A fiscal revolution inspired by the Capabilities Approach to reduce socio-economic impact of climate change and strengthen the resilience of tax systems

Salvatore Villani and Maria Viscolo

Public Economics at the University of Naples Federico II, Department of Political Science, Naples, Italy

* Author to whom any correspondence should be addressed.

E-mail: salvatore.villani@unina.it and mariella.viscolo@libero.it

Keywords: mitigation of climate change, Capabilities Approach, Climate Resilience, Taxation of Global Commons, resilience of tax systems, economic inequalities, Fuel Poverty

Abstract

This paper shows that a fuller integration of the economic theory of well-being into strategies adopted to reduce the impact of climate change could help to avoid potential conflicts between the mitigation measures applied and the consumption of energy derived from fossil fuels. The paper moves along the path traced by Wood and Roelich (2019) with their Tensions Triangle Theory, but aims to develop it further from an operational point of view, showing how contemporary ecological tax reforms, if inspired by the Capabilities Approach, could more effectively contribute to achieving an inclusive, sustainable, accessible and secure global energy system, that provides solutions to energy challenges and, at the same time, creates value for business and civil society as a whole, without compromising the balance between the three fundamental elements of the tensions triangle described by Wood and Roelich. In particular, this chapter aims to show how the enlargement of the tax area according to new criteria of distributive justice inspired by the Capabilities Approach could serve to increase the mobility of social assets and to develop strategies to adapt public finance systems to the changes produced not only by environmental emergencies, but also by other sudden and adverse phenomena, such as economic crises and significant revenue losses caused by the adoption of non-transparent or harmful tax practices. Finally, the paper considers the proposal to establish taxes on so-called global commons—such as the atmosphere, climate, healthy environment, oceans—and to redistribute their revenue to reduce economic inequalities and poverty.

1. Introduction

The effects of climate change are increasingly tangible and affect all regions of the planet, pushing it to a point beyond which the damage to the conditions of existence of humanity could become very serious and irreversible. Sea levels continue to rise, glaciers are melting more and more rapidly and many species are moving from the equatorial areas, or near the Equator, to the polar regions in search of conditions better suited to their survival. This change, scientists agree, is mainly due to human activities and current systems of production (based on capital-intensive and labour-saving techniques) and consumption (which determine the depletion of the available natural capital, on which the welfare of current and future generations depends), clearly in contrast with the biological rules that characterize terrestrial ecosystems. International organisations

1 According to a recent international study published in 'Nature' (Lenton et al 2019), the climate situation of the Earth is really very delicate: the planet has already reached, although not yet exceeded, nine tipping points. If there were to be interactions between them or harmful cascade effects, it is not possible (a global cascade) to exclude a global tipping point, i.e. an existential threat to human civilization. In this case, no cost-benefit analysis will be able to help us, except for a radical change of approach to the problem, based on a global cooperation strategy. It is not possible, in fact, to think of solving a global problem without a global plan of action. In this regard, see amplus Sachs (2008), chapter IV.

2 See. UNEP (2015), Pogutz-Micale (2011) e Lebel-Lorek (2008).
(in particular the OECD, OPEC, the EU and the World Bank) have long recommended that environmental tax policies should be strengthened and the weight of economic subsidies to fossil fuels gradually reduced, as they encourage waste, contribute to increased emissions and hamper efforts to increase the penetration of clean energy sources, unnecessarily penalising public budgets.

The adoption of a model of sustainable economic development passes, therefore, inexorably through the implementation of ecological tax reforms, i.e. aimed at encouraging the transition to the green economy and pursuing the so-called ‘double dividend’ resulting from environmental taxes. However, measures to reduce the effects of climate change on well-being could conflict with many contemporary forms of achieving well-being, still highly dependent on the use of energy derived from fossil fuels. For this reason, the main issue that urgently requires the utmost attention of policy makers concerns the welfare effects of various forms of climate change mitigation and adaptation. Many of them involve changes in production processes, consumption behaviour and lifestyles. This change could, however, have disproportionate effects on some economic sectors and on the most energy vulnerable social groups, such as households who, having insufficient income or facing sudden economic, social or health problems, are no longer able to meet the costs of daily life, starting from the payment of energy utilities, or live in energy inefficient housing (such as those who, being tenants, have no interest in doing renovation work, or those living in social housing).

Consumption habits and lifestyles are changing, among other things, as a result of the appalling health crisis that has hit the planet, and some have begun to wonder if this could represent the beginning of a significant turning point.

Such changes in individual behaviour are already leading, in fact, according to experts, to a massive reduction in global emissions: by the end of 2020, greenhouse gas emissions are expected to fall by 4%, a phenomenon that has not occurred for decades. Emissions fell even during the financial crisis of 2008 and the oil shocks of the 1970s, but then rose again once the emergency was over. It is feared, therefore, that this progress in the fight against climate change may then be thwarted by the economic stimulus measures established by governments around the world. A resumption of production activity involving a sudden rise in the level of emissions would undoubtedly help to revive the economy, leading to an increase in gross domestic product. The effect on the environment and economic well-being could, however, be counterproductive. The current situation could divert resources and political commitment from the climate cause, delaying or even blocking the energy transition to more sustainable and inclusive development models. In other words, changes in personal habits caused by the pandemic emergency could prove useless to solve the ‘environmental dilemma’ if the governments of the planet decide to increase investment in traditional industrial production processes, instead of moving towards a complete decarbonisation of the global economy. It is clear that the discourse on the most appropriate strategies to deal with climate change - or other disastrous events, such as economic and health crises - should be better integrated with the theoretical assumptions of the economic theory of well-being. A fuller integration of the latter into strategies adopted to reduce the economic and social impact of climate change could help to avoid potential conflicts (tensions) between the mitigation measures actually applied and the consumption of energy derived from fossil fuels. To this end, some scholars believe that climate change mitigation measures and fossil fuel consumption cannot be considered in isolation from their relationship to well-being and that, therefore, a new philosophical and economic conception is needed to capture the complex relationships between these conflicting phenomena. This concept should be inspired by the Capabilities Approach and allow the potential welfare implications of ‘energy conflicts’ between fossil fuel energy consumption and climate change mitigation to be framed as issues of justice.

