote business respect for human rights and, where requested, to help States meet their duty to protect against human rights abuse by business enterprises, including through technical assistance, capacity-building and awareness-raising;

(c) Draw on these Guiding Principles to promote shared understanding and advance international cooperation in the management of business and human rights challenges"[138].

In this way, a member State does not only commit to the employees' safety, but it also can expand the extent of the protection to a supranational level.

The European Union is the legal supranational entity that is entitled to directly, and indirectly, affects national legislative acts, in order to be compliant with the EU legislation and Treaties. Thence, one of the tools currently used by the EU's law makers consists into displaying enterprises' behaviour through the reporting, aiming at making people aware of any abuse committed by companies.

In fact, as seen in the previous chapters (see chapter no. 2) the *Corporate Sustainability Reporting Directive* (CSRD) embodies the opportunity of showing

[137] See: UN Human Rights Office of the High Commissioner, 2011, *Guiding Principles on Business and Human Rights*, Implementing the United Nations "*Protect, Respect and Remedy*" Framework, HR/PUB/11/04, p. 3.
[138] See: UN Human Rights Office of the High Commissioner, 2011, *Guiding Principles on Business and Human Rights*, Implementing the United Nations "*Protect, Respect and Remedy*" Framework, HR/PUB/11/04, p. 11.

to the public the corporations' real behaviours, despite their sustainability's narrative or their charity initiatives related to the environment. The CSRD's recital no. 49 reads that "*Sustainability reporting standards should specify the information that undertakings should disclose on social factors, including working conditions, social partner involvement, collective bargaining, equality, non-discrimination, diversity and inclusion, and human rights. Such information should cover the impacts of the undertaking on people, including workers, and on human health. The information that undertakings disclose about human rights should include information about forced labour and child labour in their value chains where relevant. Sustainability reporting requirements concerning forced labour should not free public authorities of their responsibility to address, through trade policy and diplomatic means, the import of goods produced as a result of human rights abuses, including forced labour. Undertakings should also be able to report on possible risks and trends regarding employment and incomes*"[139].

Introducing standards regarding different expression of the human rights' respect would oblige EU Member States to use them in normative acts, as precise criterions to which enterprises must conform. Furthermore, reporting has been built in order to shift the obligation of compliance from the State to companies, thus the policy maker is enabled to overcome the territory limitation imposed by the sovereignty principle, seen above. The described model of reporting makes enterprises, multinational companies included, accountable for their actions, even when they act outside the European States' boarders, namely along the whole production network.

Moreover, the recent *Corporate Sustainability Due Diligence Directive* (CSDD)[140] represents the opportunity to act against corporates' behaviours before European courts, since enterprises become accountable for their "*actual and potential human rights adverse impacts and environmental adverse impacts*"[141].

[139] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) no. 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting, recital (49).
[140] Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859.
[141] See art. 1 of the Directive (EU) 2024/1760.

Since sustainability has been included in several national constitutional charts (see chapter no. 2 and no. 5), workers can ask for their right to be protected also before international courts for human rights. As sustainability is recognised as an international duty to be globally respected, instead of being considered as an ideal goal to be persuaded, decent work will be acknowledged as a basic right of human beings.

4. Taxing the labour income: current issues and future perspective

As a matter of fact, the goals reported in the 2030 United Nations' Agenda for Sustainable Development are interconnected, and the interdependency existing among them emerges when the labour sector is analysed. Indeed, although the sustainable development goals mainly related to the labour market are the 8th, 9th, and 12th, titled respectively *decent work and economic growth*; *industry, innovation and infrastructure*; and *responsible consumption and production*, other goals, such as *no poverty* (no. 1) and *gender equality* (no. 5) would be not achievable without the accomplishment of the cited goals.

Goals no. 2 and goals no. 5, in fact, are strictly linked to the economic aspect of the labour sector, thus, the approach used by governments in taxing the labour becomes pivotal. Being economically independent constitutes one of the prerequisites in order to be able to live the life an individual wants. Translated into legal modern western society's terms, that does not mean that everyone has got the same amount of money, but that anyone should be able to achieve the economic level he/her would be able to, given their talent and luck, since the State shall provide the appropriate tools to everyone. In this respect, the article no. 3, co. 2nd of the Italian constitution reads that: "*It is the duty of the Republic to remove those obstacles of an economic or social nature which constrain the freedom and equality of citizens, thereby impeding the full development of the human person and the effective participation of all workers in the political, economic and social organisation of the country*"[142].

[142] Source: https://www.senato.it/documenti/repository/istituzione/costituzione_inglese.pdf.

As the studies sadly confirm, the gender pay gap in Italy is set around the 20% in men's favour[143]. These data are the result of a combination of physiological problems, like the maternity leave, and stratified cultural issues that affecting women, such as, for instance, a slower career's path. Therefore, since women need to be given the proper instruments in order to play with men in the labour playfield, talking about equity instead of equality would be probably more appropriate.

However, utilising the tax system in order to re-establish equity between worker can be seen as a suitable solution. Tax wedge is the numerical result of the difference between the cost of the labour (employee's costs plus employer's cost) and the net take-home pay of the employee[144]. In 2023, in the OECD countries the tax wedge medium value for the average single worker was about the 34.8% of the gross wages' sum[145]. The data show that this burden is extremely high in the majority of the OECD's countries, thus, substituting environmental taxation to labour taxation is often suggested by experts in different fields as the best solution. Such a solution, though, appears to be too simplistic. Besides, reasoning about environmental taxation as something acceptable only instead of another fiscal burden, seems to delegitimate the role that sustainability plays for our survival on the planet (as also explained in previous chapters).

The problem related to combination of the environmental and labour tax burden is purely economic, since the employers, especially the ones located in countries that impose precise obligations for workers' safety, social security and, more in general, social welfare would be exposed to a potential profit loss which would make the business not cost-effective anymore. Regarding this, a radical change suggested by diverse sources[146] recommends not to let foreign products – which are made with no respect for human dignity – to enter the boarders of respectful countries. Such a drastic approach would be actually justified, since the

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[143] In Italy, the gender pay gap among graduates is 16.6%, and it 30.3% among managers (see ISTAT, La struttura delle retribuzioni in Italia - Anno 2022). The gender pay gap in Europe is 13% (see: European Commission, 2022 Factsheet on the gender pay gap).

[144] The Italian tax wedge is about 44%. Data taken from: Centro Studi CONFINDUSTRIA, 19/02/2019, *Quanto costa il lavoro?*, Valutazione delle politiche pubbliche.

[145] OECD, 2024, Taxing Wages 2024, OECD Publishing, Paris, https://doi.org/10.1787/dbcbac85-en, p. 3.

[146] The public relevance is testified by several initiatives, among others see the following one: Green Peace to stop Fast Fashion, https://attivati.greenpeace.it/petizioni/stop-fast-fashion/.

definition of sustainability encompasses different aspect of it, the social one included. However, the economists have always spoken out against a closuring of the markets, because of potential economic damage and the risk for international political tension escalation[147] (in this respect, see chapter no. 2).

From a tax law's perspective, a reason to prefer, and then foster, the neutrality of environmental taxes does not exist. Nevertheless, how to manage the environmental taxation as that it will not impact on the labour taxation in a negative way is an issue that must be addressed. In this case a tailored approach seems to be more suitable, since countries' welfare systems are complex and they present differences built on principles which reflect constitutional charts beliefs, that a unitarian approach risk to destroy instead of enhancing. Therefore, once that labour standards for safety and wages are respected, tax law can intervene in order to promote a greener approach, throughout the labour chain.

An aspect that is not taken into consideration enough when labour taxation's issues are discussed is represented by the contribution that the entrepreneurs constantly give to the community by conducting their businesses in a certain way. The ESG's[148] evaluation is still at an embryonal stage, and these factors are not used in order to model a sustainable entrepreneurship model, that could benefit from a fiscal system which fosters social sustainability. In fact, to date the main concern regarding the ESG's criteria in relation with the tax system, seems to be the parameter of *good tax governance*, instead of a fiscal burden reduction with respect to an enrichment in terms of sustainability for the workers' community. Since the first industrial revolution, enterprises have the power to shape, physically and culturally the territory where they were placed. This symbiotic relationship between a company and the territory where it is established is visible in many European countries, the most meaningful is probably the UK.

Therefore, a two-fold approach seems to be required, since both the tax burden and the revenues' spending should be tackled. In order not to create distortions into the existing fiscal systems, entrepreneurs must be taxed according to the profit they collect, but the money that they re-invest could be taxed differently

[147] Related to the topic, see: N. G. Mankiw, 2024, Macroeconomia, Zanichelli, ISBN: 9788808599766, p. 118 (box).
[148] Environmental, Social e Governance.

according to the aim the investor would pursue. Putting money into workers' social welfare and into the local community's sustainability could be treated differently from other investments, since such a behaviour pursues a goal which is shared also by the State. On the other hand, revenues disburse must be coherent with the new constitutional principles (see chapter no. 5) and aiming at the *Sustainable Development Goals* achievement.

As a matter of fact, the describe approach could not guarantee an overall decrease of the labour taxes amount, but it would be helpful to merge labour taxation with environmental taxation, instead of choosing between the two of them and, thus, quitting the opportunity of achieving sustainability.

Even though a national tailored approach would be preferred, a multitude of systems which aim at achieved workers' dignity and gender equality can, and should, be coordinated a supranational level, in order to establish a larger space, where the "*full development of the human person*"[149] can be expressed.

5. Does the green jobs sector deserve a different taxation treatment?

As seen in paragraph no. 1, the green jobs sector represents an enormous opportunity of transitioning towards a sustainable era, adopting fairness as a criterion to be respected. Creating new jobs' positions cannot be consider enough anymore, those new job positions must fulfil the requirements of a just and green transition.

The fiscal system might play a pivotal role in leading the transformation of the job market, since taxes can boost a certain type of production and consumption. However, labelling enterprises into green and not-green ones seems to be used in order to obtain States' contributions or tax deductions. As a matter of fact, a company that was born as green would differ from another which has been transforming itself into a more sustainable one. A difference will exist, also, with an enterprise whom activities happen to be in a sector where the technology does not allow a less environmental impacting way of producing, yet. All these differences, though, do not justify the need for a timeless label, that risk to stop

[149] See art. no. 3 of the Italian Constitution.

companies investing in greener initiatives when they would not be considered green enough as a company (evaluated as a whole) to be labelled as a green company.

Thence, this stereotypical vision is affecting even fiscality, stressing the need for a modular fiscal system (see chapter no. 5). Such a modular system would help green enterprises of course, but it also would be appealing to not-green companies, since they would feel incentivised by the profitability of being as much green as possible. Thus, they would engage the green transition challenge, giving to the already green enterprises new reasons to keep innovating.

Therefore, circular economy not only enter the fiscal system as a goal, but it can also lend its functioning circular scheme to it. Hence, the circular fiscality would lead to the circular economy. Re-paying the investments made by a company to help the local community to be sustainable and entrepreneurs' efforts put into the preservation of the workers' social dignity – which is also an aspect of the sustainability – through fiscal tools that enlighten the step towards the right direction is mandatory.

Interconnecting different areas of the fiscality gives the cues to create a sort of all-encompassing tax system, where the single action becomes more important than the fulfilled category. In doing so, the ESG criteria play a key role in determining the level of fulfilment achieved by a company in terms of social sustainability along its Global Production Network. To date, the only provision that seems possible to be made regards the total fiscal burden on companies, especially on SMEs, that could not be improved on the short term, considering the current economic situation. Nevertheless, a fiscal approach that takes into account the behaviours of the multinational enterprises along the whole production and logistic chain, would potentially be helpful in order to create a more equal playfield. Moreover, since the definition of sustainability is constantly evolving, taxing the labour accordingly to the most recent international commitments and supranational normative acts appears to be the forward-looking move to be played.

Against the describe backdrop, the division between green and not-green enterprises seems useless and outdated. Furthermore, leaving labels behind would allow policymakers to boost the transition, setting up the new standards as soon as the previous ones will be achieved. As a consequence, designing a taxation within the green jobs sector does not appear as a suitable solution for several reasons. Firstly, the potential growth of this sector is still unknown, thus, excluding some activities today can be detrimental in the future. Secondly, labelling could have the bias effect of reducing investments in innovative technologies once the company ensured its recognition as green. Therefore, adaptation represents the key concept in order to develop a labour taxation legislation, that would encompass both the evolution of the production process and the workers' needs, while fostering the change of the economy that the global community is asking for.

Chapter 4
Environment and the digital market

1. The SDGs and the digital economy

Since digitalisation has been affecting every and each aspect of our lives, making the most of it could be pivotal in order to achieve more than one of the Sustainable Development Goals settled down by the UN 2030 Agenda.

With regard to the first SDGs' goal (*no poverty*), many scholars are underling the enhancing that the digital economy could bring to developing countries' GDP[150]. As a matter of fact, the accomplishment of goal n. 1, brings with it the effort to overcome the challenges connected to this macro-objective, which are represented by many of the other SDGs. In fact, sectors such as infrastructures, working conditions, climate change's awareness, must be implemented, in order to eradicate poverty.

In this respect, Walter Rathenau's reasoning, should be briefly recalled. He thought that the economic sphere cannot be separated from the political sphere[151]. They are knotted together. This teaching cannot be left out from this chapter, because of the recent changes that the world is facing. Talking about economics' mechanism and trying to explain the related taxation mechanisms becomes more difficult when humanity is navigating in rough sea. The sense of disorientation

[150] H. Besada, 2018, *Digital Economy and the Implementation of the 2030 Agenda for Sustainable Development*, Presentation on Digital Economy and the Implementation of the 2030 Agenda for Sustainable Development, at the forum "2018 South-South Cooperation in a Digital World", UNOSSC. The author recalls that "*…according to economic analysis, the digitization of economic processes, activities, and value could bring as much as a $4.1 trillion USD increase in GDP among developing countries, using the opportunity of technological leapfrogging to engage quickly and effectively with the digital economy*".
[151] C. Joerges, 2022, *Economic Constitutionalism and "The Political" of "The Economic"*, in The Idea of Economic Constitution in Europe, Leiden, The Netherlands: Brill | Nijhoff, https://doi.org/10.1163/9789004519350_027.

which is perceivable among people and the pessimistic views of several scholars and scientists, make plans for the future extremely tough and almost awkward.

Nevertheless, neither finding the motivations behind the exiting linkage between the current global politic situation and the economics' status or predicting what will happen to the present global geoeconomics equilibrium in the future, falls out from the goal of the present thesis. Therefore, the conclusions that will be proposed further will be a representation of a rational response to the urgent request for a taxation system aligned with the companies' digital assets exploiting.

As a matter of fact, digitalisation has a massive impact on the earth's climate conditions for many reasons. The first one, and also the most obvious, is represented by the need for physical infrastructures in order to create immaterial (virtual) connections. Another negative effect of the digitalisation on the current climate conditions consists in needing electricity. These two factors, added together, contribute to realise industrialised area, in countries which can dispose of great quantity of land and where the electricity, coming of course from no-renewable sources, costs less compared to the prices set in other countries. Those explained can be considered as direct, and maybe the most visible, effects of digitalisation in terms of environmental sustainability.

However, it is important to remember that sustainability is a broad concept (as seen in chapter no. 1), in which the environment is considered as a multifaced ecosystem. In order to maintain, or restore, the natural equilibrium, sustainability has to encompass every aspect of human life. Thus, the environmental segment of sustainability cannot be embodied in the narrow and strict view of a greener habitat.

2. The digital economy: many definitions

Technology has been redefining traditional business models for the past fifty years, but it is with the creation of a global virtual market that the topic has become relevant to the policymakers in terms of taxation. The debate that arose on how countries should be able to tax the revenues of digitalised multinational businesses keeps politicians, journalists, consumers and, obviously, entrepreneurs all over the world busy. Before addressing national and international responses to the issue, briefly recalling what the digital economy concept comprehends is required. As a matter of fact, an official definition of digital economy does not exist.

However, according to the European Commission digital economy *"encompasses businesses that sell goods and services via the Internet, and digital platforms that connect spare capacity and demand"*[152]. Even if this definition has been formulated in 2018, it seems to trace a too extended perimeter, and even more importantly, it appears to be broad and uncapable of catching the new challenges faced by governments on digital economy's taxation. In fact, such a terminology would include any selling activities done on the Internet, regardless of their material or intangible contents.

Considering that, a more specific notion seems to be more suitable, since the OECD[153] and the European Union are targeting digital activities in order to fight against tax avoidance behaviours put in place by MNEs[154] relying on intangible assets. In this respect, digital service's definition given by article number 3 of the European Council Directive proposal comes in help since it states that "*digital service is a service that is delivered over the internet or an electronic network and the nature of which renders their supply essentially automated and involving minimal human intervention"*[155].

Using such a terminology, the digital economy would eventually comprehend, though, the Sharing Digital Economy (SDE), where the user is the main character himself, since he can make a profit too. In fact, SDE can be defined as "*a class of resource allocation systems based on sharing practices which are coordinated by digital online platforms and performed by individuals and possibly (non-) commercial organizations with the aim to provide access to material or immaterial resources. Digital sharing systems operate in the space between traditional sharing and the formal market economy…*"[156].

[152] EurWORK, 2018, *Digital Economy and Society Index 2018 Report*, European Observatory of Working Life, REPORT / STUDY Publication 14 May 2018. The DESI Country Report about Italy can be retrieved at the url file:///C:/Users/Utente/Downloads/it-desi_2018-country-profile_eng_B4406C8B-C962-EEA8-CCB24C81736A4C77_52226.pdf.
[153] Organisation for Economic Co-operation and Development.
[154] Multinational Enterprises.
[155] Proposal for a Council Directive laying down rules relating to the corporate taxation of a significant digital presence, EU Commission, 21.3.2018, COM(2018) 147 final.
[156] M. J. Pouri, L. M. Hilty, 2021, *The digital sharing economy: A confluence of technical and social sharing*, in *Environmental Innovation and Societal Transitions* 38 (2021), pp. 127–139.

Still in 2020, the OECD struggled to find a clear definition of digital economy, since it can be considered as a flexible definition[157]. To the extent of the present chapter, a particular segment of the digital economy is pivotal, which is the so-called algorithmic economy. Therefore, moving the attention from the type of economy itself to the companies' use of the digital resources can be helpful. In fact, according to the European Commission "*the application of the current corporate tax rules to the digital economy has led to a misalignment between the place where the profits are taxed and the place where value is created, notably in the case of business models heavily reliant on user participation*"[158]. Companies which operate in digital economy are able to create a profitable value using data generated by costumers of other companies, either within the same multinational group or not. An important aspect of the usage of data is represented by the chance that those data can be either a value or a dis-value, as any data could be if extracted from its context.

3. Taxing the digital economy

At international level, the OECD's current plan aims at reducing incentives for the so-called aggressive tax planning set up by multinational companies. In fact, OECD calculated that *Base Erosion and Profit Shifting* practices[159] cost annually USD 100-240 billion in lost revenues to the affected countries[160]. For this reason, more than 140 countries are working together in order to implement collaborative measures against this phenomenon.

In 2015, the OECD's Action Report identified several tax challenges raised by digitalisation in relation to nexus, data and characterisation.

In 2018, the OECD's Interim Report, titled *Tax Challenges Arising from Digitalisation* enlightened a misalignment between the physical presence of the companies and the allocation of the consumers/users. Therefore, Member States

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[157] Too deepen the topic, see: OECD (2020), *A roadmap toward a common framework for measuring the Digital Economy*, Report for the G20 Digital Economy Task Force.
[158] Proposal for a Council Directive on the common system of a digital services tax on revenues resulting from the provision of certain digital services, EU Commission, COM(2018) 148 final.
[159] BEPS.
[160] See the OECD's website, at the page dedicated to the key messages, url: Base erosion and profit shifting (BEPS) | OECD.

according to the Report, agreed to review the concept of nexus and commit to seek a solution by 2020.

In 2019, the OECD proposed a new concept of nexus, the "*significant economic presence*" as a taxable presence, when "*a non-resident enterprise has a significant economic presence on the basis of factors that evidence a purposeful and sustained interaction with the jurisdiction via digital technology and other automated means*"[161].

The Global Tax Deal represents an important development in the fight for achieving fairness in global tax payments. It takes the move from the Base Erosion and Profit Shifting[162] initiative, which contemplates a series of incentives for business investment made by multinational corporations, and the Digital Services Tax[163] proposal. In order to achieve those fundamental objectives, the OECD splits its approach in two lines of action: Pillar One and Pillar Two. The Statement on a two pillar solution, adopted in October 2021, is an agreement among 137 countries on a two-pillar solution, in order to tackle the tax challenges arising from globalisation and digitalisation.

Pillar One is named after re-allocation of taxing rights by the OECD, since it aims at ensuring "*a fairer distribution of profits and taxing rights among countries with respect to the largest MNEs[164], including digital companies*"[165]. To do so, MNEs' taxing rights would be divided between their home countries and the countries where they have business activities, thus where they actually make money. Pillar Two, instead, is focused on fighting against BEPS practices, thus it has introduced a global minimum tax, which aims at assigning the unsolicited tax revenues of a State to another, realising a minimum tax rate of 15%.

In 2021, the OECD published the Model Global Anti-Base Erosion Rules[166], the goal of which is to provide a system to ensure that Multinational Enterprises

[161] UN, 2019, Committee of Experts on International Cooperation in Tax Matters Eighteenth session New York, 23-26 April 2019 Item 3 (j) of the provisional agenda Tax Issues related to the Digitalization of the Economy, p. 7.
[162] BEPS.
[163] DST.
[164] Multinational enterprises.
[165] OECD, Action 1: Tax Challenges Arising from Digitalisation.
[166] GloBE Rules.

with revenues above EUR 750 million pay at least a minimum level of tax on the income realised in each of the jurisdictions where they operate.

The minimum level of tazation, within the fiscal system drawn by the GloBE Rules consists of interrelated regulations. As explained in the dedicated Report, "*the four component parts of the GloBE proposal are: a) an income inclusion rule that would tax the income of a foreign branch or a controlled entity if that income was subject to tax at an effective rate that is below a minimum rate; b) an undertaxed payments rule that would operate by way of a denial of a deduction or imposition of source-based taxation (including withholding tax) for a payment to a related party if that payment was not subject to tax at or above a minimum rate; c) a switch-over rule to be introduced into tax treaties that would permit a residence jurisdiction to switch from an exemption to a credit method where the profits attributable to a permanent establishment (PE) or derived from immovable property (which is not part of a PE) are subject to an effective rate below the minimum rate; and d) a subject to tax rule that would complement the undertaxed payment rule by subjecting a payment to withholding or other taxes at source and adjusting eligibility for treaty benefits on certain items of income where the payment is not subject to tax at a minimum rate*"[167]. The GloBE Rules also respond to the developing countries' call for justice, transparency, and predictability in the matters of taxation.

The GloBE rules apply a system of top-up taxes that brings the total amount of taxes paid on an MNE's excess profit in a jurisdiction up to the minimum rate of 15%[168]. According to the OECD's Framework: "*The Constituent Entities of an MNE Group include all the entities within the Group with any permanent establishment of a group entity being treated as a separate Constituent Entity. Excluded entities are, however, not within scope and excluded from the operation of the GloBE rules. The location of each Constituent Entity is determined based on its local tax treatment. The Top-up Tax is first imposed under the IIR*[169] *on a parent*

[167] OECD, 2019, Public consultation document, Global Anti-Base Erosion Proposal ("GloBE") - Pillar Two.
[168] See OECD's website, at the page dedicated to the key messages, url: https://www.oecd.org/en/topics/global-minimum-tax.html.
[169] Income Inclusion Rule. This rule determines when a company's foreign income should be considered as part of the parent company's taxable income.

entity with an ownership interest in the low taxed constituent entity. If there is any residual amount of Top-up Tax that remains unallocated after the IIR applies, the UTPR[170] *allocation mechanism results in a liability to Top-up Tax in the jurisdictions that introduced the UTPR*"[171].

Regarding the sustainability topic, the importance of the Subject-to-Tax Rule[172], that is complementary to the described GloBE Rules, needs to be stressed, since it will enable developing countries to tax the income arising by intra-group companies, which is usually subjected to a lower taxation rate in the other jurisdiction. "*The STTR is a model treaty provision that allows jurisdictions to impose limited additional taxation on certain cross-border payments between connected companies where the recipient is subject to a nominal corporate income tax rate below 9%*"[173].

In 2022 the Inclusive Framework released an implementation package relating to Pillar Two, which includes: a guidance on Safe Harbours and Penalty Relief[174]; a public consultation document on the GloBE Information Return[175]; and a public consultation document on Tax Certainty for the GloBE Rules[176]. The first document consists in a reduction of duties for MNEs linked to a Transitional Country-by-Country Reporting Safe Harbour. The second one prescribes an implementation of data and information that MNEs should collect and report as a simplification of the GloBe Rules application. The third document contains the solutions in order to achieve tax certainty in the described framework. It provides MNEs and countries with different mechanisms, which include dispute prevention and alternative dispute resolution models, to insert stakeholders' collaboration in the scheme.

[170] Under-taxed profits rule. This rule allows countries to increase taxes on a company when it is part of a larger company that pays less than 15% in another jurisdiction.
[171] See: https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/global-minimum-tax/pillar-two-globe-rules-fact-sheets.pdf.
[172] STTR: Subject to Tax Rule.
[173] See: https://www.oecd.org/tax/beps/pillar-two-subject-to-tax-rule-in-a-nutshell.pdf.
[174] OECD/G20 Base Erosion and Profit Shifting Project Safe Harbours and Penalty Relief: Global Anti-Base Erosion Rules (Pillar Two) Inclusive Framework on BEPS.
[175] Public consultation document Pillar Two, GloBE Information Return, 20 December 2022 – 3 February 2023.
[176] Public consultation document Pillar Two, Tax Certainty for the GloBE Rules, 20 December 2022 – 3 February 2023.

In 2023, the OECD published a technical guidance for implementation of the global minimum tax. During the last G20 Summit, the 138 "*Inclusive Framework members have agreed to refrain from imposing newly enacted digital services taxes (DSTs) or relevant similar measures on any company before 31 December 2024"*[177]. The Inclusive Framework aims to prevent the proliferation of different Digital Service Taxes (DSTs) or other similar measures, among the States, because of the need for stability and certainty in the international tax system.

Moreover, the OECD published the *Minimum Tax Implementation Handbook (Pillar Two)*, which outlines the functioning of the GloBE rules, from a practical point of view. In the first part of the Handbook the reason behind the choice to target MNEs above EUR 750 milion threshold is explained. It "*strikes a balance between preserving the overall impact and revenue benefits of the global minimum tax, while minimising compliance and administration costs*"[178]. The application of this system has been still developing by member countries, but already it is generating some criticism from both scholars and professionals.

In point of fact, the *Agreed Administrative Guidance for the Pillar Two, the GloBE Rules*[179] , and what came before them represent a ground-breaking shift in international taxation dynamics. Nevertheless, it is important to always keep in mind that the last years have been characterised by the challenge of the pandemic of COVID-19, which overwhelmed every aspect of human life and society. With reference to this, the European Commission's recovery plan for COVID-19 introduced, as one of the recovery revenues, a digital tax, which takes its cue from the OECD's proposal.

Furthermore, the *Agreed Administrative Guidance for the Pillar Two GloBE Rules* will ensure a level playfield and more certainty for MNEs as soon as the global minimum corporate tax rules will be applied, so from the beginning of 2024. As the Director of the OECD's Centre for Tax Policy and Administration,

[177] OECD, 2023, OECD Secretary-General Tax Report to G20 Leaders: India, September 2023, OECD, Paris, www.oecd.org/tax/oecd-secretary-general-taxreport-g20-leaders-india-september-2023.pdf.

[178] OECD/G20 BASE EROSION AND PROFIT SHIFTING PROJECT, 2023, *Minimum Tax Implementation Handbook (Pillar Two)*, Inclusive Framework on BEPS, p. 9.

[179] OECD/G20 Base Erosion and Profit Shifting Project Tax Challenges Arising from the Digitalisation of the Economy – Administrative Guidance on the Global AntiBase Erosion Model Rules (Pillar Two) Inclusive Framework on BEPS.

Grace Perez-Navarro, declared, this guidance represents "*the final but significant piece of work on the GloBE Rules that the Inclusive Framework members had committed to deliver as part of the implementation framework*"[180].

3.1. The European Union's path

A brief summary of the European timeline on this discussed topic can be very useful. In November 2020 the Council of the European Union approved conclusions on fair and tax challenges linked to digitalisation[181]. As it is for the OECD's goals, the European Union wants to overcome the base erosion profit shifting and make the largest multinational groups pay where they sell their products or provide their services.

In March 2021 the Council adopted new rules[182] that obliged digital platform operators to report the income earned by sellers, while States would exchange those data by default. On 22 December 2021, the same Council presented a Proposal for a directive which aims at implementing Pillar Two, according with the European legal system. In December 2022 the European Council[183] adopted rules on minimum level of taxation for largest corporations on the base of Pillar Two.

Then, in December 2022, the European Commission completed a proposal for a directive which aims at implementing Pillar Two, within the European legal system[184]. In June 2023, the European Commission published the Report on Pillar One, reaffirming the EU's commitment to the OECD's tax policies.

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[180] Article retrieved from the TTp News, Transfer Pricing & International Tax News for Multinationals, 2023, *OECD publishes guidance on global minimum corporate tax rules*, Posted on February 11, 2023, by newstp in Africa, Americas, Asia Pacific, Australia, BEPS, Europe, Latest, Multinational Tax, OECD, Tax, Tax Avoidance, US and tagged Featured-News.

[181] Council of the European Union, 13350/20, Council conclusions on fair and effective taxation in times of recovery, on tax challenges linked to digitalisation and on tax good governance in the EU and beyond.

[182] Council of the European Union, 12908/20, Council Directive amending Directive 2011/16/EU on administrative cooperation in the field of taxation.

[183] Council of the European Union, 8778/22, Council Directive on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union.

[184] COM/2021/823 final, *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups in the Union*.

The *Proposal for a Council Directive on ensuring a global minimum level of taxation for multinational groups* finds its legal basins in the Article 115 of the TFEU[185]. "*Although no explicit reference to direct taxation is made, Article 115 refers to directives for the approximation of national laws as those directly affect the establishment or functioning of the internal market. For this condition to be met, it is necessary that proposed EU legislation in the field of direct taxation aims to rectify existing inconsistencies in the functioning of the internal market. In the current scenario, the absence of rules ensuring minimum effective corporate taxation across the Single Market is such existing inconsistency. Article 115 stipulates that legal measures of approximation under that article shall take the legal form of a Directive*"[186].

At a first reading the Directive could appear as a reflex of the OECD's GloBE rules, since it reports several definitions and concepts already contained in the OECD's documents. In fact, the subject and the scope have both exactly the same content of the OECD's Model Global Anti-Base Erosion Rules related paragraphs.

However, besides the many aspects that the OECD's and the EU's paths have in common, a few differences of approaches must be recalled. In fact, the Directive had to address specific challenges, such as freedom of establishment, which brought to the application of the Income of Inclusion Rule[187] to groups which achieve 750 million euros threshold, seen before. Another key element is represented by the need for protecting States' tax sovereignty, thus member States choose whether they apply the top-up tax domestically to constituent entities located in their territories, bringing to an amount of the top-up tax due by the last ring of the chain leading to zero. Finally, the directive prescribes that the Undertaxed Payment Rule[188] is applied to those groups where the last parent entity

[185] Article 115 TFEU (*ex* Article 94 TEC): "*Without prejudice to Article 114, the Council shall, acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament and the Economic and Social Committee, issue directives for the approximation of such laws, regulations or administrative provisions of the Member States as directly affect the establishment or functioning of the internal market*".
[186] See COM/2021/823 final - Legal Basis, Subsidiarity and Proportionality paragraph.
[187] IIR.
[188] UTPR.

is located outside the European Union, but in Nations' territories where jurisdiction did not implement the IIR or if they did, the parent entity would be low-taxed.

The recalled Directive has aroused a lot of argument around the taxation topic; thus, scholars have been written both in favour and against such a measure. Some of them questioned the need for it considering the international framework. In this respect, an aspect that would deserve to be deepened is represented by the fact that implementation of Pillar Two made by member States in their own power, adhering to the G20/OECD, could directly affect the functioning of the European internal market. The compliant solution stays in the capability of a not-discriminatory way of implementation.

In addition to that, article number 3 of the TFEU[189] allows the Union to perform its exclusive competence for the conclusion of an international agreement when it produces effects in the Union's normative system, since it would require internal normative acts.

By comparing those requirements with the Council Directive "*on ensuring a global minimum level of taxation for multinational enterprise groups and large-scale domestic groups in the Union*"[190], it appears clear that the initial objective of the international agreement (OECD's) has been fulfilled. The slight differences, which have been recalled before, find their legitimacy in the peculiarity of the European Union system, and they do not interfere with the minimum level of taxation, that remains untouched.

Following the path paved by relevant scholars, it is legit to say that the recalled directive will give more certainty about the applicational method of the Pillar Two in Europe. All the stakeholders could rely on a smaller playfield before face almost the same rules in a global context. In fact, the need for a more equal

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[189] Consolidated version of the Treaty on the functioning of the European Union, art. 3: "*1. The Union shall have exclusive competence in the following areas: (a) customs union; (b) the establishing of the competition rules necessary for the functioning of the internal market; (c) monetary policy for the Member States whose currency is the euro; (d) the conservation of marine biological resources under the common fisheries policy; (e) common commercial policy.*
2. The Union shall also have exclusive competence for the conclusion of an international agreement when its conclusion is provided for in a legislative act of the Union or is necessary to enable the Union to exercise its internal competence, or in so far as its conclusion may affect common rules or alter their scope".
[190] Council of the European Union, 8778/22.

playfield, embodies the broader concept of tax fairness even before than the risk of tax base erosion.

Recently, in March 2025, the Council of the European Union reached a political agreement in order to adopt a new Directive[191], which aims at improving administrative cooperation in the field of taxation to defeat base erosion and profit shifting phenomena.

3.1.1. The Italian approach

Against the described background, in 2017 at national level Italy signed with the Finance Ministers of Germany, France and Spain the political statement *Joint initiative on the taxation of companies operating in the digital economy*. These countries declared not to accept any longer the behaviour of digital economy's companies, which do business in Europe while paying minimal amounts of tax to their treasuries.

Then, in 2018 Italy decided to move alone anticipating the EU's regulation adoption, through the introduction of the so-called web tax[192]. It has been modified and adjusted since then, seeming to be coherent with the Council's directive Proposal. In particular, the conditions under which a company is taxed should be recalled. A service is considered as digital when alternatively: the digital user interface contains advertisement directed to the users; digital multilateral user interface, where users can interact and being in contact with each other; a transmission of the interface retrieved users' data to other subjects is realised.

The Italian legislator's choice, tough, could either be a winning reasoning or bringing up more challenges in the future.

As will be deepened in chapter no. 5, the taxation of digital assets, as recently modified, gives an important contribution in terms of tax fairness on the

[191] The Council of the European Union, 7 March 2025, The Directive on administrative cooperation in the field of taxation (DAC9) - Political agreement. Related to this: the European Commission, 2024, Proposal for a COUNCIL DIRECTIVE amending Directive 2011/16/EU on administrative cooperation in the field of taxation, COM(2024) 497 final.

[192] Law, 27 December 2017, n. 205, *Bilancio di previsione dello Stato per l'anno finanziario 2018 e bilancio pluriennale per il triennio 2018-2020*, modified at last with the Law, 21 Fabruary 2025, n. 15, Conversione in legge, con modificazioni, del decreto-legge 27 dicembre 2024, n. 202, recante disposizioni urgenti in materia di termini normativi.

short term. Since, this imposition could be combined with other fiscal instruments in order to tax a certain type of wealth, that often does not correspond to a proactive activity of the owner, the State's need for revenues and the guarantee for a not distortive fiscal system can be fulfilled.

4. A sustainable taxation: data as a source of profit

Against the described backdrop, since the digital economy and the related tax system are elements of the global economic system's gear, paying attention to the all-encompassing problem that humanity is currently facing, which is climate change, is needed. Sustainability is the only efficient response to the issue, therefore a sustainable economy must be restored or created.

Tax fairness represents only one aspect of the sustainable economy, as reported in the UN 2030 Agenda goals 8th, 10th, and 12th[193]. The OECD[194] has shown how taxation is an important tool to reduce inequality, which is one of the making factors for unsustainability. In this respect, according to the OECD's studies, redistribution is pivotal. In fact, those countries that obtain the largest redistribution will more likely be the ones with the lowest inequality after taxation.

As it can be observed in *our world in data's* charts[195], developing countries obtain less revenues than developed countries, even when the type and coefficient of tax systems are similar. Therefore, the digital economy also embodies an opportunity to make people (as taxpayers) understand the importance of fair taxation. For this reason, the Subject-to-Tax Rule, seen above, appears to be a useful tool in order to force in the future a sort of cooperation between developed and developing countries aimed at implementing redistribution solutions.