3 For further details, see European commission (2010a and 2010b, 2011), OECD (2005) and IEA-OECD-WORLD BANK (2011).
4 See Crist (2020).
5 The reduction in global emissions could be at least 4% according to preliminary estimates by Simon Evans (2020). In essence, 2020 could be the largest reduction in pollutant emissions ever observed in recent history. Evans’ estimates are based on five datasets of CO2 emissions: the global oil sector, the entire economies of China and the US, the European ETS and India (but only for power generation). According to this study, the estimated reduction in emissions, however sharp and decisive it may be compared to 2019, will not solve the problem of global warming in the medium to long term. On the contrary, the economic recovery, if not accompanied by more stringent climate measures, could lead to a new acceleration of emissions. To really save the climate would require energy and environmental policies that can radically change the structure of the world economic system, leading it towards the gradual abandonment of fossil fuels. For more on this, see Evans (2020) and Sulistiwati and Linnan (2020).
6 Nicholas Stern, in his famous 2006 report on climate change, illustrated for the first time the seriousness of the risks of inaction or late intervention to address the so-called ‘environmental dilemma’. It is clear that further investment in traditional industrial production processes, made in order to revive the economy of countries affected by the health emergency caused by Coronavirus, could produce even more serious and irreversible effects than those originally envisaged by him. See Evans (2020).
7 Other scholars of climate change and its consequences have also recently expressed the same need. See, infra alios, Lamb-Steinberger (2017) and Wood-Roelich (2019).
8 Wood-Roelich (2019).
This paper moves along the path traced by Wood and Roelich\(^9\), but aims to develop it further from an operational point of view, showing how contemporary ecological tax reforms, if inspired by the Capabilities Approach, could more effectively contribute to achieving an inclusive, sustainable, accessible and secure global energy system, that provides solutions to energy challenges and, at the same time, creates value for business and civil society as a whole, without compromising the balance between the three fundamental elements of the tensions triangle described by Wood and Roelich (consumption of energy derived from fossil fuels, climate change mitigation and well-being attainment).

For some decades now, it has been noted that these ongoing changes in the environment have had economic and social repercussions that put the sustainability not only of the financial sector but also of public financing systems as a whole under strain. In several countries, debates are ongoing on the economic and social impact of these changes and reforms have been designed and/or implemented to make modern tax systems more resilient, i.e. better able to adequately address the new economic, social and technological challenges of the 21st century. This paper aims to show how the enlargement of the tax area according to new criteria of distributive justice inspired by the Capabilities Approach could serve to increase the mobility of social assets and to develop strategies to adapt public finance systems to the changes produced not only by environmental emergencies, but also by other sudden and adverse phenomena, such as economic crises and significant revenue losses caused by the adoption of non-transparent or harmful tax practices. The paper therefore addresses the delicate issue of the eligibility of taxes related to the well-being of individuals, measured on the basis of non-monetary indicators and parameters, such as capabilities\(^10\) and considers the proposal to establish taxes on so-called ‘global commons’ - such as the atmosphere, climate, healthy environment, oceans, human knowledge and all those goods, such as the Internet, which are the result of collective creation - and to redistribute their revenue to reduce economic inequalities and poverty. The rapacity of capitalism is responsible, in fact, for the progressive exhaustion of these resources destined to satisfy the interests of the community and therefore worthy of protection. Today, more than ever before, there is an urgent need for serious reflection on how to defend them, forcing those who have them, or who find themselves in situations of particular advantage over them, to bear the costs, so that they do not then fall on the entire community in the form of damage.

In particular, the article is structured as follows. In the second section, some of the issues that many of the most advanced countries will have to deal with in the coming years, to accompany the process of transition of their economies towards more sustainable and inclusive models of development, in the aftermath of the global recession triggered by the new Coronavirus known as Covid-19. After a brief description of the fiscal stimulus packages launched, or in the process of being approved, in many of these countries, some broad assessments are presented on the effectiveness of the measures taken and their compatibility with the climate cause. Green policies were found to be the most desirable of all, because they are suitable both to reduce the environmental impact of energy systems and to stimulate economic growth in countries affected by the pandemic. In the third section are analyzed the relationships between different forms of energy use/production, climate mitigation, and human well-being. This part of the article aims, in particular, to highlight how the debate on public policies best suited to reduce the economic and social impact of climate change should be integrated with the theoretical assumptions of the Capabilities Approach devised by Amartya Sen and Martha Nussbaum. This approach, in fact, in addition to being useful for the design of environmental policies that promote the ecological transition of the global economy, could become crucial for the understanding and resolution of energy conflicts between environmental mitigation measures and energy consumption from fossil fuels. In the fourth and fifth sections, in the light of the most recent trends in the evolution of tax systems and the prophecies on taxation of the third millennium, formulated at the end of the last century by Giulio Tremonti, the idea of creating fairer and more attentive taxation systems to environmental issues, as well as to the needs of economically or socially disadvantaged people, is considered. In particular, the delicate question of the eligibility of taxes related to the well-being of individuals measured on the basis of non-monetary indicators and parameters, such as capabilities, is discussed and the idea of creating a global tax system, based on the conceptual framework proposed by Sen and Nussbaum, is presented: (1) limiting the exploitation of so-called ‘global common goods’; (2) overcoming the above mentioned energy conflicts between environmental mitigation measures and the consumption of energy produced from fossil fuels; (3) strengthening the resilience of economic, financial and welfare systems, reducing inequalities in the distribution of wealth, human capital endowments and the provision of public services and infrastructure, which together hinder the full development of the human person. The sixth section sets out the conclusions of the work and some policy proposals aimed at combating

\(^9\) We refer to the theoretical plant described in Wood-Roelich (2019).

\(^10\) The opportunity to use contributory capacity indicators related to capabilities has been strongly supported, in a redistributive perspective, by Gallo (2007, 2012a, 2012b, 2013a, 2013b, 2013c, 2014 and 2015). Subsequently, however, other authors also shared the underlying approach. See, infra alios, Villani (2015), pp. 239–241. For a critical evaluation of this proposal see, instead, Lanzi (2010) and Stevanato (2014), pp. 419–429.
climate change, such as the establishment of a global and progressive tax on greenhouse gas emissions (i.e. a global carbon tax) or tax breaks for the so-called fuel poors (‘energy poor’), i.e. people who cannot even buy the minimum level of energy that would guarantee them a decent standard of living and good health.

2. The anti-pandemic stimulus packages: a unique opportunity to mitigate climate change

The Coronavirus pandemic (Covid-19) has generated, as has been said, a dramatic health situation for a great many countries and is already producing an economic situation no less dramatic. In fact, in the second quarter of 2020, real GDP contracted sharply a.e., while growth prospects for next year remain highly uncertain. According to OECD estimates, it was an unprecedented collapse: −9.8% on an economic basis, −10.9% on a trend basis (see figures 1 and 2). The worst figure is that of the United Kingdom, where GDP fell more drastically by 20.4% compared to the first quarter of the year. In France, where the anti-pandemic measures were among the most severe, gross domestic product fell by 13.8%, after a drop of 5.9% in the previous quarter. Significant declines...
also occurred in Italy, Canada and Germany −12.4%, −12.0% and −9.7% respectively (compared to −5.4%, −2.1% and −2.0% in the previous quarter). In the USA, where many countries introduced stay-at-home measures at the end of March, GDP contracted slightly less (−9.1%), compared to −1.3% in the previous quarter. China was the only G20 economy to record a growth in gross domestic product in the second quarter of 2020: 11.5%, after a drop of 10% in the previous quarter. As a result, the economic growth prospects for the coming year remain highly uncertain (see table 1).

The OCSE has predicted, as can be seen from the figures in table 1, that annual global GDP growth will fall to 2.4% in 2020, from an already weak 2.9% in 2019, and will return to growth at a faster pace (3.3%) in 2021, assuming that there is no very likely increase in contagion in the second half of this year. The health emergency has mainly affected the manufacturing sector and, only in part, the services sector, which has instead continued to show greater resilience (see figure 3). All this produced, at the same time, a contraction in international trade (see figure 4) and a sharp increase in financial market volatility (see figures 5 and 6).