The International Centre for Tax and Development estimated that in Italy in 2021 tax revenues represented the 43.3% of GDP[196]. According to the Centre's data,

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[193] Goal no. 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; goal no. 10: Reduce inequality within and among countries; goal no. 12: Ensure sustainable consumption and production patterns.

[194] See among others: E. Ortiz-Ospina, M. Roser, 2016, *Taxation*, OurWorldInData.org, OECD Income Distribution Database (IDD).

[195] OurWorldInData.org.

[196] Data source: UNU-WIDER Government Revenue Dataset (2023).

the tax revenues have been going up consistently in the last decade almost in every country of the world, with a few exceptions. The Report titled *An Action Plan for Environmental Fiscal Reform in Italy* proposed several solutions, which enlighten the relationship between fair taxation and sustainability. In fact, one of the OECD's suggestions regarding the fiscal reform focused on redistribution. "*The revenue from higher effective carbon rates can contribute to strengthening the competitiveness of the Italian economy. First, if a large share of the revenue is used to lower effective tax rates on labour (including the labour income tax and social security contributions), incentives to work increase. At the same time, labour costs decrease, increasing the incentive to hire workers and to start new enterprises. Second, active and targeted support for investment in clean technologies can accelerate their wide deployment, improving firms' competitiveness. In addition, increased use of domestic renewable energy resources and less reliance on imported fossil fuels will improve the balance of payments. Third, these measures can provide a competitive edge to Italian firms for leading in terms of innovation towards a low-carbon economy*"[197].

As briefly described above, in the digital economy an important role is played by users, because their contribution might produce an economic value for the companies involved in digital activities. Not so many scholars are considering human contribution as a factor of value making in terms of market power. In fact, retrieved data could be thought of as a sort of trade goods. Due to digitalisation, economy has been shifting during the last decade towards an immaterial market of immaterial goods. Knowing how to read the retrieved data has become essential to companies, thus a misreading of data can represent also a disvalue for the company instead of an opportunity. This is one of reasons why taxing the users' contribution effect can be tricky, and companies are aligned saying that consumers' data analysis is not a secure source of profit.

Nevertheless, a business based on data selling exists and platform' users are too often not aware. Considering that the more relatable to people's daily life taxes are, the more welcomed and justified they can be perceived, an analysis of the users'

[197] OECD, 2021, Opportunities and challenges of Environmental Fiscal Reform in Italy. Grant Agreement SRSS/S2019/036 – support to EU member states in the implementation of structural Reforms.

contribution should be conducted. Therefore, investigating the role of the user, considered as a citizen, as a taxpayer and, even more, as a consumer appears to be mandatory.

A one-to-one approach, where instead of a lump-sum levy system related to the companies' revenues annual amount, a tax based on the data chain can be hypothesised. Moving from the concept of the so-called data mining[198], the consumer's data protection scheme could be applied to the case in order to achieve a two-fold advantage.

As a matter of fact, when people use a website/platform are informed of the caption of their data. However, it appears as an automatic mechanism, thus underrated. As individuals, they are worried about the fact that their personal data such us identity, home address, bank relating information won't be spread all over the world, but they are quite insensible to the effect generated by that profiling on the economy on a global scale. On the other side, uniformity will be the result. Companies use those data profiling to exploit to the maximum extent their production's direction and to lose the least investments possible.

Therefore, explaining to the consumers how much their usage worth to the company, would mean making the users conscious of their power. "*The concept of data mining refers to the techniques, methods, and algorithms to analyze large amounts of data with the ultimate goal to transform data into knowledge (Witten et al. 2017, Larose et al. 2014). When put into the context of a business model analysis, data mining can be considered as the part of a business model that creates value out of data*"[199].

Then, a payback mechanism could be introduced and developed in the future, due to the user's participation in the company's profit creation. Users could be paid through coupons or discounts, thus retrieving data would become a tangible activity, in the intangible world of Internet, prone to be taxed. In fact, it would be easier to make that activity adherent to the e-commerce' scheme and be taxed consequently.

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[198] M.Olbert, C. Spengel, 2019, *Taxation in the Digital Economy - Recent Policy Developments and the Question of Value Creation,* International Tax Studies 2019, no. 3 (2019): 2-[ii].
[199] See note no. 29.

Moreover, data driven businesses would be, in this way, forced to calculate the value, or disvalue, of the users' contribution for their own interests, as digital assets, hence this could create the unwanted positive bias of cutting out all the negative and false values added by fake users or upscaling social media entrepreneurs. If data mining becomes an activity that can be taxed itself, profit shifting phenomenon could be potentially hindered.

Considered as a chance, data's traceability becomes a resource to link and lock the relationship between a company and the State where data comes from, traying to replicate the destination principle. The positive connection among States, taxpayers and companies is pivotal to realise a sustainable economy and consequently a sustainable society. To the scope, building trustworthy relationships between the parties involved appears to be needed.

5. Alternatives to the present capitalism

As explained also in the previous chapters, the current way of consuming is no longer sustainable. Its linearity is exploiting the soil, the sea, the air and all the Earth's inhabitants, the humankind included. Social sustainability is what makes the difference between surviving and living.

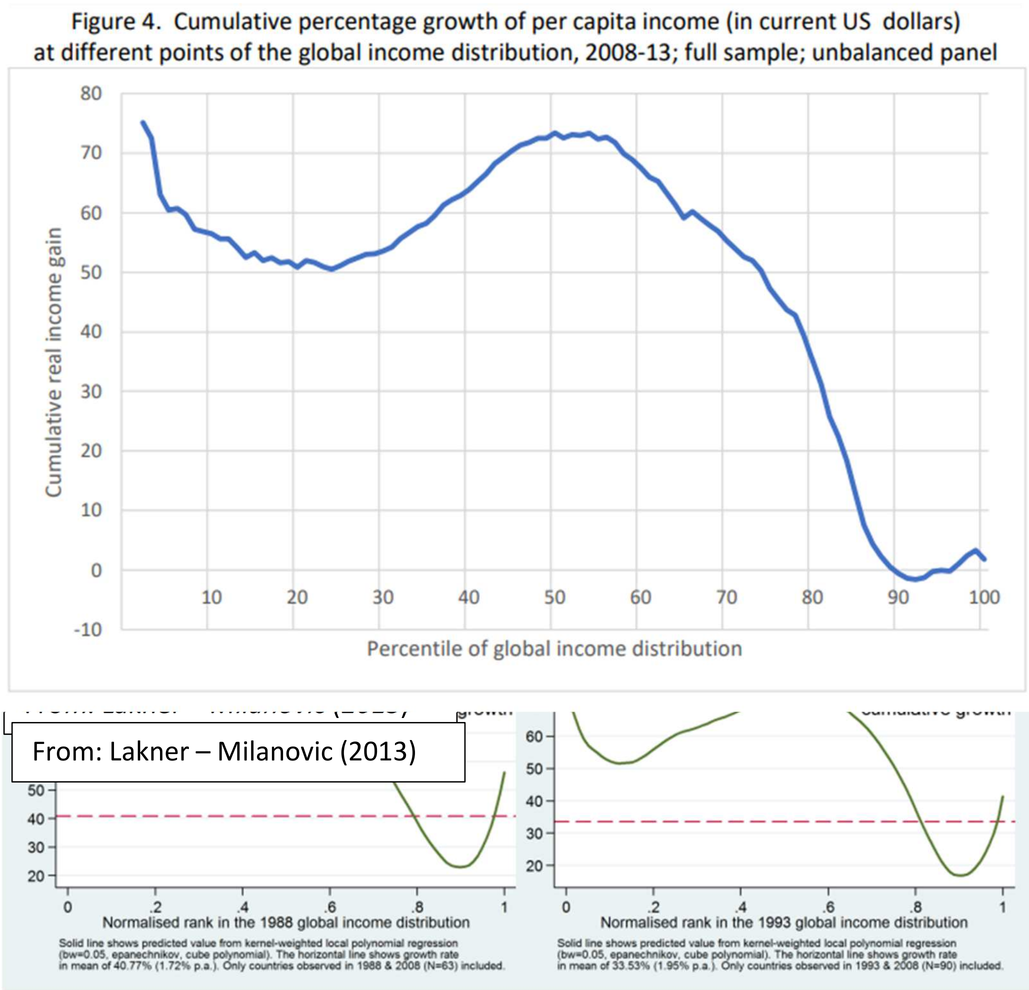
As a global society we are caged by markets' dynamics, forgetting who created the market itself, we did. Markets are losing competitiveness also because States' economic wealth depends on them so deeply that governments are afraid to fail; as the State was an enterprise, which it is in certain respects. In order to chase economics rules' accomplishment, States seem to have forgotten the power they have in shaping society. Democratic systems work on shared values' scales, on which governments rely in order to realise the political goals they have been elected for. Hence, preferring to spoil economics' dynamics rather than utilising the Law, means forgetting the willingness of citizens, who have voted to see their beliefs realised, not to please the market.

Against this complex backdrop, a solution appears to be possible: the progressive capitalism, theorised by Professor Stiglitz. As the Professor reminded "*these mega-corporations have used their market power to enrich themselves at the* *expense of everyone else. By charging higher prices, they have effectively lowered consumers' living standards. With the help of new technologies, they can – and do – engage in mass discrimination, such that prices are set not by the market (finding the single price that equates demand and supply), but by algorithmic determinations of the maximum a customer is willing to pay*"[200]. Therefore, he suggests the adoption of a *progressive capitalism*, that can, and should, be the evolution of the present capitalism.

However, realising such a challenging switch requires a proper modification of the *status quo*, since deregulation key is mining any possibility to change in better. Western countries are losing their middle class, as many journalists write often, and as a result a perception of instability is spreading. In this respect, the so-called Elephant Chart by Lakner and Milanovic[201] deserves to be briefly recalled[202]. In fact, among all the important findings reported in the paper that contains the famous chart, the one about the increasing of global inequality appears to perfectly match with the necessity for a different approach to taxation. The Elephant Chart shows how the world's superrich are sharply richer than in the past, while the world's poorest are barely wealthier than in the past. Even though, Milanovic in 2020 partially reformed his theory, according to the data retrieved from 2008 to

[200] J. E. Stiglitz, 2019, from *The Economy We Need*, in Project Syndicate, May 3rd, 2019.
[201] Branko Milanovic's studies on the topic have been developed before his collaboration with Lakner. On the topic, see among others: Milanovic, 2012, *Global income inequality by the numbers: in history and now –an overview*, in Policy Research Working Paper 6259, The World Bank Development Research Group Poverty and Inequality Team November 2012.
[202] See: C. Lakner, B. Milanovic, 2013, *Global Income Distribution From the Fall of the Berlin Wall to the Great Recession*, The World Bank Development Research Group Poverty and Inequality Team, December 2013, in Policy Research Working Paper 6719, p. 42.

2013[203], the evidence of the existing inequality he showed off must be taken into account when tax fairness is discussed.



Therefore, Stiglitz's *progressive capitalism* theory seems to fulfil the fairness criterion that the current capitalism fails to satisfy. Paraphrasing Professor Stiglitz's words, *progressive capitalism* consists in getting rich by adding a slice to

[203] See: B. Milanovic, 2020, *After the financial crisis: the evolution of the global income distribution between 2008 and 2013*, Graduate Center City University of New York, International Inequalities Institute LSE, Stone Center on Socio-economic Inequality, 5 July 2020, Online at https://mpra.ub.uni-muenchen.de/101560/ MPRA, Paper No. 101560.

the nation's economic pie, instead of getting richer by grabbing a larger piece of the pie by exploiting others. Stiglitz's proposal of a "*market economy that offers the promise of a prosperous economy in a just, free and inclusive society*"[204] should be embraced, if we want to achieve social sustainability in the labour sector. In fact, the professor explains that "*unlike neoliberalism, progressive capitalism is based on a proper understanding of how value is created today. The true and sustainable wealth of nations comes not from exploiting countries, natural resources, and people, but from human ingenuity and cooperation, often facilitated by governments and civil-society institutions"*[205]. A conception of the market economy that offers the *"promise of a prosperous economy in a just, free, and inclusive society"* [206] should be taken into consideration in order to restore our production and consumption systems within the nature.

[204] J. E. Stiglitz (2019).
[205] See the previous note.
[206] J. E. Stiglitz, 24/05/2023, *An economy for a just, free, and prosperous society*, *Lectio Cathedrae Magistralis*, Università Cattolica del Sacro Cuore, Milano.

Chapter 5
The thesis' proposals

1. Would environmental transition lead to a decline in GDP and to a loss of tax income?

A limitation to the production, and the consequent decrease of the current production, is the assumption on which some scholars are focused in order to theorise an ecological transition, able to be create (at least idealistically) a carbon-neutral society with zero impact on the environment. However, the realisation of such a commitment would necessarily lead to the reduction of the gross domestic product (GDP), but it represents according to those scholars an accepted side effect. In fact, in agreement with this strand of thoughts spoiling natural resources while increasing production levels exponentially, as the so-called developed world is currently doing, is not acceptable, since it is driving us to the planet's destruction[207]. In this regard, it is important to recall that in the past fourteen years the *Earth overshoot day*[208] has fallen in August, a lot earlier than the end of the year.

[207] To deepen the comparison between weak and strong sustainability, see, among others: I. de Soysa, 2022, *Economic Freedom vs. Egalitarianism: An Empirical Test of Weak & Strong Sustainability, 1970-2017*, in Kyklos: internationale Zeitschrift für Sozialwissenschaften, pp. 236-268.

[208] *Earth overshoot day*: "*Earth Overshoot Day marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year*", definition retrieved from the Global Footprint Network's website, url: https://www.footprintnetwork.org/our-work/earth-overshoot-day/.

Therefore, according to those academics the environmental taxation on enterprises should encompass both a direct contribution on the pollutants used by companies during the production process, and an indirect levy aiming at leading consumers' behaviours towards a lower consumption.

As a matter of fact, the GDP's reduction, as well as the contraction of tax revenues, are factors which must be considered to pave the path towards the ecological transition. It is undisputed that taxation on pollutants, if it is well-conceived, is put in place with the goal of decreasing the pollution levels, while contributing progressively less to the tax revenue's collection as the time passes and, thus, the pollutants will be less used in the production and consumption processes.

Thence, either considering environmental taxation in a restricted sense, or in a broader one, green taxation's objective cannot consist in implementing tax revenues, at least in the long run. The reasoning behind the restructure of the fiscal system cannot be other than the survival of the planet and, consequently of the humankind who live on it.

Several philosophical theories have succeeded one another, trying to explain the juridical philosophical reasoning according to which environmental imposition can be considered legit.

Among those theories, Hans Jonas[209]' one appears to be the most anchored in reality, transcending its theoretical dimension. In fact, the philosopher has developed a responsibility principle conforming to which human beings should preserve nature, considered as an element of their "*existence completeness*"[210]. Thus, human action shall conform to humans' willingness to pursue the life on planet Earth[211]. Nevertheless, in Jonas' theory precaution imposes and justified a retreat in production quantity if the effects of such a production aren't known. Using like that, the concept of companies' social responsibility appears to be excessive

[209] Philosopher (1903-1993).

[210] Translation from the italian "*completezza esistenziale*", in L. Cucinotta, 2019, *Il nuovo paradigma ecologico: la ricerca di un'etica motivazionale tra responsabilità, realismo politico ed equità intergenerazionale* in Nuovi orientamenti di economia e diritto in tema di tutela ambientale, Wolters Kluwer Italia, ISBN 9788821771552, pp. 39 ss.

[211] L. Cucinotta, 2019: on p. 40 the author writes: "*Se il* tèlos *della natura è "continuare a vivere" – perché l'essere è preferibile al nulla – allora vuol dire che la conservazione dell'ecosistema è un valore da salvaguardare, anzi costituisce il dovere per eccellenza dell'uomo*".

from a juridical point of view, because it involves a precise and predetermined choice which does not seem to be fit in a multivalued society and in a free economy.

The responsibility principle, as defined above, can be inflected and make it evolve into a collective *myself*. Since the climate change threat is affecting every person, as described in chapter 1, this unified *I* subject cannot choose to pursue polluting in order to maximise the profit, because it would be a self-defeating choice. The Earth has already achieved the tipping point, in terms of impracticability of regenerating itself, the choices made today will not impact only the future generation, since they will affect the current world population, too. In addition to that, the true assumption according to which the wealthy class is less touched by extreme weather events, since they can move to safer locations, stays valid only for the so called super rich, who represent about the 1% of the world population.

Despite the impossibility to exclude the absolute uselessness of pollution for each and every Earth's inhabitant, the only one who might not care about it, should be a person of male sex, living in a climate safe zone from which he would not move, he should be old enough not to see the consequences of his actions that will happen in the next ten years, and finally he should not care about anybody except himself[212]. For all other people, the human being, as a rational being, will maximise its wellbeing, which includes the basic need of survive. From a self-preserving point of view, then, the maximisation of wellbeing corresponds to the rational exploitation of natural resources. Thus, using taxation to drive people towards a sustainable lifestyle appears to be justified. Obviously, the capability to adaption to such a change will depend on how much ease every individual is ready to give up to.

The juridical basis of environmental taxation stays in the assimilation of the population as a collective *I*, indeed. In fact, this is not properly because the environment is considered as a common good, thus fiscal levy can fulfil the commutative function (see *infra*); but as the result of drawing environment into the human life frame, since it is the scene were the society plays. Hence, as well as the

[212] In 2020, the people over eighty represented the 1.9% of the world population. Data retrieved from: Pew Research Center, UN.

juridical system is governed by rules, which allow different people living together, the environment is the background, the setting, where the lives of that inhomogeneous whole of people flow.

The society would not exist without a space. And society cannot exist without rules. Those rules embody values and goals shared by citizens, since ethics shape the rules and make them adhere to an ideology, moral or political. Thence, a juridical system, fiscal rules included, that guarantees the ideological space of the society, as the *locus* where individuals' existence takes place is necessary. Following the above reasoning, environmental protection laws obtain authority, regardless of philosophical speculations, and they can be used as a foundation for environmental fiscal imposition.

In each State's normative system, then, the protection and the restoration of the nature could be insert as objectives, utilising the appropriate juridical reasoning, compliant with the single State's background and constitutional framework. The latter is often the layering effect of laws' enactment succeeding one another throughout the centuries, when nature's conception was twofold: a portion of territory belonging to the State, and concurrently the everlasting planet where every being live.

2. Theorising the excess of surplus[213] – taxation opportunities

As seen in the previous paragraphs, the perception of which goods can be considered as necessary has evolved according to historical events and technological changes. Understanding motivations subtended to consumers' choices is the object of the behavioural economics and falls out from the present thesis, whose focal point is environmental taxation, as already described.

However, macroeconomic models which explain the relationship existing between consumption and income are useful in order to understand how fiscal imposition can affect consumers' behaviour in terms of sustainability. In fact, macroeconomics classic models represent a resource, since they permit to identify to what extent consumption can be considered as a need, in a certain era.

[213] Translated from the italian "*eccesso di superfluo*": neologism.

Moreover, considering that habits respond also to the level of wealth achieved by the individual, this person will perceive as necessary a basket made of goods or commodities that he/she uses daily, conversely the same person will assume as not needed, a surplus, as a basket containing goods and commodities belonging to an upper income class, with which he/she does not identify. By making an example, it is possible to say that a citizen living in one of the so-called developed countries looks at permanent availability of Internet connection as a basic service, thus he/she demands for this commodity to the State, which provide it through national infrastructures paid by taxpayers. Same reasoning can be applied to services like unlimited electricity, potable water, limitless access to food, and, lately, delivery services to receive at home any type of things, and their free return. The definition that represents in a stereotypical way the contemporary consumer is the Lazy Boy Chair, on which a person could potentially live forever.

Without pursuing any kind of moral analyses on behaviour, which discriminate against and enhance the characteristics of this hypothetical consumer, it is pivotal to report that the perception of this individual would not correspond to those of other individuals coming from different eras, backgrounds, and social classes.

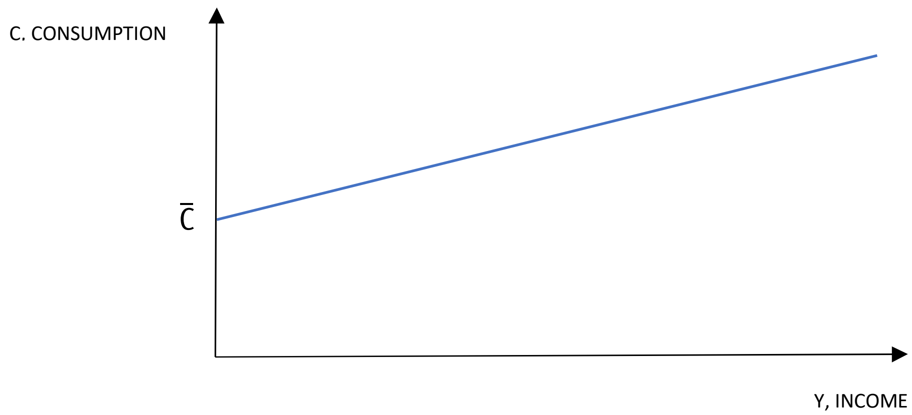
Internet connectivity is the symbol of a commodity necessary and superfluous at the same time. It embodies both environmental pollution and its resolution, since it allows people to travel less (thus producing less CO2), whilst it consumes a huge and continuous amount of electricity. In fact, even though the computer has been a *prêt-à-porter* technology since the '90s, it has always been used incorrectly in terms of sustainability. Furthermore, the negative environmental impact generated from activities which exploit Internet connection, such as mining and cloud computing (see *infra*), could justify an immediate taxation on the commodity connection, in order to reduce its use, knowing that it would affect every person who is connected without diversify according to the activity put in place thanks to the connection. Nevertheless, Internet has represented the overcome of territorial boundaries, the factory of new opportunity, the unique access to democratic information and to education. In many countries, it has been pivotal in trying to achieve social justice and to provide a future other than simple survival.

Against this backdrop, analysing the propensity to consume becomes mandatory in order to understand to what extent a person is keen to quit consumption or to justify a proportional fiscal levy.

In this respect, the Keynesian consumption function, valid on the short run, is reported below. The marginal propensity to consume is decreasing.

CONSUMPTION FUNCTION IN THE SHORT TERM

$\mathrm{C} = \bar{\mathrm{C}} + cY$ $\qquad \mathrm{C} > 0$ $\qquad 0 < c < 1$



MARGINAL PROPENSITY TO CONSUME (MPC)

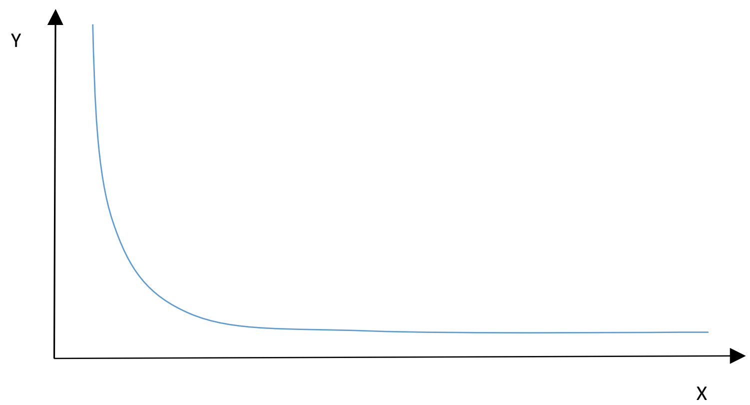
$$MPC = \frac{C}{Y} = \frac{\bar{C}}{Y} + c$$

Graphically, the marginal propensity to consume is represented by a homographic hyperbola, such that[214]:

$$f: x = \frac{ax+b}{cx+d}$$

establishing a positive domain, such that K>0

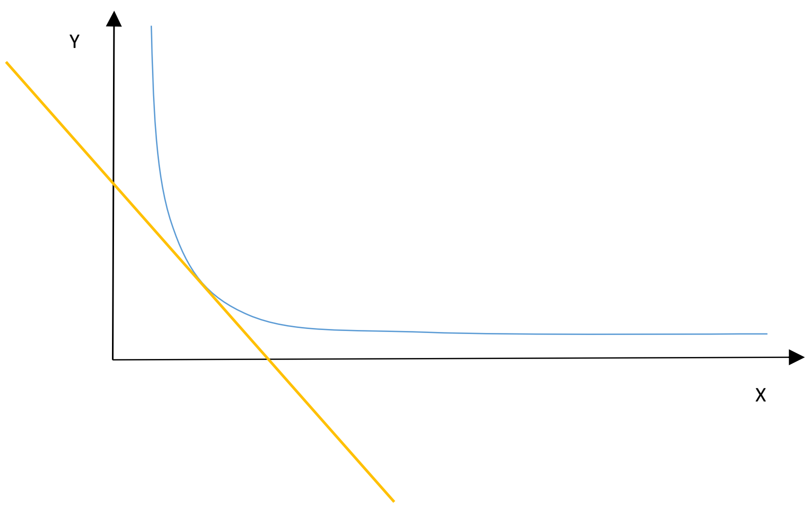
[214] See: J. Slowan, D. Garratt, 2010, *Microeconomia*, Il mulino, chapter 8.



Finding the vertex of the hyperbola, it is possible to draw its tangent line, with decreasing inclination.

$$V = -\frac{d}{c} \pm \sqrt{k}\,, \frac{a}{c} \pm \sqrt{k}$$

$$\begin{cases} y - y_0 = m(x - x_0) \\ xy = k \end{cases} \quad condition\ \Delta = 0$$



On the long period, though, the consumption function theorised by Modigliani[215] must be taken into consideration, on the basis of empirics' data retrieved and elaborated by Kuznets[216].

LONG PERIOD CONSUMPTION FUNCTION

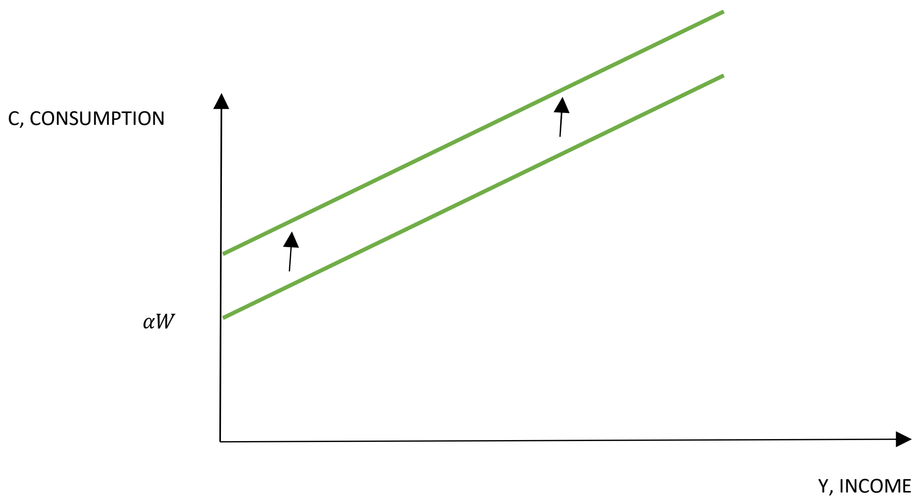
$$C = \alpha W + \beta Y$$

Where:

W= wealth

α= marginal propension to consumption associated to the wealth

β= marginal propension to consumption associated to the income



An increase in wealth corresponds to an upward shift of the correspondent line, preventing the marginal propensity to consumption to decrease with increasing income[217].

[215] F. Modigliani (1918-2003) recipient of the 1985 Nobel Memorial Prize in Economics.

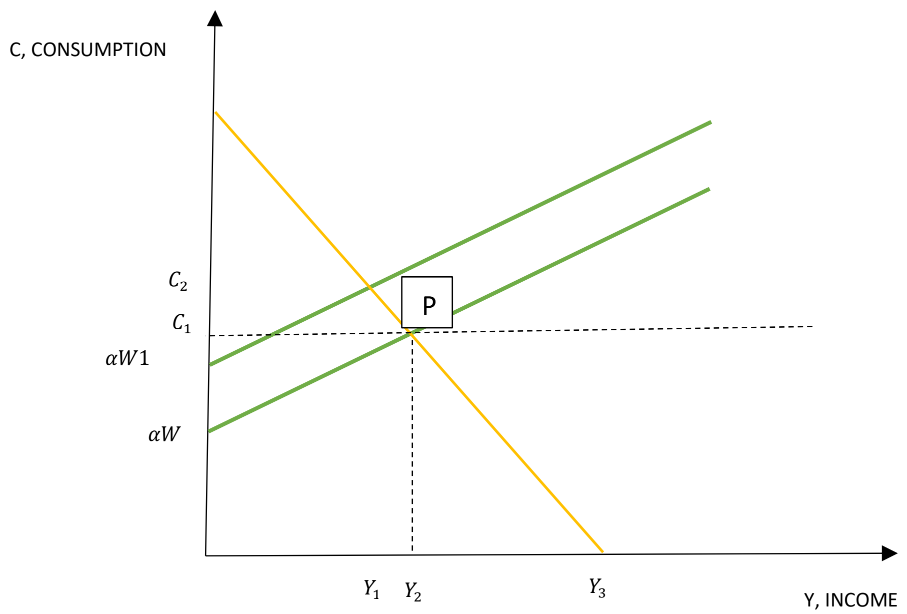
[216] S. Kuznets (1901-1985) received the 1971 Nobel Memorial Prize in Economic Sciences.

[217] To deepen the topic, see: G. Mankiw, 2022, *Macroeconomics*, Macmillan Learning, EAN: 9781319466886, chapter 20.

MARGINAL PROPENSITY TO CONSUMPTION (MPC)

$$MPC = \frac{C}{Y} = \alpha\left(\frac{W}{Y}\right) + \beta$$

At this point, it is possible that the c-intercept (which is the intercept of the long period consumption function) intersects (crosses) the derivative of the short period marginal propensity consumption function.



Considering all the above, it is possible to assume that at the intersection points between the long period consumption function (with increasing MPC), and the line representing the Keynes' marginal propensity to consumption, it is possible to identify the portion of consumption which can be consider as an extra, that is the marginal surplus related to that level of wealth, since the decreasing of the propensity to consumption.

In fact, the area of the triangle $aW\hat{P}C_1$ is placed beyond both the wealth line and the marginal propensity to consumption. Therefore, the consumption in this area can be identified as an excess of surplus. The angle congruent opposite $aW\hat{P}C_1$ corresponds to the marginal propensity to consumption which comprehends the wealth. It is sharper than the angle corresponding to the short period marginal propensity to consumption ($aW\hat{P}y_3$), which is wider since the related straight line decreasing faster. Such a representation can demonstrate a relation between the short period and the long period, making feasible hypothesize that the consumption quantity related to the short period would be easier to be quit, thus representing an excess of surplus stockpiled in the long period.

The hypothesis theorised above could have effects on the indirect environmental fiscal imposition, mostly on the building up of indirect taxes which do not aim at taxing pollutants, but they are made to provide a sort of guidance to citizens in order choose sustainable products and services (see *infra*).

For a rational individual, the marginal propensity to consumption is constant because an adaptation to a certain lifestyle exists, thus as the income increase the consumption will be incremented. As a matter of fact, the individual gets used to a lifestyle standard, thus he/she starts to feel like necessary goods and services that he/she did not feel as needed before. The described shift becomes more evident when different generation are compared, even if they have the same level of income (adjusted to the current purchasing power).

Thence, the *excess of surplus* identifies the starting point after which consumption would start to decrease, if the wealth would not increase as much as to include the said surplus in the basket of needed goods. And the environmental taxation can be applied in a prolific way on the described *excess of surplus* mainly for two reasons. At first, indirect imposition corresponds to an intrinsic valuable choice, which is the mirror of the values shared by a society in a certain time and space. Secondly, the *excess of surplus* gives a quantification to how much of a good taxpayers would accept to quit or how much they would pay to buy it anyway.

Building up a levy exploiting that not necessary quantity (the *excess of surplus*), waivable on the short period, appears to be a feasible solution, since the main objective of environmental taxation is not to obtain more revenues, but it is to improve and restore environment's conditions.

3. The nature of environmental taxation: the Italian playground

As seen before, (see chapter no. 2) defining environmental taxation leads to the creation of clusters. Every cluster would include a distinct type of environmental taxation, based on tax characteristics' differentiation, such as the tax basis, the taxable event, the tax's objective, and the subjects.

In this respect, some authors have justified environmental taxation using the restoration principle. Since exploiting nature would cause a damage to the whole community, the entrepreneurs should pay the so-called remediation cost. Nevertheless, other academics have considered environmental taxes as commutative instruments. According to them, when entrepreneurs use a common good, like the nature, they should pay a sort of price of utilisation to the society[218].

Even though these explanations seem to be valid, they do not encompass all the challenges that environmental taxation is facing. With reference to the first one described above, the flow stays in the fact that the tax seems to pay for a damage. It would involve drawing a scheme more similar to an administrative penalty than a fiscal imposition. In addition to that, such an approach would justify pollution, enough to shift from the *polluter pays principle* to a sort of *who can pay, can pollute*, whose deviation can be sum up in *the more you can pay, the more you can pollute*. Whilst, referring to the second one, limiting the impact of the production to the making process of an object in order to establish the value of the nature's utilisation, appears to be correct but still reductive. In fact, the enterprise uses the natural element, which can be used also by the object itself, even when it will be disposed. Justifying environmental taxes considered *stricto sensu* (often indirect taxes) has been always easier, than giving reasons to environmental taxation *lato*

[218] To delve into the topic, see: G. Corasaniti, 2023, *La "plastic tax" tra principi costituzionali, disciplina interna e compatibilità con l'ordinamento UE*, in M. Martis (edited by), 2023, Politiche fiscali e green economy: tendenze evolutive della transizione ecologica, in Collana: Pubblicazioni del Dipartimento di Giurisprudenza dell'Università di Cagliari, Serie II, n. 49, Edizioni Scientifiche Italiane, ISBN 978-88-495-5420-5, pp. 140-153.

sensu, in which the restoration function and the nature's preservation take almost a backseat.

Nonetheless, a newfound juridical legislation keens to solve the climate change problem is making the separation made above obsolete. The fiscal systems of different States, Italy included, require a complex mechanism which involves tools like deduction, detraction or exemption, in order to comply to neutrality environmental goals introduced by the European Union[219].

However useful, those instruments if not well coordinated perfectly risk realising double impositions or to distort the incentive/tribute's effect.

As analysed in chapter 3, environmental imposition loses its power in terms of society's values when it is trade for labour taxation. On the contrary, the neutrality of environmental taxation has been often used to lower the levy on enterprises.

Even though the concerns regarding the excessive fiscal burden on enterprises are necessary in order to develop a not discriminatory fiscal system, those should not be put in comparison with environmental taxes. The latter deserve legitimacy and autonomy within a fiscal system, which encompasses also labour taxation, as an element to achieve the sustainable development referred by the United Nations[220].

Albeit to date in Italy the fiscal burden on societies is a controversial topic, limiting the reasoning about green taxes in order not to affect the taxation on labour, drawing a system which does not differ too much from the current one, cannot be the only solution[221]. The required change needed to protect the planet and to comply with the EU's guidance documents must be structural. It would find also in the direct taxation's instruments one of the resources to realise the green transition. Therefore, at least in academic research abstracting the reasoning, trying to untie the current knots, appears to be the correct path to be paved, even because some

[219] For example: green buildings incentives.
[220] See the Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1, titled Transforming Our World: The 2030 Agenda for Sustainable Development, Preamble, 1st paragraph: "*We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development*".
[221] See also: Centro Studi Confindustria, 2019, *Quanto costa il lavoro?*, Valutazione delle politiche pubbliche, Infografiche.

entrepreneurial realities are already giving to lawmakers the confirmation that fiscality can drive circular economy[222].

3.1. The Italian Constitution

Coordinating article no. 53 of the Italian Constitution with the identification of environmental taxes' assumption is a complex task, extensively discussed by scholars. This assignment becomes even harder when the differentiation seen above is taken into account.

The recent change made to the Italian Constitution unfolded the modification process of the environment's definition, which went from being considered an immaterial collective good to be described as a tangible element, to the extent that it must be protected even before enterprises' activities.

Briefly recalling the interested articles of the Constitution can be useful in order to explain the described shift[223].

Article no. 9, in Fundamental Principles:

The Republic shall promote the development of culture and of scientific and technical research.

It shall safeguard the natural beauties and the historical and artistic heritage of the Nation.

It shall safeguard the environment, biodiversity and ecosystems, also in the interest of future generations. *State law shall regulate the methods and means of safeguarding animals*[224].