For this reason, in response to deteriorating growth prospects and increasing market volatility, authorities in many countries have decided to take strong expansionary measures to support household and corporate income, credit to the economy and liquidity in the markets.11

In China, the Central Bank, anticipating a sharp decline in GDP and a likely recession, has taken several measures to support the economy and financial markets. In particular, it has deliberated:

(1) the reduction of the medium-term interest rate by 20 basis points, from 3.15 to 2.95%, the lowest level ever recorded since the introduction of this instrument in 2014;

(2) the cut in the required reserve ratios (up to 200 basis points), the excess reserve rate (which fell for the first time since 2008 to 0.35%), the seven-day reverse repo rate (30 basis points) and the medium-term refinancing rate, which is taken as the reference for determining the rate on loans to businesses (30 basis points);

Table 1. Prospects for growth of global gross domestic product and countries of the G-20 in real terms according to OECD forecasts

|             | 2019 | 2020 | Difference from November EO | 2020 | 2021 | Difference from November EO |
|-------------|------|------|----------------------------|------|------|----------------------------|
|             | Interim EO projections | Difference from November EO | Interim EO projections | Difference from November EO |
| Worldb      | 2.9  | 2.4  | −0.5                       | 3.3  | 0.3  |                           |
| G20b,c      | 3.1  | 2.7  | −0.5                       | 3.5  | 0.2  |                           |
| Australia   | 1.7  | 1.8  | −0.5                       | 2.6  | 0.3  |                           |
| Canada      | 1.6  | 1.3  | −0.3                       | 1.9  | 0.2  |                           |
| Euro area   | 1.2  | 0.8  | −0.3                       | 1.2  | 0.0  |                           |
| Germany     | 0.6  | 0.3  | −0.1                       | 0.9  | 0.0  |                           |
| France      | 1.3  | 0.9  | −0.3                       | 1.4  | 0.2  |                           |
| Italy       | 0.2  | 0.0  | −0.5                       | 0.5  | 0.0  |                           |
| Japan       | 0.7  | 0.2  | −0.4                       | 0.7  | 0.0  |                           |
| Korea       | 2.0  | 2.0  | −0.3                       | 2.3  | 0.0  |                           |
| Mexico      | −0.1 | 0.7  | −0.5                       | 1.4  | −0.2 |                           |
| Turkey      | 0.9  | 2.7  | −0.3                       | 3.3  | 0.1  |                           |
| United Kingdom | 1.4  | 0.8  | −0.2                       | 0.8  | −0.4 |                           |
| United States | 2.3  | 1.9  | −0.1                       | 2.1  | 0.1  |                           |
| Argentina   | −2.7 | −2.0 | −0.3                       | 0.7  | 0.0  |                           |
| Brazil      | 1.1  | 1.7  | 0.0                        | 1.8  | 0.0  |                           |
| China       | 6.1  | 4.9  | −0.8                       | 6.4  | 0.9  |                           |
| India5      | 4.9  | 5.1  | −1.1                       | 5.6  | −0.8 |                           |
| Indonesia   | 5.0  | 4.8  | −0.2                       | 5.1  | 0.0  |                           |
| Russia      | 1.0  | 1.2  | −0.4                       | 1.3  | −0.1 |                           |
| Saudi Arabia | 0.0  | 1.4  | 0.0                        | 1.9  | 0.5  |                           |
| South Africa | 0.3  | 0.6  | −0.6                       | 1.0  | −0.3 |                           |

Notes:

a Projection based on information available up to February 28. Difference from November 2019 Economic Outlook in percentage points, based on rounded figures.

b Aggregate using moving nominal GDP weights at purchasing power parities.

c The European Union is a full member of the G20, but the G20 aggregate only includes countries that are also members in their own right.

d Fiscal years, starting in April.

Source: OECD Economic Outlook database.

11 For a comparison of the emergency measures adopted so far in the 32 countries that the IMF considers advanced economies to respond to the economic crisis caused by the coronavirus, see Angei et al (2020).
(3) a 100 billion yuan cash injection, equivalent to $14.19 billion;

(4) new, less strict criteria for the definition of bad assets.

The Chinese tax authorities have also provided for measures to support businesses, such as exemptions from social security contributions, a cut in port tariffs and a substantial increase in infrastructure investments, including those related to the new 5G digital technology. The stimulus measures introduced in the first quarter of 2020 were, however, broadly in line with the extraordinary measures launched during the global financial crisis in 2008-09, when the Chinese government prepared an economic support programme of more than 12% of GDP.

Monetary and fiscal policies in South Korea, Japan, Indonesia, the Philippines, Thailand, Australia and New Zealand also took a strongly expansive tone.

In Japan, the government has so far adopted two packages of economic support measures. The first, adopted in mid-February, foresaw 500 billion yen, or 0.1% of GDP, in public loans to small and medium-sized enterprises (SMEs) in the tourism sector. With the second intervention, launched in mid-March, public loans increased to 1,600 billion (0.3% of GDP) and were extended to a larger number of enterprises. In addition, 430 billion has been allocated to fiscal measures (mainly for health expenditure and parental leave). Finally, in April
2020, a third, more far-reaching intervention was planned (about 15,000 billion, or 2.7% of GDP), which should include measures to support businesses, tax cuts and cash payments in favour of families.

The Australian government has launched a massive economic support plan that provides for a total of 320 billion Australian dollars (AUD $), equivalent to 16.4% of GDP, for the many measures planned. To date, however, it seems that only a very low percentage (about 4%) of the measures announced have been allocated. Priority has been given to areas and sectors that have suffered, or are suffering, a greater impact: work, families, health, education (an important item for the high number of university students from Asian areas), agriculture and tourism (the latter two sectors, among other things, had already been heavily affected by the drought and fires that devastated the country at the end of 2019). More contained, but equally relevant, is the package of measures adopted by the New Zealand government. The financial resources involved amount to a total of 12.1 billion New Zealand dollars (NZ$), equivalent to 4% of GDP. In particular, the sums allocated have been allocated to employment (NZ$5.1 billion), the most vulnerable families (NZ$2.8 billion), health (NZ$500 million), tourism (NZ$600 million), construction and infrastructure (NZ$160 million) and tax relief measures.

Figure 5. Share price developments of the main benchmarks selected in the first quarter of 2020. Source: OECD (2020b).

Figure 6. Development of the implicit volatility indices selected in the first half of May 2020. * The CBOE Volatility Index (VIX) is implied equity volatility on US S&P 500. Oil implied volatility implied volatility of crude oil prices by applying the VIX methodology to United States Oil Fund, LP. Source: OECD (2020b).
(NZ$3.1 billion) provided for in the Tax Relief Package, the most important tax support programme ever launched in the history of the country in favour of SMEs (especially those operating in the hospitality and tourism sectors).

Tax Relief Packages have been approved by other governments hard hit by the pandemic, such as Canada, the United Kingdom and the United States.

The Canadian government, in order to avoid falling into recession (the OECD has forecast a substantial contraction of the Canadian economy of 6.2% of GDP by 2020), has put in place several measures to support families, workers and businesses affected by the effects of the crisis. These include a package of 107 billion Canadian dollars (CAD) made available by the federal government, which includes aid for people who have lost their jobs and a wage subsidy for employees of companies in difficulty. Of this 107 billion, 52 billion has been allocated as direct support, while the remaining 55 billion is intended to support companies’ liquidity through tax deferrals, subsidies and tax relief for all companies whose losses exceed 30%. The measures included in the plan include extended access to lay-off and unemployment benefits, subsidies for wages and household income support, and tax deferrals until 1 September this year. Finally, the Canadian federal government announced a further package of measures to support the CAD 4.2 billion economy in April 2020. Of this amount, CAD 2.5 billion is earmarked for the oil sector following the drastic fall in oil prices. A sum of CAD 1.7 billion has been made available for the environmental restoration of abandoned wells in the provinces of Alberta, Saskatchewan and British Columbia. A further CAD 750 million was allocated to a new fund dedicated to reducing methane emissions. 10% of the aid package will go to companies in the province of Newfoundland & Labrador.

In the United Kingdom, the government has launched two packages of measures: the first involves a £30 billion spending programme, or 1.4% of GDP, of which £5 billion will go to support the health system and 7 billion to support businesses and workers. The remaining £5 billion will be distributed during the year and in 2021; the second package is worth £350 billion and is made up of public guarantees on the debts of companies in need of liquidity for £330 billion (15% of GDP) and £20 billion for tax cuts and subsidies for businesses and workers. However, the UK government has indicated its intention to launch a third package of measures in the second half of 2020 to support workers who will be out of work as a result of the epidemic.

In the United States, the Trump administration has approved an economic stimulus plan of about $2.2 trillion, or 9.5% of GDP. The measures launched consist of grants to adults and children, loans and guarantees on direct loans to industry (about $500 million), as well as aid to SMEs ($367 billion) in need of liquidity, unemployment benefits and health funds ($150 billion).

Among EU countries, measures to support personal and corporate income (in the order of 1%–2% of GDP) have already been taken by, among others, the governments of France, Germany, Italy and Spain; in addition to these measures, guarantee schemes for corporate loans totalling more than 10% of the product. The Council of the EU has approved, on a proposal from the European Commission, the activation of the general escape clause of the Stability and Growth Pact; the clause allows EU Member States to deviate from the return path towards the medium-term objectives of the Pact and to allocate the necessary resources to deal with the health and economic emergency and to support businesses and families.

At the same time, the international financial institutions are progressively increasing their level of involvement in supporting struggling economies. The International Monetary Fund is strengthening the instruments available to member countries to meet the costs of the health emergency and offer a moratorium on debt and is also considering an extraordinary allocation of Special Drawing Rights for USD 500 billion. Options to extend the use of the Fund’s precautionary instruments are under consideration. The World Bank has approved a $14 billion package for financial support to poor and struggling developing countries, which could rise to a total of $150 billion over the next twelve months.

For the time being, however, global economic growth is seriously undermined. According to some estimates, indeed, the global economy is expected to contract sharply (by 3%) in 2020, much worse than during the 2008–2009 financial crisis. In a baseline scenario where the pandemic is expected to disappear in the second half of 2020—with the consequent phasing out of containment measures—the global economy is expected to grow again (by 5.8%) in 2021 and the global economic picture will only return to normal if supported by adequate political commitment. According the IMF estimates, the risks for even more serious outcomes remain, however, considerable.

The medium-term economic outlook ultimately depends on the ability of countries and international institutions to take effective and timely action to prevent the impact of the pandemic from having persistent effects on confidence, investment and the soundness of financial systems.

The question that arises at this point is: could a global recession slow down, or even halt, the process of transition of the global economy towards more sustainable and inclusive models of development? And, more

---

12 See IMF (2020), pp. 6–9.
13 See again IMF (2020).
specifically, the crucial dilemma facing governments around the world is: will rescue and fiscal stimulus programmes launched or being approved in many of the countries affected by the virus be able to effectively boost economic growth without taking resources and political commitment away from the climate cause?

A number of scholars have already attempted to answer these questions in research carried out in May 2020 by a group of internationally renowned experts coordinated by Prof. Hepburn of Oxford University. The authors examined about 700 fiscal stimulus packages, which can be classified into 25 types of interventions, and interviewed a large number of analysts and scholars from around the world (including central bank and finance ministry officials, academics and numerous think-tanks), who were asked to assess the relative effectiveness of the measures under review, based on their speed of implementation, multiplier effect, potential climate impact and overall desirability. The data showed that climate measures should be considered more beneficial than ‘traditional’ measures not only in slowing down global warming, but also in terms of overall economic impact. Indeed, green policies would have the capacity to generate more jobs, offer higher returns in the short term and generate higher cost savings in the long term. They would also produce - through lower real energy costs - a number of other benefits, such as reduced social and health inequalities.

3. Human well-being and the mitigation of climate change

Energy represents, as is well known, the engine of the modern economy and plays an essential role for the development and well-being of mankind, especially in the contemporary world, which appears increasingly globalized and interconnected, but also increasingly polluted and unhealthy. Energy production and consumption have, in fact, a significant impact on the climate, forcing the governments of all countries to rethink their economic and social policies, before they determine the destruction of the ecosystems on which man’s life on Earth depends.

The absence of energy can, on the other hand, contribute to reducing people’s well-being and freedom. The difficulty of accessing it, or having an adequate supply of it, is in fact considered an important indicator of material deprivation, which sometimes reveals the presence of a condition of general poverty. The systematic use of fossil fuels to produce energy dates back to the end of the 18th century and is considered beneficial for some of the important characteristics that are known to distinguish these materials. The use of this type of energy also depends on different forms of achieving (and/or maintaining) human well-being and improving the quality of life.

The systematic and massive use of this form of energy production involves, however, as has been shown in some important research on the subject, an increase in the concentration of greenhouse gases in the atmosphere which in turn produces a rise in the average global temperature and dangerous effects on the climate. Mitigation, adaptation, research, development and testing of new ‘green’ technologies are the solutions indicated, as early as spring 2005, to solve this problem.

Among these solutions, climate change mitigation is undoubtedly a priority, because it aims to reduce the environmental impact of human activities and slow down the described process of global warming. The different strategies and actions of environmental mitigation can, however, contrast with many of the current forms of achieving well-being, in particular those that depend significantly on the use of energy derived from fossil fuels. This aspect of the problem is not very often taken into account. Yet the welfare impacts of different mitigation actions and strategies should not be overlooked. It could be a very important indicator for the choice of actions and strategies.

3.1. Climate change and its possible feedback effects on well-being

From a detailed analysis of the problem described (which can be counted among the many environmental dilemmas that can significantly affect individual and collective decision-making processes) comes the need to intervene through the mitigation of climate change, but without affecting the actual well-being of human beings and their health.

In many societies and countries, in fact, reducing or eliminating the use of fossil energy could lead to changes in consumption behaviour and lifestyles on which individuals today normally rely to achieve well-being.