Article no. 41, in Economic Relations:

Private economic enterprise *shall have the right to operate freely.*

[222] To explore the topic, related to the italian situation: M. Martis, 2023, *Tassazione ambientale, sostenibilità ed economia circolare: un caso virtuoso nell'imprenditoria sarda*, in M. Martis (edited by), 2023, Politiche fiscali e green economy: tendenze evolutive della transizione ecologica, in Collana: Pubblicazioni del Dipartimento di Giurisprudenza dell'Università di Cagliari, Serie II, n. 49, Edizioni Scientifiche Italiane, ISBN 978-88-495-5420-5, pp. 207-225.

[223] The reported text is published on the Italian Constitutional Court's website: Costituzione_italiana_english_version_ott2023.pdf.

[224] Constitutional Law of 11 February 2022, No. 1, (in Official Gazette No. 44 of 22 February 2022), provided, by art. 1, par. 1, for the insertion of two new sentences at the end of the art. 9.

It cannot be carried out in conflict with social utility or in such a manner as ***may harm health, the environment, safety, liberty and human dignity***.

The law shall determine appropriate programmes and checks to ensure that public and private economic enterprise activity be directed at and coordinated for social and environmental purposes[225].

Despite the disagreements over the constitutional text, about whether the new articles can be considered as immanent principles, or programmatic ones[226], the majority of scholars agree about the necessity of preserving the nature trough every action of the State, for the future generations' interest.

Therefore, an intergenerational pact has been inserted in the Constitutional text, as Brazil had already done in the near past[227]. As a matter of fact, such a duty obliges the population of today to make the planet survive for the people of tomorrow. Even tough, legal philosophy has identified a compelling theory, which transcends the time, imposing a certain levy on taxpayers in order to guarantee goods to someone who still does not exist, and whose future is uncertain for many reasons, appears to be artificial[228].

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[225] Constitutional Law of 11 February 2022, No. 1, in Official Gazette No. 44, of 22 February 2022, provided, by art. 2, par. 1, letter a), for the amendment of art. 41, para. 2; and, by art. 2, para. 1, letter b), for the amendment of art. 41, par. 3.

[226] About the twofold identity of article 9 and article 41 of the Italian Constitution, see: Senato della Repubblica, Servizio Studi, Ufficio ricerche su questioni istituzionali, di giustizia e cultura, 2022, dossier 7 febbraio 2022, Modifiche agli articoli 9 e 41 della Costituzione in materia di tutela dell'ambiente, A.C. 3156-B, pp. 6-16.

[227] The Brazilian Constitution has been one of the earliest constitutions (in the '90s) to introduce the principle of environmental protection and an intergenerational pact. See Brazilian Constitution, Chapter VI, titled *Environment*, art. 225: "*Everyone has the right to an ecologically balanced environment, which is an asset of common use and essential to a healthy quality of life, and both government and community shall have the duty to defend and preserve it for present and future generations.* [omissis]".

[228] For a comprehensive analysis, it has to be reported that some scholars support the idea of an intergenerational pact with future generations who are not born yet. According to Menga, for instance, the future must be considered as prior one, which comes to us as a responsibility duty. Therefore, future generations can be considered not as a subject, "a someone" but as the object of our actions, as "a what". See: L. Cucinotta, 2019, *Il nuovo paradigma ecologico: la ricercar di un'etica motivazionale tra responsabilità, realismo politico ed equità intergenerazionale*, in Nuovi orientamenti di economia e diritto in tema di tutela ambientale, Wolter Kluwer, 2019, pp. 35-49.
In addition, in this respect, A. D'Aloia, 2023, writes "*Solidarity, which is the awareness of sharing the planet with those who would live tomorrow, and of how our current choices can reflect on future contexts, and responsibility towards everyone's destiny, is the key to syntesis and (re)composition between right and duties*", in New Constitutional keywords: reasoning about future and sustainability, Book: Ecological transition and environmental taxation, in Diritto Tributario – Tax Law n. 4, Giuffré Francis Lefebvre, 2023, p. 12.

However, future generations can be declined in a broader sense, which allows to include in the definition of *future generations* also the ones already born. In this respect, the new constitutional principles engage perfectly within the rights and principles' framework designed by the Constitution in its entirety.

In this system, article no. 3[229] represents at the same time the foundation and the parameter of comparison, by which the State's intervention for the environmental protection becomes a legit tool needed to guarantee the same right of use to every member of the community. In this context, article no. 41 assigned to the legislator the task of promoting and controlling public and private activity, as a means to achieve sustainability.

Building a figurative semantics for the *social and environmental purposes* implies embracing an omni-comprehensive definition of sustainability, as reassembled throughout the present research, from the very first chapter. Hence, the sustainability as the wellbeing of the planet, and, thus, the wellbeing of the beings who live on it, humans included.

Due to the change intervened in the Italian Constitution's text, fiscal system is allowed to introduce an imposition, since the notion of environment exceeds the boarders of the naturalistic habitat. In fact, fiscal system must guarantee environmental sustainability, through an equalitarian fruition of the nature among all the citizens, which is possible only preserving the habitat. Providing for justice in taxation, whatever the goal would be, represents a complex task, implying put into relation article no. 41 with article no. 53.

Article no. 53, contained in the chapter Political Relations, reads as follow:

Every person shall contribute to public expenditure in proportion with their ability to pay.

The taxation system shall be based on a progressive rate.[230]

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[229] Article 3: "All citizens shall have equal social dignity and shall be equal before the law, without distinction of gender, race, language, religion, political opinion, personal and social conditions. It shall be the duty of the Republic to remove those obstacles of an economic or social nature which constrain the freedom and equality of citizens, thereby impeding the full development of the human person and the effective participation of all workers in the political, economic and social organisation of the country". Retrieved at url: https://www.senato.it/sites/default/files/media-documents/Costituzione_INGLESE_2023.

[230] url: https://www.senato.it/sites/default/files/media-documents/Costituzione_INGLESE_2023.

The ability to contribute holds a key role in the current fiscal system, and it must comply with the principle of equality, as displayed in article 3.

Therefore, a juncture between the equality principle, the enterprises' committed path towards environmental protection, and the political need for fiscal imposition's justification is crucial. Finding a common ground forces the discharge of commutative and sanctioning reasonings, analysed above, at least when the corporate's income taxation is the topic tackled.

3.1.1. Constitutional Court's judgements: hints for the future

Before the changes to the articles 9 and 41, introduced by the law no. 1/2022, the Italian Constitutional Court used to encompass environmental protection within the fold of articles 2[231] and 9[232].

Solidarity principle is a strong justification for fiscal imposition, since it expresses the of the Constituent Assembly's original willingness to dispel any chance of creating elites, oligarchies, which would have pushed society to the opposite direction of democracy.

The notion of a *republican ethics*[233] is the foundation contribution's solidarity. In fact, fiscal imposition allows the individual who receives the result of the redistribution, to realise himself/herself, for its own wellbeing and the society's one. Moreover, the Constitutional Court spoke about this principle several times, unfolding it through the substantive law.

Reasoning about balancing the equalitarian principle and the solidarity principle, the Court wrote "*per il loro carattere fondante, occupano una posizione privilegiata*"[234]. In addition to that, the Court has specified that the lawmakers'

[231] Italian Constitution, article 2: "*The Republic acknowledges and guarantees the inviolable rights of man, both as an individual and within the social groups in which one's personality is expressed. The Republic requires that the fundamental duties of political, economic and social solidarity be fulfilled*".

[232] Italian Constitution, article 9 before 2022: "*The Republic shall promote the development of culture and of scientific and technical research.*
It shall safeguard the natural beauties and the historical and artistic heritage of the Nation".

[233] Informal translation: "*un'etica repubblicana*"; see: L. Carlassare, *Solidarietà: un progetto politico*, in Tornare ai fondamenti: la solidarietà, Costituzionalismo.it, Fascicolo 1, Saggi e articoli – Parte I, 2016, p. 64.

[234] Informal translation: "*due to their founding character, they occupy a privileged position*"; Italian Constitutional Court, judgement n. 264/2012; judgement n. 152/2020 par. 7.

discretion shall be reduced by the "*garanzia delle spese costituzionalmente necessarie, inerenti all'erogazione di prestazioni sociali incomprimibili (ex plurimis, sentenze n. 62 del 2020, n. 275 e n. 10 del 2016)*[235]".

Right after the pandemic, the constitutional judges has investigated the interaction between the society's rights and individual's right to act freely "*l'interesse della collettività di cui all'art. 32 Cost. costituisce la declinazione, nel campo della tutela alla salute, dei doveri di solidarietà di cui all'art. 2 Cost.* […] – e che, pertanto, – *il diritto alla salute individuale può trovare una limitazione in nome dell'interesse della collettività, nel quale trova considerazione il diritto (individuale) degli altri in nome di quella solidarietà "orizzontale", che lega ciascun membro della comunità agli altri consociati (sentenza n. 288 del 2019). I doveri inderogabili, a carico di ciascuno, sono infatti posti a salvaguardia e a garanzia dei diritti degli altri, che costituiscono lo specchio dei diritti propri: al legislatore tocca bilanciare queste situazioni soggettive e a questa Corte assicurare che il bilanciamento sia stato effettuato correttamente*"[236].[237]

More recently the Court has expressed itself on solidarity principle, providing citizens with a imposition's handbook. In fact, in sentence no. 10/2015[238], the Constitutional Court, has reported that it had already spoken about the same topic, confirming its previous decisions. In particular, the Court has "*rimarcato che la <<Costituzione non impone affatto una tassazione fiscale uniforme, con criteri*

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[235] Informal translation: "*guarantee of constitutionally necessary expenses relating to the provision of incompressible social benefits (ex plurimis, sent. n. 62/2020, n. 275 and n. 10 of 2016)*"; Italian Constitutional Court, judgement n. 152/2020, par. 6.

[236] Informal translation: "*the interest of the community referred to in art. 32 Cost. constitutes the declination, in the field of health protection, of the duties of solidarity referred to in the art. 2 Cost. [...] - and that, therefore, - the right to individual health can find a limitation in the name of the interest of the community, in which the (individual) right of others finds consideration in the name of that "horizontal" solidarity, which each binds member of the community to other associates (sentence no. 288 of 2019). The mandatory duties, borne by each individual, are in fact placed to safeguard and guarantee the rights of others, which constitute the mirror of one's own rights: it is up to the legislator to balance these subjective situations and to this Court to ensure that the balancing has been carried out correctly*"; Italian Constitutional Court, judgement n. 14/2023, published in G.U. 15 February 2023, n. 7.

[237] To better understand the solidarity principle's jurisprudential framework, see: S. Sciarra, 2023, *Solidarietà alla prova. Corte costituzionale, sicurezza sociale e diritti*, Intervento della Presidente Silvana Sciarra alla cerimonia di apertura delle celebrazioni per i 125 anni dalla fondazione dell'Istituto Nazionale della Previdenza Sociale "L'evoluzione del welfare e del lavoro per innovare il paese", nel 2023.

[238] Italian Constitutional Court, judgement n. 10/2015, published in G.U. 11 February 2015 n, 6; laws under appeal: art. 81, co. 16, 17, 18, Law Decree 25/06/2008 n. 112, amended by art. 1, co 1, L. 06/08/2008 n. 133 (so-called Robin Hood tax).

assolutamente identici e proporzionali per tutte le tipologie di imposizione tributaria, piuttosto essa esige un indefettibile raccordo con la capacità contributiva in un quadro di sistema uniformato ai criteri di progressività [omissis] *in spirito di solidarietà politica economica e sociale (artt. 2 e 3 della Costituzione)>> (sentenza n. 341 del 2000, ripresa sul punto dalla sentenza n. 223 del 2012)*”[239].

Against this backdrop, any difference in fiscal burdens within the fiscal system shall be justified and explained. Lawmakers can use properly their discretional power if they maintain the inner coherence of the tax’s structure. Thence, according to the Court, affecting profits which come from conjunctural speculation can be consider as legit. In this respect, an environmental tax designed *tout court* as a direct imposition on corporates’ income, aiming, though, at protecting the nature, cannot be taken into account. If coherence shall be reflected in the tax’s structure, elements like the pollution produced and the resources’ exploiting methods, should be included in the reasoning. By doing that, splitting the tribute will be possible without doubling it. In fact, a tribute would be linked to the pollutant disposed in the making process; while another one would affect the corporate’s income through its investors’ incomes, according to the activities done by the enterprise, regardless of the pollutant cited before. Indeed, it seems to be conceivable “*separatamente e più severamente solo l’eventuale parte di reddito suppletivo connessa alla posizione privilegiata dell’attività esercitata dal contribuente al permanere di una data congiuntura*”[240].

Therefore, regarding environmental taxation the part of income that should be used as tax base is the one related to the privileged positions, such as the permission of exploiting exhaustible natural resources or the production of big quantity of CO2 throughout the global production chain.

[239] Informal translation: “*remarked that the <<Constitution does not impose uniform fiscal taxation at all, with absolutely identical and proportional criteria for all types of taxation, rather it requires an unfailing connection with the ability to pay in a system framework standardized on the criteria of progressivity [omissis] in a spirit of political, economic and social solidarity (articles 2 and 3 of the Constitution)>> (sentence n. 341/2000, taken up on this point by sentence n. 223/2012)*”; Italian Constitutional Court, judgement n. 10/2015, par. 6.2.
[240] Informal translation: “*separately and more strictly only the possible part of supplementary income connected to the privileged position of the activity carried out by the taxpayer during the persistence of a given economic situation*”; Italian Constitution, judgement n. 10/2015, par. 6.5.1.

Thanks to the Constitutional Court's sentence, cited above (on the so-called Robin Hood Tax), another key element, about taxation, which can affect also environmental taxation, emerged: the discharge of the tribute onto the consumer. In fact, in that decision, the judges declared as unacceptable the effect of the tax because the additional fee would have devolved on consumers. The latter, according to the Court, should have, instead, benefited from it, in compliance with the law under judgement "*improntata a uno spirito solidaristico*"[241]. The failure in achieving the set goal has underlined the disputed tribute's unreasonableness.

However, not every tax related to environmental protection has to be neutral in terms of prices' increase. In fact, green taxes have the twofold objective of modifying companies and consumers' habits, while limiting the pollution's creation.

Regarding the opportunity to apply to the environmental fiscality, principles taken from other branches of the Law, the following quote of the Constitutional Court's sentence no. 111/2024 appears to be useful. Here the Court has emphasised that "<<*in un contesto complesso come quello contemporaneo, dove di sviluppano nuove e multiformi creazioni di valore, il concetto di capacità contributiva non necessariamente deve rimanere legato solo a indici tradizionali come il patrimonio e il reddito, potendo rilevare anche altre e più evolute forme di capacità, che ben possono denotare una forza o una potenzialità economica (sentenza n. 288 del 2019*[242]*)*>>"[243].

[241] Informal translation: "*characterized by a spirit of solidarity*", Italian Constitution, judgement n. 10/2015, par. 6.5.3.

[242] And still the Court: "*Having clarified the above, it is however necessary to specify that, when identifying a particular economically assessable tax base as an indication of a new capacity to pay tax for certain persons only, the legislator is subject to an obligation not to act arbitrarily in relation to the level of taxation, which must be proportionate with the tax base. This is the case above all when, as in this case, it is certainly not possible to conclude that, despite its structural characteristics, the financial market itself has not 10 in turn been affected by the crisis, as has moreover been documented by the private parties.*", Italian Constitutional Court, judgement n. 288/2019, par. 6.5.3.

[243] Informal translation: "*in a complex context such as the contemporary one, where new and multifaceted creations of value are developed, the concept of contributory capacity does not necessarily have to remain linked only to traditional indices such as assets and income, as it can also detect other and more advanced forms of capacity, which may well denote an economic strength or potential (sentence no. 288 of 2019)*>>", Italian Constitutional Court, judgement n. 111/2024, published in G.U. n. 27/2024; Contested rules: Art. 37 Legislative Decree n. 21/2022, converted into Law n. 51/2022, as modified by art. 55 Legislative Decree n. 50/2022 converted into Law n. 91/2022.

Therefore, in the environmental taxation contest the State can intercept new forms of wealth to be taxed, identifying that surplus of earnings coming from production processes of goods, or services, which not take into consideration stakeholders' sake. In this scenario, anyone who suffers pollution is included in the stakeholder cluster.

The described reasoning can be applied also to the broader concept of sustainability, according to the recalled definition given by the 2030 UN Agenda[244]. In fact, theoretically every time that the marginal profit obtained by a distortive use of globalisation affects individual rights recognised at national level by Constitutions and at an international level by international conventions or not binding agreements, it could be lawfully taxed[245].

Anyway, determining the tax base as a marginal size ("*una grandezza contabile marginale*"[246]) – like a profit made on an unsustainable exploitation of an exhaustible resource – it is a complex task. In reference to that, the Constitutional Court has affirmed that an increasing of sells not always implies an increase in profits, since the prices could have been decreased at the same time. Therefore, according to the Court, incremental balance based on VAT's incomes would not permit to "*nemmeno in forza della più moderna concezione del principio di capacità contributiva in precedenza ricordata* - (punto 7.1.2) - *di superare il test della connessione razionale e della proporzionalità*"[247].

The same reasoning has been applied by the judges to the excise duties, whose single-phase structure rises specific concerns in terms of environmental taxation. In fact, calculating the tax base of the tribute utilising the price, excise duties included (settled by applying the tax rate to the quantity of the product), would lead to a risk of double imposition for some taxpayers and to a distortive effect of the tribute's application, since some taxpayers within the supply chain might transfer those goods under suspension of excise duties[248]. Thence, wondering

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[244] Contained in the Sustainable Development Goals.
[245] The UN Guiding Principles on Business and Human Rights (UNGP) are an example of non-binding initiatives.
[246] Italian Constitutional Court, judgement n. 111/2024, par. 8.1.
[247] Informal translation: "*not even by virtue of the most modern conception of the principle of contributory capacity previously mentioned - (point 7.1.2) - to pass the test of rational connection and proportionality*", Italian Constitutional Court, judgement n. 111/2024, par. 8.3.
[248] Italian Constitutional Court, judgement n. 111/2024, par 8.4.4.

what the ultimate goal of indirect taxes in the environmental taxation contest could be, is pivotal. The theme acquires relevance, because when an increase in prices happens, even due to green indirect taxes, the medium-low incomes will reduce the buying of those interested in the items, thus people who have the less are the more affected by those measures.

However, as said before, since indirect taxation plays a leader role in driving consumers' behaviours, the lawmakers, trough that, put in place a *down to top* approach, in order to foster sustainability. Besides, a contraction in demand, with the consequent lowering of the GDP, is an inevitable adaptation according to those scholars who advocate in favour of the strong sustainability.

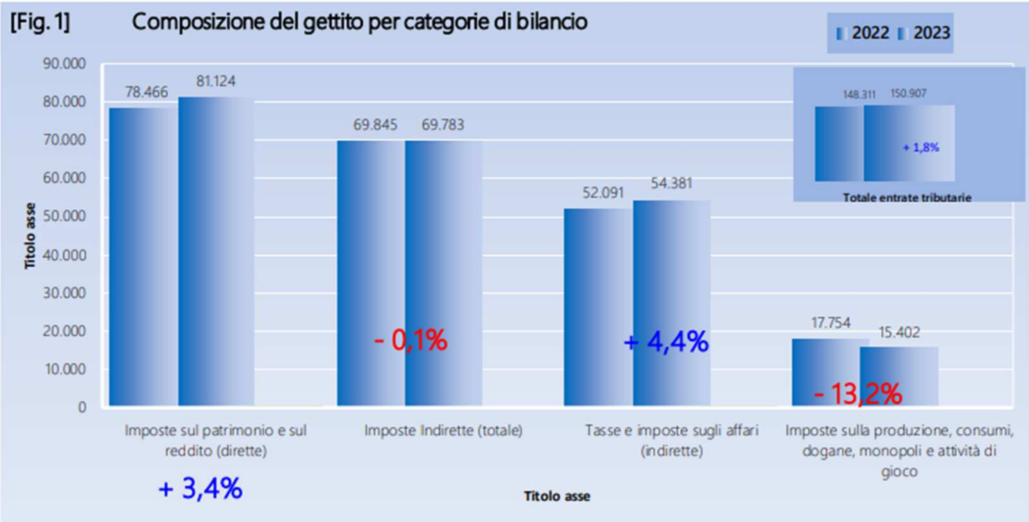
Analysing Constitutional Court's decisions, a general guidance can be deducted, in order to design a legit environmental tribute in compliance with constitutional principles. The emerging guidelines can be summarised as followed: a new form of wealth can be detected in order to be taxed; the inner *ratio* of the tribute shall be reflected in its structure; the base tax shall be identified using a rational and proportional method; double imposition must be avoided; a feasible surveillance system shall be provided, if some category of taxpayers will be exempt.

3.1.2. Reshaping indirect taxation: the VAT's role

The enforcement of an environmental tribute, methodised as an indirect tax, could be applied to different sectors, where the unsustainability problem has unfolded in overproduction and carelessness in the production/fruition processes, such as for instance food industry and the so-called fast fashion.

Two paths, that represents also hints for future research, seem to be suitable in order to design an environmental indirect tax correctly, both causing increase in pricing: remodulating the VAT rate, and mixing the environmental tribute with the VAT. The last option could be adjusted to different income distribution. In fact, a reduction mechanism for those whose income is lower than the first tax bracket (IRPEF) can be included, thus they won't renounce to essential goods.

Due to its application to transfers made within the State's boarders and to imports, the VAT can be used for environmental scopes. In enterprises' incomes operations subjected to the VAT are included, as well as not taxable transaction and exempt activities. As a matter of fact, the VAT's fiscal burden is discharged on the consumer/user, showing that if the rates are modified, consumers habits will be affected.



Source: Fig. 1 contenuta in Bollettino delle entrate tributarie 2023, n. 254, MEF, p. 3.

Taking that into account, the current VAT revenues should be acknowledged in order not to provoke undue variances, which would be problematic for the State's budget. Data related to 2023 show that the VAT's revenues in Italy were about 78.792 million of euros, 41.266 million of which came from internal transactions, while 6.526 million of euros came from imports' taxation[249].

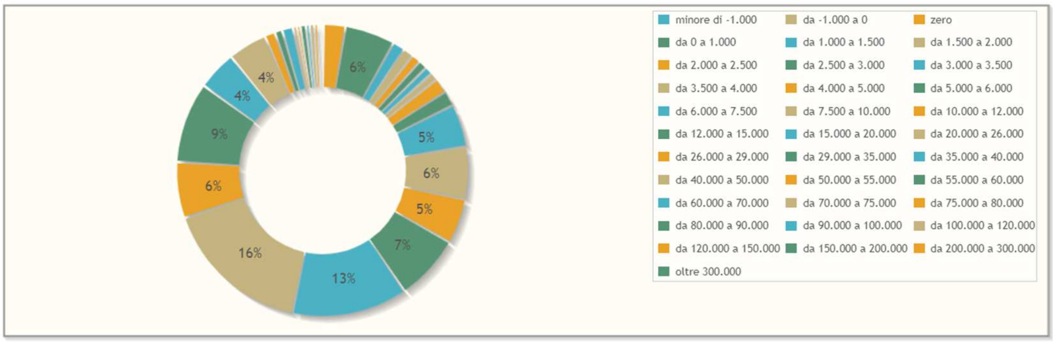
Against this background, it might be recommended to design a tribute which can be combined with the VAT, but that would find its precondition in the pollutant contained in the good as well as in the good's consumption. Hence, the disvalue would partially shift from the production side to the consumption side, in terms of

[249] Data retrieved from the *Bollettino delle entrate tributarie 2023*, Ministero dell'Economia e delle Finanze Dipartimento delle Finanze Direzione Studi e Ricerche Economico -Fiscali - Ufficio II, n. 254, April 2023.

national borders. Such a reasoning could be tested on not-sustainable packaging[250], obtaining:

- Re-routing consumers' behaviours.
- Pushing companies to look for innovative sustainable solutions.
- Supporting local transactions.

Anyway, during the selection of the taxable goods and the subjects to be taxed, adjustments would be needed. In fact, some products should be excluded depending on their specific characteristic which make impossible the sustainable transition. Then, the income level of taxpayers would be taken into account in order to minimise the effect of the additional environmental tribute on the VAT rate, if a substitute product is not available.



Source: MEF - Grafico reperibile all'indirizzo web: https://www1.finanze.gov.it/finanze/analisi_stat/public/index.php?tree=2023AAPFTOT010106

Besides, a detraction mechanism should not be applied to whom buy the row material in order to elaborate it, before selling it. Such an approach would encompass the secondary effect of increasing the fiscal revenues, but only on the short term. On the long term, instead, the tribute aims at cancelling out itself, since it would be enforced not to getting revenues but to protect the environment. In this respect, identifying the correct tax rate is pivotal to make the tribute efficient, thus

[250] The packaging tax enforced in the United Kingdom is different, since it is based on the imported quantity of plastic to determine the imposition, and it consists in almost 200 pound per tonne of plastic. To deep the topic, see the document *Plastic packaging tax*, 2022, Help Desk Brexit, Italian Trade Commission.

capable of maintain the free choice of consumers without distortions due to inflation's rate[251].

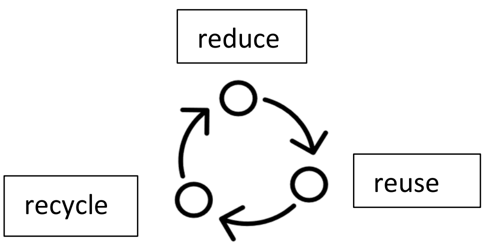
The complexity of designing a tribute like this, and its effects, could be a matter of investigation for future studies, even in statistics and behavioural economics.

For the purposes of the present thesis, it is important to underline that the described tribute, realised as an indirect tax, seems to be in line with the requirements indicated by the Constitutional Court in the cited sentences. In fact, the imposition's prerequisite would consist in the action of buying (not producing); the tax base appears to be rational and proportional; the structure would preserve low-income taxpayers from tribute's indirect effects, using the current tax declaration method; finally, the tribute would intercept a new form of wealth.

4. Circular fiscality: no more linear solutions

Change is a key concept in environmental taxation, since moving from linear production and consumption to circular ones is mandatory. In order to understand how realising that shift, briefly analyse circular economy can be useful. As known, circular economy is characterised by the three Rs: reduce, reuse, and recycle. Even if recycling represents the last option in the circular economy, it is so linked to the production process that becomes the easiest to be taxed.

Besides, recycling should represent a free-standing operation, so that waste from different production processes should be used to make a new product. In fact, even the representative draw of circular economy underlines the absence of waste or dispersions.



[251] To deep the italian families' consumption topic, see the document: *Le spese per i consumi delle famiglie | anno 2023*, ISTAT, 10 October 2023.

The circular economy notion has been implemented over the years, leading to the creation of diverse diagrams, including the 6 Rs diagram[252] and the so-called butterfly diagram[253].

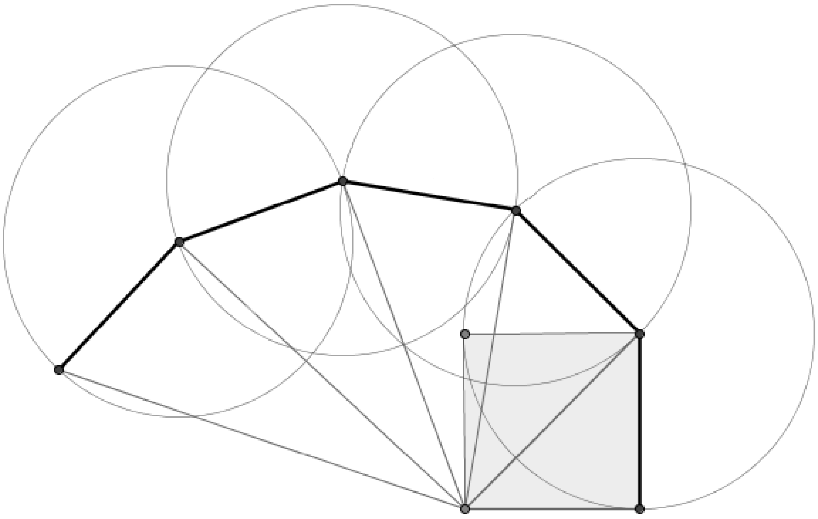
Some recent studies on the topic have been focused on the residual waste, underling the possibility that circular economy sometimes cannot fulfil the perfect cycle. In this regard, some scholars[254] have carried out an investigation that realises a more realistic approach to circularity, emphasising how many business practices which encompass circular economy exist. The combination of those practices creates a *model of business circularity* (MBC). They include, for instance, strategies that realising circular activities, like recycling, and other supporting initiatives, like the eco-design.

These scholars (Montresor and Zotti) underline that the first thermodynamic law prevents the circular economy to be represented as a perfect cycle, since a loss of energy must be assumed when a transfer of energy exists[255]. Nevertheless, each economy is characterised by a certain level of circularity. For this reason, according to the cited authors, talking about "*circolarità di un'economia*"[256] would be recommended.

The reported study is pivotal to put in place an unperfect circularity also in the fiscality field. In fact, utilising a different fiscal tool according to each opening within the *model of business circularity* could ignite autonomous mechanisms of taxation or incentivisation where an energy's dissipation happens. Re-drawing the circularity within the economic and fiscal system can be useful to represent a realistic scenario, more compliant with the productive process. The geometric form which appears to be the most appropriate to describe the circularity of an economy seems to be the *Spiral of Theodorus*, known also as the *Pythagorean Spiral*. This

[252] N. Mehrab, M. T. Vahid, 2022, *Applying circular economy to construction industry through use of waste materials: a review of supplementary cementitious materials, plastics, and ceramics*, Circular Economy and Sustainability, 2, DOI: 10.1007/s43615-022-00149-x.
[253] To download the diagram and to know how it works exactly, see the Ellen MacArthur Foundation's website page The butterfly diagram: visualising the circular economy, https://www.ellenmacarthurfoundation.org/circular-economy-diagram.
[254] See: S. Montresor and J. Zotti, 2019, *Sostenibilità ambientale ed economia circolare: questioni concettuali e di operatività per le piccole e medie imprese*, in Nuovi orientamenti di economia e diritto in tema di tutela ambientale, Collana di studi Relazioni industriali fiscalità merci e commercio internazionale, Wolters Kluwer, pp. 4-16.
[255] See: S. Montresor and J. Zotti, 2019, par. 2.
[256] Informal translation: *circularity of a specific economy*; see: S. Montresor and J. Zotti, 2019, p. 7.

spiral builds up geometrically the square root of any number. In particular, the spiral is composed by isosceles triangles (the length of the first triangle's catheti is equal to 1), whose hypotenuse is placed on the next tringles' cathetus.



Source: google search (https://utenti.quipo.it/base5/geopiana/teodoro.htm), and then modified to suit the present work.

In mathematics, the spiral is utilised to locate the square roots, since the majority of them are constituted by irrational numbers, so not recurring periodic decimal numbers. This model seems to be useful to represent the environmental taxation for two main reasons. The first one stays in the overlap often generated by the productive process, and then by the consumption, in terms of pollution. Secondary, the graphic allows to see the space where it becomes possible to introduce a taxation or an incentive. In fact, drawing an arrow on the hypotenuses, the impots entity related to an energy dispersion can be visualised graphically. In addition to that, a new process (productive or consumption) can be introduced, starting from each triangles' hypotenuse. It would happen, for instance, when waste material is the base for a new production process. Thus, fiscality becomes a flow, adaptable to production and consumption's changes. The mathematical properties of the Theodorus' spiral have not all been discovered yet, thus, it is engaging using it for a new fiscality approach.

According to the necessity for a more sustainable fiscal system, some scholars[257] have underlined that linear fiscality is no longer sustainable and have suggested the creation of a functional fiscality system instead. However, to put in place a circular fiscal system taking into account a series of corollaries is necessary in order to introduce new taxation entities, which are designed for limiting pollution and consumption. Precisely, a singular element of impositions cannot overbear other fiscal entities of the same system.

Against this backdrop, *the polluter pays* principle[258] loses its power, in order to be transformed through a reverse approach, which results in *who doesn't pollute pays nothing* principle. Even if, polluting nothing is a utopic concept, since simply using the land results in consumption, it is a good goal that allow the legislator to potentially shift the taxation base from the income to the action. Nevertheless, taxing an action implies not to tax the same subject concluding an encompassing behaviour (such as a specific segment of production). It can be useful in order to make taxpayers' behaviours greener.

In fact, taxes reflect the value given by the society to a good to be preserved or an activity to be opposed. Modelling taxes correctly, according to the need of protecting and restoring the environment, is a difficult task to be completed.

In this respect, an important help comes from the recent *Corporate Sustainability Reporting Directive* (CSRD)[259] (see chapter no. 2), which requires companies to calculate, and report, their sustainability impact. Albeit this type of reporting corresponds to a cost for the companies, the importance in term of transparency and awareness of such a tool cannot be kept silent. The key role played by reporting instruments is often underestimated, but they also offer a

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[257] To delve into the topic, see among others: A. Uricchio, 2017, *I tributi ambientali e la fiscalità circolare*, in Diritto e pratica tributaria n. 5, pp. 1849 et seq.; M. Greggi, 2019, *L'ambiente e l'economia circolare nel Diritto Tributario*, in Circular Economy and Environmental Taxation – Atti della Summer School of Bari 9-15 September 2019, edited by A. F. Uricchio, G. Selicato, Cacucci ed., ISBN 978-88-6611-980-7.

[258] Entered into force for the first time in Europe, thanks to the Directive (EC) 2004/35 of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage.

[259] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting.

capillary database which can be used by legislators to create an egalitarian fiscal system.

Since the environment is a good to be preserved and it also work as a limit to the private activity, sustainability reporting can be considered as a mirror for the activities, classifying them in a scale of different gradation of green solutions. Every step of the scale can be associated with a gradient of taxation/incentive, in line with the tax base (taxable income) of the company.

As a result, a modular fiscal system can be designed, where the flexibility is a pivotal characteristic, even if such a system risks to generate distortions. In fact, the main risk of unpacking taxation, within a progressive fiscal system, is given by the fact that one element could weigh more than another, affecting differently similar incomes.

However, a mechanism that allows companies to do better, to improve their MBC appears to be the only one adaptable to the constant changing of technology and capable of adaptation in relation to companies' size and structure. As seen before, using the Theodorus' spiral, every circular experience put in place by enterprises could be allocated into a broader sustainability path, starting to fulfil the UN's sustainable requirements aim at becoming a carbon neutral society. Time and investments are required to promptly and completely fulfil all the requirements requested by the circular economy. Some of them works in sectors where polluting processes are necessary, since a greener technology does not exist yet. Others, instead, could, and thus should, be persuaded to retrieve new wyes in order to pollute less.

Dissembling the productive process and calculating a percentage of taxation, according to the pollution gradient seems to be possible using the *Pythagorean Spiral* analysed before. Hence, the today fiscal burden could be applied to the companies, aiming at remodelling and modifying it, according to different needs and circumstances[260]. In order to realise such a system, requires taking into account the whole supply chain, including the logistics and the dislocated production, thus the *Global Production Chains* (as described in chapter no. 3). Then, at first the social sustainability throughout the GPNs would not be

[260] In Italy the current fiscal burden on companies represents approximately the 24% of the income.

considered, because the environmental impact would be the object of the taxation in that specific production segment. Nevertheless, the gradients could be implemented over time in order to encompass a broader concept of sustainability, as indicated in the UN 2030 Agenda.

Moving back to the gradients, a scale gradient would represent the reference to calculate the fiscal imposition, which could not exceed the 25% of the income (since is the current Italian fiscal burden). Such a mechanism would probably reduce the State's revenues at first, but compensative method could be hypostasised when companies which could pollute less, put in place careless actions. However, the enterprises that cannot reduce the environmental impact, due to the state of technologies in some sectors should not be penalised in terms of taxes' calculation.

To preclude such hazards, the present work aims to be the hint for future studies that could delve into the topic, looking for the realisation of an economic equilibrium. The fiscal system's flexibility has also a huge impact in terms of competitiveness between companies of different size and legal head office in different countries. In fact, fostering sustainability throughout all the global production chain help creating a more plan level playfield, and it also light contribute to tackle the problem of companies escaping towards those countries where the polluter pays less than in Europe. The latter consideration is in line with the recent thinking brought up by Ursula von der Leyen[261], according to whom production should be tax according to its unsustainable footprint, regardless to where it is made, since pollution cannot be contained in political or geographical borders.

4.1. Lifelong product's environmental impact

A relevant part of the overall environmental impact of a product, is related to its lifelong impact, so when it is used by the final consumer or the user. This aspect is strictly connected to the problem of the quantification of the environmental impact. Anyway, predicting how long a product would be used is impossible, since

[261] U. von der Leyen, 2019, *A Union that strives for more*, My agenda for Europe, by candidate for President of the European Commission Ursula von der Leyen – Political Guidelines for the next European Commisione 20190-2024, p. 12.

it depends on the owner's choices. To the purpose of the present thesis, calculating the economic and environmental impact created by the objects' disposal is not covered, since the peculiarity of the topic pertaining the waste management.