This particular aspect of the fight against climate change and its possible ‘feedback’ effects on well-being have been captured and represented very effectively in a recent work written by two researchers from the University of Leeds. According to their reconstruction of the described feedback effects, the relationships between climate

---

14 See Hepburn et al (2020).
15 See Voltaggio (2018), pp. 23 24.
16 On this point see Mugerauer and Manzo (2008).
mitigation and energy consumption from fossil fuels can be represented in the form of ‘tensions’ resulting essentially from two conflicting processes, which ‘pull’ in opposite directions, giving rise to a sort of ‘triangle of tensions’ (see figure 7): the first of these two processes is activated by the contemporary human dependence on the use of energy derived from fossil fuels, which leads to excessive greenhouse gas emissions and, consequently, to climate change; the second, on the other hand, is related to the effects of global warming and to the large-scale welfare problems that arise from it and that require, in order to be reduced or eliminated, a considerable effort in carrying out mitigation activities.

Wood and Roelich’s analysis implies a robust and holistic conception of well-being, which allows to understand and overcome the conflicts incorporated in the described triangle of tensions. Measures to reduce the effects of global warming could conflict, in fact, with many contemporary forms of achieving well-being, still highly dependent on the use of energy derived from fossil fuels. It is clear that the discourse on the most suitable strategies to face climate change should be better integrated with the theoretical assumptions of the theory of well-being. A more complete integration of the latter in the strategies adopted to reduce the economic and social impact of climate change could help to avoid potential conflicts (tensions) between the mitigation measures actually applied and the consumption of energy derived from fossil fuels.

To this end, Wood and Roelich believe that climate change mitigation measures and fossil fuel consumption cannot be considered in isolation from their relationship to well-being and that, therefore, a new philosophical and economic concept is needed that is capable of capturing the complex relationships between these conflicting phenomena. Such a concept should be inspired by the Capabilities Approach and allow the potential welfare implications of energy conflicts between fossil fuel-derived energy consumption and climate mitigation to be framed as issues of environmental or ecological justice.

3.2. The role of the environment and environmental issues in the Capabilities Approach.

In fact, the potential welfare implications of environmental issues have been addressed, albeit in part and incompletely, also been addressed in depth in liberal political theory, by the US philosopher John Rawls17. Martha C. Nussbaum’s skills approach18 allows, however, to more easily recognize, compared to Rawls’ theory, how environmental variations, in individual circumstances, pose obstacles to the types of protection that justice requires and is more sensitive to understanding how environmental injustices very often create conflicts that threaten social justice19.

Sen had already identified the role that the Human Development Approach (a phrase perfectly superimposable to that of Capabilities Approach, because of the context in which it is expressed and the way in which it is substantiated) can offer to understand the relationship between development and protection of natural resources: «Once we appreciate the necessity of seeing the world in the broader perspective of the substantive freedoms of human beings, it immediately becomes clear that development cannot be divorced from ecological and environmental concerns. Indeed, important components of human freedoms—and crucial ingredients of our quality of life—are thoroughly dependent on the integrity of the environment, involving the air we breathe, the water we

17 See Rawls (1971 e 2001).
18 See Nussbaum (2000 and 2011).
19 See Maestri (2016).
drink, the epidemiological surroundings in which we live, and so on. Development has to be environment-inclusive, and the belief that development and environment must be on a collision course is not compatible with the central tenets of the human development approach.20

Based on the theoretical framework proposed by Amartya Sen (1995, 1999, 2009), Martha Nussbaum has identified a list of ten central (or basic) abilities that should be protected as primary subjects of justice by all governments on the planet: (1) Life; (2) body health; (3) physical integrity; (4) senses, imagination and thought; (5) feelings; (6) practical reason; (7) belonging; (8) other species; (9) play; (10) control of one’s environment (political and material) (Nussbaum 2006, p. 76). The basic idea of the American philosopher, with respect to each of the above mentioned abilities, is that: «we can argue, by imagining a life without the capability in question, that such a life is not a life worthy of human dignity» (Nussbaum 2006, p. 78).

The quality of the environment therefore plays an important role in Nussbaum’s thinking, not least because the present and future well-being of mankind depends on it. It follows that, before defining the most appropriate policies to ensure the protection of the environment and the well-being of humanity, it must be made clear to what extent the interests of subsequent generations count. In addition, the very core capabilities needed to qualify a life as worthy of human dignity, in addition to being closely interconnected, depend on environmental factors.

It is also useful to remember Holland’s contribution, which has led to an interesting extension of the Capabilities Approach, through the elaboration of a purely anthropocentric approach to the theoretical framework proposed by Sen and Nussbaum, through which a specific link between human capabilities and environment is identified and the concept of environmental capacity (or capability) is proposed. Similarly to the way Nussbaum argues that the tradition of the social contract ignores several unresolved problems of justice, Breena Holland argues that this tradition, which sees Rawls as its main representative, does not consider environmental issues as problems of justice at all, because environmental resources are not subject to unfairness in their distribution: ’the natural environment, in other words, does not confer fundamental advantages of wealth and power to some and not others’ (Holland 2008, p. 319). From Rawls’ point of view, therefore, there seems to be no immediately obvious reason to address environmental dilemmas as matters of justice of primary importance. Holland, on the contrary, argues that this point of view is wrong, as the consequences of natural disasters affect people disproportionately, giving rise to problems of justice. Some simple examples cited by Holland show how in these cases the distribution of the harmful effects of extreme environmental phenomena is strongly unequal and therefore unfair: «In the United States, for example, neighborhoods with high concentrations of poor and minority residents face more severe air pollution. Similarly, residents of poor and minority communities face disproportionate exposure to risks posed by abandoned hazardous waste sites» (2008, p. 319).

Holland uses these cases to argue that issues of environmental protection and resource allocation are worthy of consideration and should be treated as part of the set of fundamental claims of justice. Holland’s approach considers, in particular, environmental conditions as instrumental to human capabilities. Since environmental functioning at a certain level is required to produce anything, Holland defines these environmental conditions as a kind of independent meta-capability, which is necessary to obtain all the capabilities included in Nussbaum’s list: «As long as ecological systems have the functional capacity to sustain the conditions enabling the minimum threshold level of Nussbaum’s capabilities for each person, the ecological conditions of justice are met» (Holland 2008, p. 328).

Another concept outlined by Holland (2014), borrowed from Nussbaum’s philosophical approach, are ‘capability conflicts’. These are conflicts that occur between different means of achieving well-being. Think of a family that lives near a river by obtaining the water necessary for the use of sanitation (through the use of the river as a means of waste disposal), and therefore the health of the body. The interests of this family could come to conflict with those of another family that lives downstream and uses the river as a source of drinking water. This effect, in fact, could be produced because the use of the river made by the family upstream may have made the water dirty, undrinkable and harmful to health.

The notions of ‘capability conflicts’ and ‘meta-capabilities’ can help to understand and resolve conflicts between fossil fuel energy use, climate change mitigation and deprivation of well-being. They are determined by the fact that the use of the atmosphere as a reservoir for greenhouse gas emissions can enable a person to derive wealth from processes that require the combustion of fossil fuels, for example the burning of fuel to fuel transport. However, such use of the atmosphere on a sufficiently large scale will help to increase the warming of the atmosphere that causes climate change.