However, the most intuitive and practical system utilised in these cases is the so-called *Life-Cycle Assessment* (LCA). This method aims at predicting the impact of the product from *the crib to the grave*. Nevertheless, some scholars[262] have recently represented that such a system would entail a double imposition risk, since both the manufacturer and the consumer would be potentially taxed. Moreover, these academics underline that the LCA seems not to be efficient at the macro economical level, where the *Environmental Input-Output method* (EIO) appears to be more feasible. In fact, the EIO links the inputs' quantity with the negative externalities' quantity in a specific sector[263].

Despite that, a mixed approach (already theorised to treat waste[264]) seems to be the most appropriate to achieve the twofold goal of determining the total potential amount of revenues and of calculating the real carbon footprint generated by the product's existence. The said instruments represent a resource for environmental taxation, but also a challenge, due to the fact that in terms of pollution is the life of the product, while it is working, to matters and not its disposal.

From the fiscality point of view, the problem affects above all those parasite goods, such as those which exploit an already pollutant good (like electricity) to carry out their functions. Whilst, for the goods whose environmental footprint is strictly related to the consumer's habits the most suitable solution appears to be the indirect taxation (see par. 3.2.).

For the first group of goods, taxing the company's income is possible only by disrupting the production chain. In fact, row materials can be taxed whether by taxing them or by taxing the final good, they are part of, otherwise a double taxation

[262] See: X. Vence at al., 2021, *Taxation for a Circular Economy: New Instruments, Reforms, and Architectural Changes in the Fiscal* System, in Sustainability 2021, 13, 4581, https://doi.org/10.3390/su13084581; Chancel L., 2021, *Climate change & the global inequality of carbon emissions*, 1990-2020, Summary, World Inequality Lab, p. 33.
[263] Chancel L. (2021), p. 35.
[264] R. F. Deniz et al., 2023, *Investigation of greenhouse gas emissions from municipal solid waste management practices using an economic input-output life cycle analysis* approach, in Journal of Cleaner Production 420 (2023) 138450, https://doi.org/10.1016/j.jclepro.2023.138450.

would be realised, since the tax base would be the percentage of not sustainable composition of the good. Another solution could be saddling the consumer with a part of the fiscal burden, but it could bring to a distortive result, because the company could implement production in order to low the prices but increasing pollution.

Regarding goods which use energy resources, such as any electrical appliance, solving the risk of a double imposition becomes more complex, due to the potential taxability of the no-renewable energy and of the energy-consuming good. In this respect, taxing the company because of the lifelong good's energy consumption arises many doubts, regarding the legitimacy of the tax base, which would be calculate on a prediction. Furthermore, taxing the taxpayer when he buys, so when he technically is still a customer, presuming that the person who buys more pollutant goods would use them ù to pollute more than the person who buys less pollutant goods, leading to the assumption according to which the first person pollutes the most, and it can be a wrong assumption. The above considerations reflect the doubts expressed by the Italian Constitutional Court in the judgements analysed in paragraph 3.1.1.

However, borrowing the approach theorised by Rasit First Deniz[265], which is the input-output life cycle analysis approach, in order to incorporate imposts' gradient, a seen in the previous paragraph, into a precise segment of the production/consumption chain as to be compliant with the constitutional principles. In fact, the current classification of electricity-consuming products could be utilised, adapting the, to the goal of shifting the entire production towards more sustainable solutions, through the fiscal burden modularity.

This approach would replace the incentivizing approach (to date the most used by lawmakers[266]), which is leading to the strengthening of consumerist habits.

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[265] See: R. Fırat Deniz et al., 2023, *Investigation of greenhouse gas emissions from municipal solid waste management practices using an economic input-output life cycle analysis approach*, Journal of Cleaner Production 420 (2023) 138450, p. 2.

[266] For instance, in Italy a deduction for buying less energy-consuming electrical appliances exists.

5.1.1. The virtual product: taxing the cryptocurrencies

Datamining, which is the process adopted to extract crypto currencies, is one of the most polluting computerised process at a global level, since a great amount of electricity is consumed during the extraction, and due to the incessant computers' activity, that work autonomously.

As a matter of fact, bitcoins represent a new form of richness, which can be taxed if intercepted correctly by lawmakers. Many countries tax virtual richness, the crypto assets, creating the so-called crypto taxes. Nevertheless, the reasonings which is subtended to such a taxation has nothing to do with environmental preservation, from the lawmaker's point of view since also crypto assets that do not contribute to pollution are involved. In fact, some States, Italy included, have decided to tax this form of richness, because it is considered as a financial speculative behaviour, regarded as equivalent to stock speculation.

However, bitcoins deserve a specific consideration in terms of taxation since they contribute to generate a high pollution rate. In Italy, to date, the capital gain resulted from crypto currencies is taxed at 26%[267] (at 33% from 2026)[268], according to the art. 67, co. 1 lett. c-*sexies)*, TUIR. In addition to that, the crypto currencies "possess" impost, which substituted the stamp impost, has been set at the 0,2%, by art. 1, co. 146, L. no. 197/2022.

In this respect, cryptocurrencies could be taxed as a tool to achieve environmental preservation, even before are used to create capital gain, due to their recognition as a pollution-generating activity. Therefore, from an environmental point of view, they could be taxed at a higher percentage, considered that they are not involved in the creation of whether a service or a good. In fact, they reach their goal as soon as they are created by a virtual activity completely managed by computers. Furthermore, the market dynamics related to crypto assets do not reflect

[267] Art. 67, co. 1, lett.) c-sexies, d.P.R. n. D.P.R. 22 dicembre 1986, n. 917: "*c-sexies) le plusvalenze e gli altri proventi realizzati mediante rimborso o cessione a titolo oneroso, permuta o detenzione di cripto-attività, comunque denominate. Ai fini della presente lettera, per "cripto-attività" si intende una rappresentazione digitale di valore o di diritti che possono essere trasferiti e memorizzati elettronicamente, utilizzando la tecnologia di registro distribuito o una tecnologia analoga. Non costituisce una fattispecie fiscalmente rilevante la permuta tra cripto-attività aventi eguali caratteristiche e funzioni*".

[268] Art. 1, co. 24, 30 December 2024, Law no. 207.

real worlds events, becoming even more dangerous in terms of speculative investors' behaviours. Besides, territoriality problems arise, when crypto currencies are taxed, because establishing where the virtual currency is made is challenging. It is difficult, also, identifying the portion of crypto currency owned by the taxpayer, resident in a certain State.

Nevertheless, utilising cryptocurrencies taxation as an instrument not to pauperise taxpayers who own material goods can be an opportunity to make environmental taxation more welcomed by citizens. Moreover, it would represent an occasion to develop a global approach to taxation since the pollution provoked by virtual activities cannot be embanked by individual nations' actions.

In point of fact, a global tax always encounters resistance because of the need for States' territory sovereignty and of the lobbyist influences, which pursue only the group's interests. Anyway, the described approach and considerations could be the starting point for future economic research, or for a further development of the present research as that how to calculate the correct tax rate that should be applied to crypto currencies can be investigated using the EIO technique, in order to generate revenues while providing solutions to compensate the pollution generated by the energy consumption of the buildings where the datamining is made.

5. Internalising pollution

Sustainability's extent, as described in the previous chapters, goes beyond the mere environmental sustainability, thus, in order to achieve an omni comprehensive sustainability, questioning about the possibility of accomplishing it before the starting line of the production chain is pivotal. Therefore, a change within the production function could potentially takes into consideration the sustainable element as a factor, as well as labour and capital. This hypothesis starts from the commutative vision of the environmental taxation, including critical issues seen above, far from the permissive approach to use the environment as a good.

In fact, the environment's exploitation, interpreted as use, never happens at no cost, because even the utilisation of renewable resources implies the need for infrastructures and manufactures which finesse the nature *per se*.
The production function states that:

$$K + L = Y$$
$$Y = F(K, L)$$

Where:
K = capital
L = labour
Y = output

Now, adding E (environment) to the *formula*, it becomes:

$$K + L \pm E = Y$$

Where the E stays for the quantity of positive/negative implication for the nature.

Therefore, the related profit function is:

$$\text{Profit } \pi = R - C = PQ - wL - rK - cE$$

Where:
P = Price of the output
Q = Output
L = Labour input
K = Capital input
w = wage rate of labour
r = rental rate of capital input
c = environmental cost
E = environmental input

Even though the described hypothesis appears to be fascinating, and conceptually correct, it cannot be taken into account, as its mathematical resolution would lead to an undetermined result, namely an infinite number of possible solutions given the three unknown variables. Moreover, as a consequence in real world, the given function would allow companies to use all the natural resources, as they would do with any other productive factor. Therefore, a mathematical domain must be set (domain A), in order to restrict the environment's usage, while according a no cost when nature's restoration is provided. Such a domain should be set, using as a reference the threshold of 1.5 C°[269], as identified as limit by the *Paris Agreement* in 2015. Another useful parameter could be represented by the *Earth overshoot day*, seen in the first paragraph, as the maximum quantity of natural resources humans can used without compromising the auto regenerative Earth's capability.

Consequently, a *Cap & Trades*[270] system should be introduced, even such methods have been criticised a lot, because they tend not to adapt themselves to the market and they result to be not so efficient. However, in this case *Cap & Trades* programs could be enacted, not only to reduce carbon emission, but also to set the quantity of environmental elements that can be used to productive scopes. Regarding this, although sustainability reports would be suitable tools to calculate the impact of using the nature as a productive factor, these esteems would not be precise. Moreover, comparing the numerical definition of environmental impact between sectors would be almost impossible, implying, thus, the application of the described method only within a closed-economy model. The latter guarantees nearly total transparency, thanks to which the allowances' allocation results to be correct, determining the capability of putting the right price to any natural resources. Thence, theoretically a progressive taxation system, in compliance with

[269] IPCC, Intergovernmental Panel on Climate Change, Special Report *Global Warming of 1.5 ºC*, Chapter 4, Strengthening and Implementing the Global Response, 2023; Paris Agreement, Art. 2, par. 1, (a): "*Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change*", 2015.

[270] Cap and trades programs consist in the governments setting the limit to a pollutant in a given sector, through the creation of a limited amount of pollution permissions each year. Then, those permissions are distributed to the companies, according to governments' rules, allowing companies whether use or trade them.

the principle of contributory capacity, could be enacted regardless the companies' environmental impact, since it would have been encompassed already.

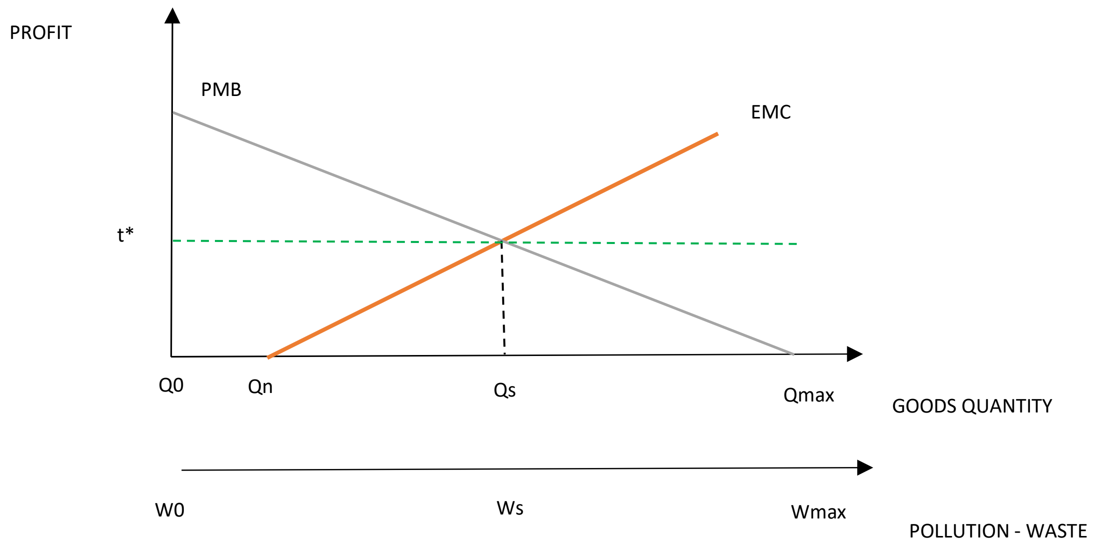
Nevertheless, the described system would imply a spill over effect, represented by the incorporation of the environmental cost into the price, that will be paid only by the consumer. Furthermore, it is common knowledge that closed-economy models do not effectively apply to globalised realities, since introducing custom duties becomes necessary in order to offset the offer coming from enterprises which are not obliged to internalise their environmental impact. Hence, an economical choice would become a political attitude of closure, which would make current society move back to centuries ago.

For all the reasons described above, internalising environmental costs seems to be a utopian solution now, but if such an approach had been used since the beginning of the industrialisation process, globalisation might have been less impactful on our planet's conditions.

5.1. Modifying the Pigouvian Tax

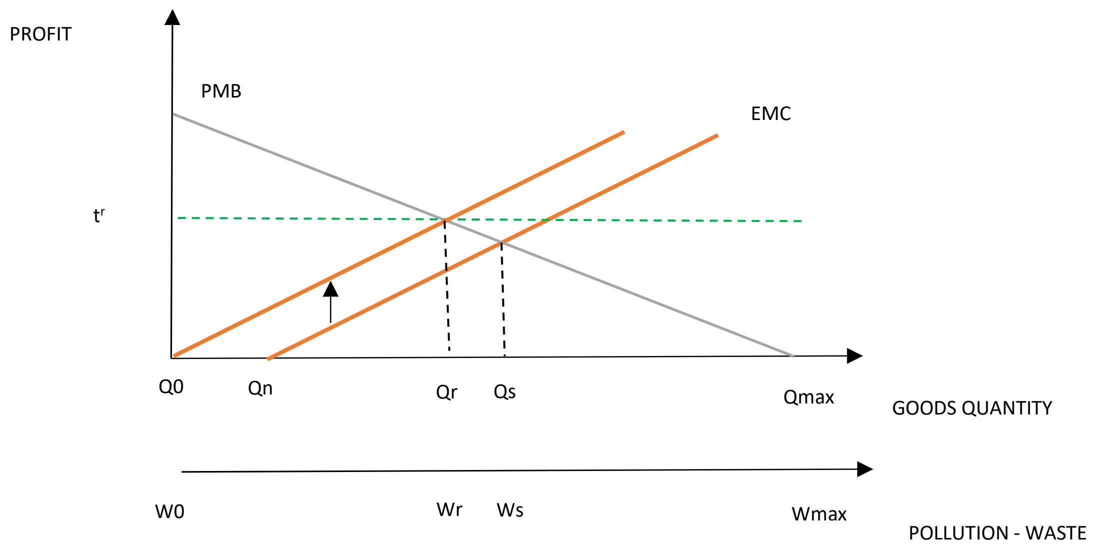
After investigating why internalising pollution cannot be considered as a valuable solution to date, analysing the *Pigouvian tax* and its application to the current economic system is needs. The classical model of the Pigouvian tax expects to set the tax where the *External Marginal Cost* and the *Private Marginal Profit* cross each other. There the market equilibrium is achieved, because the quantity of the production satisfies the market, while the quantity of pollution does not harm the regenerative power of the nature, thus, the quantity acceptable for the society.

As shown by the graphic, in this model the point Q_n (the *n* stays for neutral) is set where the straight-line EMC crosses the x-axis, such that the quantity of goods produced corresponds to the quantity of pollution that the nature can absorb. According to the theory, thus, enterprises which produce a number of goods between Q_0 (where the production is zero) e Q_n are not subjected to taxation.



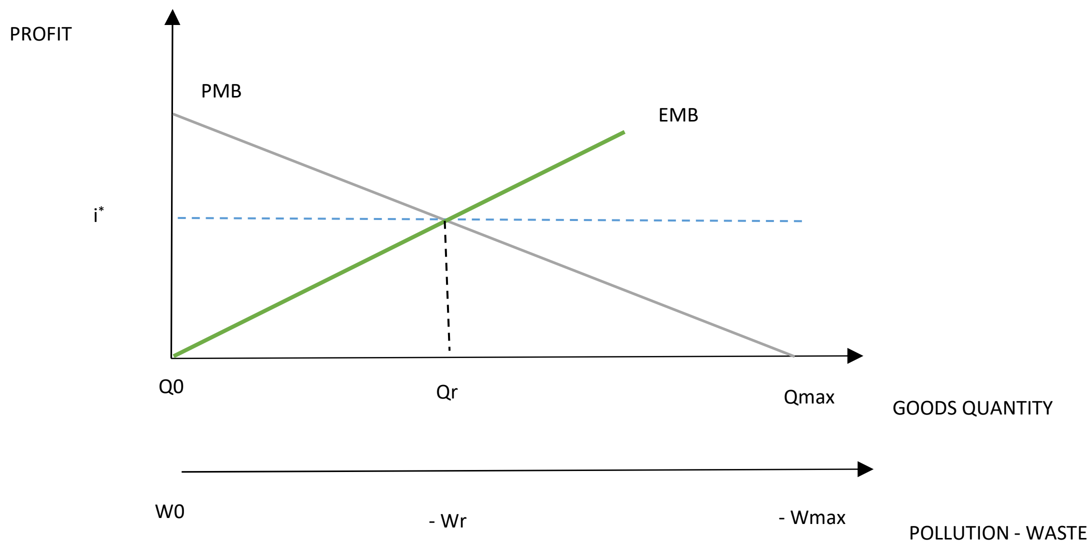
Pursuant to the remarks made before, regarding the lack of calculating the correct amount of productive and consumption activities in order not to affect the regeneration capability of the planet; and consequently, the utilisation of the nature as a taxable activity itself, an adjustment of the Pigouvian taxation can be suggested. In fact, adapting the theory's assumptions to the current situation could be useful also to encompass, in the regeneration concept, the effects on the long term of the today environmental exploitation. Besides, the services or products' production impact on the environment, should be calculated as an algebraic sum, which involves any aspect of the product/service life, such as for instance the resources' use, and the other pollutant effects triggered by its existence.

For the above-mentioned reasons, relying on environment's regenerative power appears to be complex and not realistic, since the conditions we are facing due to the climate change. Moreover, from legal point of view, taxing a subject only when the regenerative capacity of the planet is exceeded, seems to be inconsistent with the tax fairness' reasoning and implications (see chapter no. 2). In fact, taking into consideration that companies use natural elements (for example, the ground where factories are built) even when the production's quantity lies over the Q_0 level, lead to reconsider how they should be taxed, due to their current free use of the nature.