Many other people and societies (and indeed the same people and societies), can achieve many capabilities through environmental services (or environmental meta-capabilities) that are facilitated by the existence of a stable temperature atmosphere. For example, meteorological models and stable temperature cycles favor

20 See, in particular, Holland (2005, 2008, 2014 and Holland 2017).
agricultural production, allow to obtain an adequate amount of drinking water and therefore the achievement of physical health and play capabilities. However, the extensive use of the atmosphere for the first purpose (agricultural production) conflicts with the second (physical health and play).

Schlosberg highlighted how a capacity-based approach to justice can help to assess a wide range of such issues posed by climate change, arguing that such an approach can help to capture the distribution of vulnerabilities, the impacts of failure, misrepresentation or misrecognition of the potential damaging effects of anthropogenic phenomena and impairments to the ‘functioning’ that climate change entails (Schlosberg 2012). In particular, drawing on (Fraser 1997), Schlosberg emphasizes that the above disallowance involves the failure to identify the peoples and cultures likely to be affected by climate change and this endangers the very preconditions of existence of those peoples and cultures, as well as the realization of the capabilities within them (Schlosberg 2012).

Schlosberg argues, among other things, that misconception inhibits the equal participation of individuals and communities in deliberative and democratic procedures. He believes, in fact, that participation in these procedures depends largely on environmental conditions. Drawing on Holland’s theory of environmental meta-capabilities and Frasers’ arguments on recognition justice, Schlosberg argues, in particular, that recognition justice is the key to designing effective public policies against these threats to human functionings (and climate change in particular) and reiterates the very important role played by the environment in their achievement.

It is clear, therefore, that the approach to justice based on the capacities of human beings has enormous potential in relation to the effects produced by climate change and environmental issues in general. The theories developed by Holland and Schlosberg have shown, however, how it can be effectively used to design environmental policies that push society towards greater equity and social justice. We believe, therefore, that if the original theoretical framework proposed by Sen and Nussbaum were rethought and extended according to the indications provided by the most recent research of the above mentioned scholars, it could become decisive for the understanding and resolution of energy conflicts between consumption of energy derived from fossil fuels, climate change mitigation and forms of welfare achievement, because it would provide an ideal criterion to exclude policies detrimental to ecological justice and to achieve a more sustainable, inclusive, accessible and safe global energy system.

In this general framework - and with the main purpose of proposing a concrete way to exploit the above mentioned potentialities inherent in the approach theorized by Nussbaum - we believe that it could be useful and appropriate, here, a serious reflection on the delicate question of the eligibility of taxes related to the welfare of individuals measured on the basis of non-monetary indicators and parameters, such as capabilities, and to examine the idea of establishing taxes on the so-called ‘global common goods’ in a redistributive and conservative perspective, aimed precisely at limiting access and discouraging consumption.

4. Prophecies about taxation in the third millennium

At the end of the last century Giulio Tremonti wrote two very interesting essays on ‘modern’ tax systems and their possible evolution towards the taxation of the third millennium. This original and visionary scholar (in the positive connotation of the term, in use in the Anglo-Saxon world), analyzing the structure of the contemporary ‘world’ and comparing it with the medieval one, formulated two ‘prophecies’ (1) on the fiscal migration of capital, the cause of substantial effects of regressivity, especially for dependent labour, and (2) on the necessary regression of modern tax systems towards ‘medieval’ empirical forms of taxation. In particular, he argued that phenomena of global scope (such as the globalisation of wealth, dematerialisation and financialisation) would ‘radically change the economic and social structure of the existing’ and that the tax systems of the third millennium would have to progressively adapt to reality.

In the political scenario of the 21st century the new supranational bodies and entities (such as the OECD, the IMF, the United Nations and the European Union), from Tremonti called Quangos (almost autonomous non governmental organizations), will gradually gain a growing political role and, as a consequence, also increasing their ‘financial need’, will encamp a growing moral title to taxation. However, precisely because of their ‘supranational’ structure, the Quangos will also have to contend with enormous technical difficulties of collection. In order to overcome these difficulties and obtain the necessary financial resources, they will have to assume the nation-states as their direct taxpayers and force them, at the same time, to apply on their own account withholding and/or substitute taxes on their taxpayers.

21 See, in particular, Schlosberg (2003, 2012 and 2013).
22 See Tremonti (1991 e 1998).
23 For further insights on the process of adaptation of tax systems to the consequences of globalization and international economic integration, see Fedeli-Forte (1999), Fichera (2003), Grabowski (2005) and Vitaletti (2010).
For this reason, again according to Tremonti, the nation-states will be forced to reinvent their own fiscal policies with the aim of:

(1) defend national budgets from revenue losses due to the aggressive tax planning of multinational companies and money laundering, since economic flows and their potential taxpayers (multinational companies and individuals with large assets) now operate at a global level, while nation-states only have control over tax issues relating to their territory;

(2) prevent wealth from escaping their territorial domination, attracted by so-called 'tax havens' and low tax countries;

(3) to increase their competitiveness at international level, not necessarily by becoming tax havens, but at least avoiding presenting themselves as real 'fiscal hells'.

In extreme synthesis, the fiscal 'prophecy' of Tremonti for the third millennium included:

(1) a high degree of standardization of taxation produced by competition;

(2) an increasing role of taxation at source, easier to apply than taxation based on the residence principle;

(3) a gradual shift from direct to indirect taxation, with a consequent increase in the regressivity of national tax systems;

(4) a great development of tax innovation aimed at identifying new forms of wealth and developing new techniques for measuring and taxing it.

The reliability of this prophecy is proven today by numerous studies and reports on the properties that distinguish 'modern' tax systems. It is easy to see, in fact, how trends in the face of technological advances (such as the development of the Internet and telecommunications networks), social changes (such as the rapid process of population ageing, typical of more developed economies) and changes in economic structures (such as the globalisation of the economy and the increasing integration of international markets) have led tax systems towards:

(1) qualitative tax discrimination in favour of capital income;

(2) the extension of indirect taxation to the detriment of direct taxation, motivated by greater certainty of taxable income;

(3) the reduction of the redistributive ambitions of the tax levy, with the consequent attenuation of the progressiveness of taxation systems and the increase of economic inequalities.

For this reason, recently, a group of scholars from the University of Melbourne (Freebairn et al 2015), noting how the process of globalization and the ongoing technological change have led to the formation of an extremely competitive global economic environment and an impressive increase in inequalities, asked how it is possible to create a tax system that meets at least three requirements:

(1) it is able to generate the revenue that the community needs;

(2) it is less likely to become bogged down in a divisive debate;

(3) it is capable of withstanding the test of time.

If we want to express ourselves in more concrete terms, we could say that the problem posed by the Australian research group translates into the design of a tax system based on the following principles:

(1) the principle of revenue stability, which should be understood both as the capacity of the system to resist the main methods and strategies of tax planning, and as the insensitivity or impermeability of tax revenues to cyclical fluctuations of the economic system and financial crises;

(2) principles of legality and distributive fairness; the latter should also be understood with reference to the overall burden on the taxpayer, taking into account the different forms of levy to which he is subject;

(3) principle of adaptability of the public financing system to changes in the natural environment, society and the economy.
5. A fiscal revolution to reduce inequalities and strengthen the resilience of tax systems

As Tremonti said then: ‘it is not a question of fiscal reform, but of fiscal revolution’. A change of approach to the design and implementation of public policies is required, a change that also involves modern systems of taxation through:

1. the introduction of new and more advanced forms of communication between the tax administration and the taxpayer, with the aim of simplifying compliance, stimulating the fulfilment of tax obligations and encouraging the spontaneous emergence of tax bases;

2. the recovery of the redistributive function, through the identification of ‘new’ inequalities\(^ {24}\) and the most appropriate means to reduce them;

3. experimentation with new models of levy aimed at increasing the resilience of economic, fiscal and social security systems\(^ {25}\) to the consequences of the profound changes that have occurred in the way wealth is produced (such as climate change, pollution of the air, sea, soil and subsoil, illegal waste trafficking, the increase in cancer caused by the spread of carcinogenic substances in the natural environment or by bad eating habits) and, more generally, of economic and social systems (such as economic and financial crises, the particular rapidity of the ageing process, international migration flows).

The resilience of tax systems, in particular, can be considered as the essential condition to ensure the achievement of fundamental objectives for the welfare and growth of a country, such as the provision of quality public services, the organization of an effective and efficient network of public transport services and infrastructure, the financing of public activities aimed at protecting the environment and dealing with environmental emergencies, the promotion of equal opportunities and equal treatment for all citizens, regardless of gender, race, religion, residence and social status.

Increasing the resilience of tax systems is not, however, a simple matter. It presupposes:

1. the ability of tax systems to adapt to the above changes in society, the economy and the environment;

2. the availability of adequate resources to support the efforts (or costs) of adapting systems;

3. the redistribution of resources, where their excessive concentration prevents sustainable economic development.

But how is it possible to design tax systems that meet all these requirements at the same time? Without claiming to provide a definite or exhaustive solution to the problem, we would simply like to point out that the current trends are part of a dynamic that inevitably pushes towards a drastic change of approach to the problems of taxation. The adoption of new criteria of contributory capacity indicators related to the well-being of individuals, measured on the basis of non-monetary indicators and parameters, such as capabilities, could, in our view, serve to pursue all these objectives simultaneously.

The proposal to broaden the range of taxable events by also taxing capabilities, or other economically assessable situations or positions of advantage, was first made by Franco Gallo in a 2007 essay on the ethical justification for the tax and the relationship between fiscal justice and social justice\(^ {26}\). In that essay the author began to support the need to reform the tax system, integrating it with the introduction of new ‘indices of economic potential represented by positions and values - `capabilities’, Amartya Sen would say\(^ {27}\) - only socially relevant, as long as they express, in terms of advantage, a differentiably economically assessable capacity\(^ {28}\).

\(^{24}\) After the decades of liberalist hegemony that began in the years of thatcherism and reaganism, even the world economic institutions have ‘discovered’ that inequalities can compromise the very development prospects of the economy. But inequalities, especially today, do not end at the level of the economy. They involve freedom, cultural and religious identity, gender relations, access to basic services and many other aspects that affect the very functioning of democratic processes. More specifically, on these aspects see Ippolito (2017).

\(^{25}\) On the resilience of economic, tax and social security systems, the methodologies to measure it and the question of their determinants, see Villani (2017 and 2019) and Villani-Crocco (2020).

\(^{26}\) See Gallo (2007). More interesting studies on the ethical justification of taxation in a globalized world are gathered in Gaïßbauer et al (2015).

\(^{27}\) See, in particular, Sen (1973, 1999 and 2009).

\(^{28}\) See Gallo (2007) pp. 86 and 87. In support of his thesis, the scholar cites numerous examples of tributes based on the assumption of ‘qualified situations of economically assessable advantage’: (1) environmental taxes in the strict sense of the term, which burden those who use scarce environmental goods or emit substances harmful to human health by deteriorating the environment; 2) economic value added taxes or so-called business taxes, which affect the organizing ability of the operator or producer; 3) excise duties, which burden the organized production of goods; 4) all those taxes that have as a prerequisite of contributory capacity indexes that do not guarantee the availability of an asset balance sufficient to meet the tax obligation.
In some later writings Gallo had the opportunity to better illustrate his proposal. In particular, he suggested to radically rethink the mission of the State, especially on an ethical level, stressing the fundamental importance of the redistributive function, conducted according to a strong moral direction and balancing property rights with citizenship rights: ‘if there are endemic inequalities, their reduction must be at the first place among the ethical objectives that the State must pursue in respect of the fundamental rights of its citizens enshrined in the Constitution’.

Recalling these ‘ethical objectives’, he also pointed out that the markets have a natural inclination to underestimate moral values and to give importance only to those needs which are attributable to economic calculations. The markets tend, in fact, to valorize only the material, financial and patrimonial goods, and do not give any importance to the fundamental liberties of the individual, or - as Sen called them - to his ‘human functioning capacities’. Yet there are ‘fundamental and universally recognized goods that are a necessary condition for social justice, such as longevity, physical integrity, the environment, health, access to both quality health services and knowledge throughout an entire life, living standards, personal, family and social life, and identity, including religious identity. And it is clear that the inequalities resulting from the lack or insufficiently of these ‘basic’ public goods and of these ‘common’ goods directly transfer responsibility for guaranteeing these goods to the State and decentralized territorial authorities; as if to say, responsibility for spending and fiscal policies aimed at removing the causes of socially and morally unacceptable distributive injustice, as well as at remedying extreme situations of exclusion, lack of opportunity and loss of hope. For the majority of people the guarantee of these goods by an efficient State is more important than profit or overall growth and therefore creates expectations that only a ‘welfare state’ can give.

Gallo also pointed out that the lack or insufficiency of the above mentioned goods is now peacefully assumed as a fundamental criterion for the evaluation of well-being and the degree of social justice. When such assets are lacking or deficient, the state should intervene as ‘insurer and guarantor of last resort’, using its power of taxation to redistribute resources and ensure that the minimum conditions necessary to ensure the full development of the human person are available to all. In coherence with this reasoning, as indicators of contributory capacity to which the tax levy should be commensurate, he suggested to take into consideration not the ‘basic’ or ‘fundamental’ goods, which the State has the obligation/responsibility to guarantee to all, but the so-called ‘capability-goods’, understood as ‘current positions and situations of advantage not necessarily of a patrimonial nature, but always economically assessable’.