Therefore, shifting the origin of the EMC straight-line onto the Cartesian 0, might be useful in order to build up an environmental tribute which encompasses an updated commutative approach, since the common good nature is used at any Q_* level. Hence, this graphic modification seems to be more adherent to reality, since the utilisation of the environment happens also when pollution is not generated. As a consequence, of the described shift, the Pigouvian tax can be represented as t^r, because its amount would reflect the actual created pollution.

The updated model lends itself to further studies and speculations. In this respect, pondering a way to calculate incentives, which should be symmetrical to the one above, aiming at the enhancement of the enterprises that invest on environmental preservation and renovation. However, in this case, the *External Marginal Benefit* (EMB), that so the wellbeing generated by production, should be considered, while on the x-axis the negative tendence (increasing) of waste/pollution production should be recorded. Such a negative tendence would represent the quantity of pollution/waste saved, thus the positive impact on the environment.



Thence, the point of intersection between the EMB and the PMB would represent the environmental benefit, useful to achieve the optimal production quantity Q_r, that is the market equilibrium at which the quantity of produced product is sustainable, thus it does not harm the planet's condition.

A secondary and more complex development possible, using the Pigouvian tax graphic's modification as a starting point, consists into identifying the mathematical domain under which the threshold of 1,5 C°, established by the *Paris Agreement*, won't be exceeded. Such an investigation would be useful to empirically verify the sustainability of the production quantity Q_r. Nonetheless, since it appears to be strictly related to mathematics and economics, it falls out from the present thesis.

6. Running out of time: the wealth tax

Even though the proposed solutions, which lies upon legit juridical concepts and valid economics' theories, would be enacted immediately, their effects will be visible only in a far future. The current situation, including the wars[271] happening around the world, put the humankind in a race against the clock, that requires not only to reform the existing system but also to intervene in order not to worsen the nature's conditions.

Taken that into account, the time needed to build up and enact a proper new national fiscal system, and then put it in relation with other national systems, as well as coordinate it with supranational systems, such the European Union, and, finally, make it compliant with international regulations, suggesting solutions that can achieve an important result on the short term, becomes key.

The approach which seems to be the most feasible to realise a prompt improvement of the current environmental situation through taxation, consists into taxing the wealth. In fact, diverse studies demonstrate that the richest part of the world, or better the richest individuals, pollute alone more than the half of the total world's population[272]. From these data, the environmental resources distribution's inequality emerges, since nature seems to be treated like it was a good for sale to the highest bidder.

Avoiding any political or philosophical analysis, from a juridical point of view it is important to investigate if, and then how, the rights to pollute should be distributed. In this respect, considering the nature as an indivisible not-renewable good would imply several legal approaches which probably lead lawmakers to establish a fair system, based on the equality principle. Moving further, if the action of polluting was conceived as something that harm others, its commission might be rightfully limited, and its management could be totally entrusted to the State. In this way, a sort of monopoly system would be created, stricter than the actual *Cap & Trades* used for carbon emissions. Stretching the concept to the limit, young generations' movements, utilising the demonstration ad absurdum, are comparing

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[271] See, among others, R. Mezzalama, *Le relazioni tra guerra e crisi climatica ed ecologica*: "*Si è stimato che durante i conflitti in Asia e in Africa fino al 90% dei vertebrati terrestri vengano uccisi direttamente dalle attività belliche e poi anche indirettamente, perché in genere i soldati si dedicano anche alla caccia.*", Emergency, podcast episode 06/05/2022, https://www.emergency.it/giu-le-armi/le-relazioni-tra-guerra-e-crisi-climatica-ed-ecologica/.

[272] See among others, L. Chancel, P. Bothe, T. Voituriez, 2023, *Climate Inequality Report 2023*, Fair taxes for a sustainable future in the global south according to which "[omissis] *the richest 10%of US Americans are found to be responsible for about 70t CO2e per capita.*", p. 28, World Inequality Lab.

polluting actions to using weapons, since they damage people's health on the long run[273]. Anyway, the correlation appears not to be juridically correct, since the majority of the activities that generate pollution are legit and rightfully executed.

Recalling the concept of the rights to pollute distribution, many scholars have investigated the pollution generated by the use of private jets and private flights[274]. The data revealed by these works are troubling and they demonstrate the relations existing between owning an enormous amount of money and the detachment from the environmental issues[275].

Therefore, identifying the way to tax the person who owns stocks, as if he/she was the ultimate lodgement of the enterprise's earning chain, could be helpful in order to limit pollution, while contrasting harming behaviours. Some scholars have theorised a wealth tax[276], whose introduction would guarantee to respect the 1,5 C° threshold. In fact, after showing the inequalities existing in the distribution of per capita emissions[277], they draw a tribute, which would oblige the 10% of the population (the richest individuals) to pay a yearly tax of 3,5% of their richness[278].

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[273] The comparison is more relatable, taking into account the American background. In the USA, the firearms regulation is not strict in 2022 "*Guns were the leading cause of death among children & teens (ages 1-17), accounting for more deaths than car crashes, overdoses, or cancers.*", quote from *Gun Violence in the United States 2022 Examining the Burden Among Children & Teens*, Jonhs Hopkins Bloomberg School of Public Health, Centre for Gun Violence Solutions, September 2024.
[274]On the issue, C. Collins, et al., 2023, *HIGH FLYERS 2023*, How Ultra-Rich Private Jet Travel Costs the Rest of Us and Burns Up Our Planet, Institute for Policy Studies.
[275] Too delve into the topic: OXFAM, 2022, *Carbon billionaires*, The investment emissions of the world's richest people, OXFAM BRIEFING NOTE.
[276] On taxing the wealth, see among others: L. Chancel, P. Bothe, T. Voituriez, 2023; E. Saez, G. Zucman, 2019, Progressive wealth taxation, Brookings Papers on Economic Activity, pp. 437-533.
[277] See: L. Chancel, *Climate Change & the Global Inequality of Carbon Emissions (1990-2020)*, World Inequality Lab, Paris School of Economics, 2021, p. 9: "*Per capita emissions in Sub-Saharan Africa (1.6 tonnes per person per annum) represent just one quarter of the current average global per capita emissions. Thus, average emissions there are close to 50% above the 1.5°C sustainable level and about half of the 2°C budget. At the other end of the spectrum, per capita emissions in North America are 21 tonnes per capita (three times the world average and six times higher than the 2°C sustainable level). In between these two extremes stand South and South-East Asia, with 2.5 tonnes per capita (40% of the current world average and 80% of the 2°C budget), and Latin America with 4.8 tonnes (70% of world average, 1.4 times the 2°C budget), followed by the Middle East and North Africa, East Asia, Europe, and Russia and Central Asia, whose averages fall in the 7.5-10 tonnesrange (between one and 1.5 times the world average, and two to three times more than the 2°C sustainable level)*".
[278] L. Chancel, P. Bothe, T. Voituriez, 2024, *The potential of wealth taxation to address the triple climate inequality crisis*, Nature Climate Change, ff10.1038/s41558-023- 01891-2ff. ffhal-04385157, pp. 5-7.

However, this type of levy is always challenging and complex to be realised and enacted properly. Since the wealth tax has the features of the property taxes, it charges the net richness of people regardless of how it has been earned or how it will be invested. For this reason, it not welcomed by taxpayers. Nevertheless, in most of the cases the estates come from a legacy, which often is gathered through generations, and traces its origins back into privilege. In addition to that, redistribution represent one of the pillars of a proper fiscal system, due to its ability to reduce inequality and provide for people who are struggling in a certain moment of their life. Furthermore, in terms of sustainability a correct redistribution could make available to low-income groups sustainable products and preserve them to the effects of the climate change's disasters. In this respect, the initiative *European Citizen Initiative* for an EU's wealth tax[279] must be recalled, since its supporters ask for charging the Europeans super rich in order to invest the revenues into the resolution of the climate change's challenge. It is important to precise that the wealth tax's advocates aim at taxing the patrimony, not the income, because the latter would provide less revenues, since the biggest estates are often invested into assets, that are already taxed when they are exchanged, as so they would not be included into an income tax, which charges the dynamic part of the patrimony.

In this respect, the European Union is taking into consideration a hypothetical wealth tax, built up as a net wealth tax, as to also implementing the fiscal system's progressivity[280]. At a global level, the wealth tax counts in its supporters' list OXFAM, which has always addressed and investigated the existing inequalities of the current wealth's distribution[281]. Although the United Nations are analysing the topic, assuming that the SDGs can be achieved throughout taxation they are also warning about the possibility that net wealth taxes open the path to distortions in economic behaviours since they tend to reduce savings, and to

[279] Art. 1 of the COMMISSION IMPLEMENTING DECISION (EU) 2023/1487 of 11 July 2023 on the request for registration, pursuant to Regulation (EU) 2019/788 of the European Parliament and of the Council, of the European citizens' initiative entitled 'Taxing great wealth to finance the ecological and social transition' (notified under document C(2023) 4751) https://citizens initiative.europa.eu/initiatives/details/2023/000006_en, reads as follows: "*The European citizens' initiative entitled 'Taxing great wealth to finance the ecological and social transition' shall be registered*".
[280] See: European Union, 2024, *Annual report on taxation*, pp. 87-93.
[281] OXFAM, 2023, CLIMATE EQUALITY: A PLANET FOR THE 99%, Oxfam International 2023.

promote spending instead[282]. Moreover, from a practical standpoint, if the wealth taxation won't be adopted by the majority of countries, it would potentially foster both the phenomena of tax evasion and tax elusion, through the change of fiscal residence. Another obstacle to the realisation of a global wealth tax is represented by the lobbies, which the super-rich are often members of.

For all the remarks made above, it seems that the wealth tax should be connected to the difficulty that the society is facing at this precise moment in time, without, though, be entirely assimilated to a patrimony tax. Leaving aside the rates' calculation of the said tax, as well as the importance of progressivity (deeply investigated, among others, by Saez[283]), delving into the levy's structure is needed. In fact, the impost prerequisite appears to be the wealth (richness), represented by any owned assets, whilst the tax base consists into those assets' monetary evaluation, differently according to their nature. The cited authors have already supposed that the number of people subjected to the levy should be about 65.000 (billionaires) all over the world.

Nevertheless, how the assets are invested should be evaluated in order to include limitations to the taxation, since the development of sustainable finance, as defined by the European Union[284], is pivotal to achieve an overall sustainability. Regarding the tax rates, some scholars have recommended a maximum rate of 3.5% for the richest, while other suggested a medium rate of 3.5% of the entire patrimony, regardless of its total. The importance this choice, in order to avoid distortive effects, which would concentrate world' richness within even less hands and would also make the wealth tax unconstitutional must be underlined. For this reason, the temporal profile should be taken into account, since a permanent wealth fiscal burden seems not to be attainable neither in western countries nor in Arabian States. Moreover, sustainability requires a structural change, which must encompass every and each income group, in order to be efficient. Therefore, the said wealth tax can contribute as a short-term solution, in order to collect those funds required to start the sustainable revolution, investing into climate friendly activities' transformation.

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[282] UN, Department of Economics and Social Affairs, 2024, *Net wealth taxes: how they can help fight inequality and fund sustainable development*, in Future of the world, Policy Brief n. 168.
[283] E. Saez, G. Zucman, 2019, *Progressive wealth taxation*, in Brookings Papers on Economic Activity, pp. 437-511.
[284] See chapter no. 2.

The urgency identified by the *Paris Agreement*, to stay below the 1.5 C° temperature rise, suggests drawing the wealth tax as the so-called sunset regulation, thus, intended to expire when the set goal will be achieved. Establishing a double bond between taxation expiration's date and achieved results, could represent the boost needed by lawmakers, to foresee a feasible sustainable fiscal system, fulfilling also younger generations' requests.

6.1. Taxing the dividends

Recent post-pandemic studies have shown haw during Covid-19 lockdowns, the environment benefited from the forced stop to production and the decreasing of online purchasing, resulting in better quality air[285] and water[286], of sea and rivers, and in repopulation of green areas by the wildlife. Despite, a 7.6% fall of the European GDP has been reported[287]. As a matter of fact, a temporally stop to production over the year has never been taken into account as part of the contrasting measures to the climate change, for many reasons, among which the GDP's fall that would lead to companies' incomes decrease, thus, to salaries' fall.

Nevertheless, the cause-and-effect relationship existing between GDP and companies' profits is not always linear. On the contrary, stock exchange speculation show that companies' profit could increase also when the GDP falls, erasing any justification for salaries' decreasing. In order to properly address the topic a briefly description of the development of the Saez study, cited before, must be recalled, in order to explain how a wealth tax on corporations works. In particular, Zucman and Saez, whose work is set shortly after the pandemic, suggest to tax "*corporations' stock shares for all publicly listed companies and large private companies*

[285] B. Brunekreef et al., 2021, *Air pollution and COVID-19 Including elements of air pollution in rural areas, indoor air pollution, vulnerability and resilience aspects of our society against respiratory disease, social inequality stemming from air pollution*, Study requested by the European Parliament's committee on Environment, Public Health and Food Safety.

[286] F. Braga et al., 2022, *COVID-19 lockdown effects on a coastal marine environment: Disentangling perception versus reality*, in Science of the Total Environment 817 (2022) 153002, https://doi.org/10.1016/j.scitotenv.2022.153002.

[287] European Environment Agency, COVID-19 and Europe's environment: impacts of a global pandemic, Published 05 Nov 2020 - Last modified 11 Apr 2022, https://www.eea.europa.eu/publications/covid-19-and-europe-s/covid-19-and-europes-environment.

headquartered in G20 countries"[288]. Although the authors' thesis appears to be ambitious, they try to design a tax, whose structure and redistribution mechanism seem to be coherent with the SDGs, especially number 1 (*no poverty*). The assumption from which the authors take the move, namely the current globalisation unsustainability, the effects of which have been exacerbated by the Pandemic, deserve a systemic reflection.

In fact, the power showed even during the past lockdowns by multicompanies, which actually have never stop to make money, exposed the flows of the current market, and then, of the fiscal systems. Understanding the need for a positive connection among States, taxpayers and companies is pivotal to realise a sustainable economy and consequently a sustainable society.

Western countries are losing their middle class, as many journalists write often, and as a result a perception of instability is spreading. Considering the definition of *progressive capitalism* seen in chapter no. 4 it appears to be a sustainable solution. Moreover, it would represent the right theoretical background to a wealth tax on corporations' stocks, where conception of the market economy that offers the "*promise of a prosperous economy in a just, free, and inclusive society*"[289] (already reported in chapter no. 4) should be embraced if we want to live on this planet any longer.

7. Conclusions

From the beginning of my research's path, the relationship existing between the citizens' life conditions and their tax burden has been the focal point. As soon as I began, I recognised I was playing a chess match against time. In fact, as humankind, we are running out of time to save the planet we live on. Therefore, as an academic, I needed to focus on scheduling a precise timeline to introduce new taxes or to change the current levy, otherwise enterprises would not be prepared and

[288] E. Saez, G. Zucman, 2022, *A wealth tax on corporations' stock*, in Economic Policy, CESifo, pp. 213-228.
[289] J. E. Stiglitz, 24/05/2023, *An economy for a just, free, and prosperous society*, Lectio Cathedrae Magistralis, Università Cattolica del Sacro Cuore, Milano.

as a consequence, they could fail. Hence, I realised that in response to every move I play, enterprises' sustainable behaviours would advance or retreat.

Conscious about the role played by tax law in daily life, as it was the main character in transactions, occurring both in real and virtual world, I initially assumed that it could be the pin to move in order to trigger the change from the actual society to the one needed, thus, to be transformed into a sustainable society.

For this reason, the society, has been the paradigm and the domain, within my thesis has been developed. The social construct serves as the place of human interactions, necessary to coexist peacefully. The economic effort of its members, realised through the fiscal burden, is committed to realise the said construct. Hence, the society cannot ignore the unsustainability [which] it is causing. Thence, a fundamental tool in order to institutionalise the climate change problems' resolution is represented by taxation.

Therefore, the present thesis, after analysing the links between tax law and sustainability, have addressed the companies' fiscal condition, in order to eventually suggest (in the present chapter) feasible fiscal solutions to tackle the climate change problem while supporting companies' contribution to the society. In order to accomplish this, understating the relation between the taxpayer and the fiscal burden has been crucial. Thus, using a macroeconomic perspective to investigate consumption function's theories the have been useful to generate a hypothesis, according to which the point beyond that the surplus becomes excessive can be identified. As described in the previous paragraphs, the founding of the *excess of surplus* offers numerous hints to implement progressivity in taxation.

After that, scrutinising the environmental taxation has been pivotal, in order to determine when a green tax can be considered compliant with the Italian Constitution, according also to the recent Court's judgements. These assessments have been the starting point to suggest a remodelling of indirect taxation, which provides for an intersection between VAT and environmental tributes, in favour of sustainability achievement.

Consequently, the thesis has addressed the practicality of the suggested change, reversing the cause-and-effect relation existing between economy and taxation, as so the fiscal system circularity would lead the economic agent to adapt his behaviour. Therefore, *the polluter pays* principle gives way to the *who doesn't pollute pays nothing* principle has been made. The described approach would allow companies to immediately benefit from the modularity of a circular fiscal system, without the necessity to be categorized as green.

However, other points of view have been taken into account in the present research. In this respect, the internalisation of the pollution has been theorised, to be, at the end of the speculation, disproven. Besides, a minimal modification to the Pigouvian taxation model has been hypostasised, and considered valid, thus suggested. Moreover, the practical side of the research has imposed to evaluate short term solutions, which can boost, through investments, the transition towards a sustainable production and consumption.

As a result of the described study, I can affirm that moving properly the tax law's tools on the chessboard, the match against time can still be tied. Although I am conscious that the theme addressed in the thesis engages institutions, international agencies, communities' movements, governments all around the world, I hope it will provide an innovative approach to realise fair sustainable fiscality. To help me keeping seeking for answers, I have embraced, and translated into action the exhortation coming from Elinor Ostrom[290], who says "*We can't just sit around waiting for the global solution*"[291], with the humble ambition to produce a debate on the analysed profiles of the matter, which could be further studied and investigated, due to the commitment and hard work I put in the present thesis.

[290] Elinor Ostrom (1933-2012) was awarded the Nobel Memorial Prize in Economic Sciences in 2009.
[291] Quote from the article *Interview with Nobel Laureate Elinor Ostrom*, published on The Escotet Foundation's website, https://escotet.org/2010/11/interview-with-nobel-laureate-elinor-ostrom/.

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