In terms of principles, Gallo’s ‘recipe’ is therefore very clear and can be summarized, as in a syllogism, in three principles or postulates:

1. It is necessary to radically rethink the mission of the State, underlining the fundamental importance of the redistributive function, conducted according to a strong moral direction and balancing property rights with citizenship rights;
2. alongside the primary goods there are ‘capability-goods’ which, although not traditional economic goods such as income or assets, if economically assessable, can constitute, like them, valid and significant units of measurement of situations of advantage or well-being of individuals;
3. the State, in pursuing the ethical objectives enshrined in its mission, must avoid taxing even more traditional assets of an income or patrimonial nature, already so heavily burdened by the taxes in force, and shift the burden of the levy to different entities, which indicate the existence of specific situations of advantage and satisfaction of needs that can be economically evaluated and more suitable to contribute to the fair distribution of public burdens.

However, the practical application of these principles has not yet been clarified, not even by Gallo himself. For this reason his ‘recipe’, although logically well structured, has become the object of criticism and controversy. It is noted, in particular, how a change of focus in the logic of the tax levy from traditional economic indicators (income, assets and consumption) to the capabilities or capabilities of individuals can widen the information deficit suffered by public authorities to the benefit of tax payers and, consequently, produce perverse incentive effects (disincentive to reveal one’s capabilities and invest in them), as they are only aimed at

29 See Gallo (2012b and 2014).
30 See again Gallo (2012b and 2014).
31 On the principle of the ‘State of last resort insurer and guarantor of last resort’, see Pica (1987 and Pica 2009).
32 On the distinction between ‘basic’ or fundamental goods (‘basic or fundamental goods’) and ‘good-capacity’ (capability-goods), see Gallo (2012b and 2014). In the thinking of this scholar, fundamental and universally recognized goods are the necessary condition for social justice, such as longevity, physical integrity, environment, health, access to services, personal, family and social life, standard of living and identity, including religious identity. Alongside these goods, there are others, which he defines as ‘good-capacity’, i.e. goods (but also positions, conditions and situations) which, although they are not exchangeable on the market, represent a contributive potential from which the State could base, under certain conditions, the tax levy on those who have them available.
hiding the tax base and obtaining a tax gain\textsuperscript{33}. In support of this criticism, the studies on the subject of endowment taxation are recalled, and that is, of taxation in relation to the ‘endowments’ and the potentialities of gain of the individuals\textsuperscript{34}, showing how it does not make sense to conceive a tax on ‘brute luck’, in the absence of a tangible wealth which allows its payment\textsuperscript{35}. In fact, Coherence would like, in fact, ‘to theorize taxes strictly anchored to assumptions endowed with patrimoniality, and certainly not to ‘capacity’ or ‘social values’, to personal qualities or situations of advantage tied to the health of the individual, to access to health services, to the healthiness of the environment and to other factors which prove an economic and patrimonial substratum\textsuperscript{36}.

6. Conclusions and policy proposals

The Gallo proposal has, in our view, enormous potential, which is still not properly grasped or developed today. It is not possible for us here to explain in detail how this can be done by translating the ethical-philosophical principles on which it is based into practice.

We cannot, however, exempt ourselves from pointing out how the Capabilities Approach could be the ideal basis for a reform of national tax systems aimed at recovering elements of progressiveness and social justice that globalization and the undisputed domination of the single neoliberal thought have contributed to put in crisis. Recent research\textsuperscript{37} has in fact highlighted how such an approach could allow for more equitable taxation systems that are more attentive to the needs of economically or socially disadvantaged people, such as the poorest, the disabled, women and those living in large or single-parent families. Starting from the delicate issue of environmental protection, we could then aim to achieve something more. For example, one could start thinking about the construction of a global tax system that, using a common conceptual framework inspired by the principles of the Capabilities Approach, points a:

1. limit the exploitation of the so-called ‘global common goods’;
2. overcome the potential energy conflicts described by the ‘triangle of tensions’ of Wood and Roelich;
3. strengthening the resilience of economic, financial and social security systems\textsuperscript{38}
4. reduce the ‘old’ inequalities in the distribution of income, or wealth in general, and the ‘new’ inequalities in the provision of human capital, public services and infrastructure, which together hinder the full development of the human person\textsuperscript{39}.

A tax system of this kind should, however, categorically exclude the possibility of taxing personal qualities, social or relational abilities of individuals and contemplate taxing only those positions of advantage in the availability and access to goods and services that should be guaranteed to all. We are thinking, in particular, of the establishment of supranational guarantee institutions and the application of taxes on the use and abuse of the common goods of humanity, which constitute collective resources to which all species have equal rights and are therefore the foundation of real wealth\textsuperscript{40}. These goods are increasingly invaded and expropriated, reduced to goods, fenced or polluted and their access is increasingly threatened.

We could therefore imagine institutions that would allow us to enhance them, to govern the ongoing process of ecological transition and to strengthen the resilience of our production systems. Within an integrated economic area, such as that of the European Union, we could, for example, reform the founding treaties to create a system of shared principles and rules on the management of common goods. The European Treaties have, in fact, given the initial project of the Founding Fathers a direction that distances it from the ideal of building European collective goods and institutionalizes, on the contrary, the extraterritorial privatization. In other words, the European institutions have not created a system of shared rules for the management of commons, but a process of privatization of extraterritorial private goods, which risks generating situations of economically and socially sub-optimal balance. In this context, however, a reform of the founding treaties inspired by the principle of reciprocity and subsidiarity could lead to a

\textsuperscript{33} In this sense, see Lanzi\textsuperscript{(2010)}.
\textsuperscript{34} On this subject, see for all Zelenak\textsuperscript{(2006)}.
\textsuperscript{35} See Gaffuri\textsuperscript{(2013)} and Stevanato\textsuperscript{(2014)}.
\textsuperscript{36} Thus Stevanato\textsuperscript{(2014)}, pp. 419–429.
\textsuperscript{37} See Stewart\textsuperscript{(2009} and 2017\textsuperscript{)}.
\textsuperscript{38} For further insights on this topic, Aiginger\textsuperscript{(2009)}; Villani\textsuperscript{(2017} and Villani\textsuperscript{(2019)} and Villani and Crocco\textsuperscript{(2020)}.
\textsuperscript{39} See Sen\textsuperscript{(1999)}.
\textsuperscript{40} On the value of global commons and their fundamental contribution to the well-being of society in today’s globalized world, see Deneulin-Townsend\textsuperscript{(2007)}, Ricoveri\textsuperscript{(2010)} and Riordan\textsuperscript{(2014)}.
reorganization of the European institutions that leaves the management of public goods to the Member States and transfers the governance of common goods to the Union.\footnote{In this same sense, Giraud (2012), pp 107 and ss. And Giraud (2020), pp 60 and ss.}

We could also imagine the use of `pigouvian’ taxes (Pigouvian taxes), established and applied on the basis of global or international agreements and directed to eliminate or reduce the negative externalities produced by the increase in the concentration of greenhouse gases in the atmosphere. The most recent studies on environmental taxes show that the current level of taxation on polluting products is extremely low and does not adequately reflect the environmental and social damage these goods cause.\footnote{See OECD (2005) and OECD 2019.} The introduction of a global carbon tax would, according to these analyses, produce an important tax dividend that could be used to pursue other objectives in support not only of the environment, but also of health and work.\footnote{See also Bird (2015 and Bird 2018).}

The market for CO\(_2\) quotas that Europe has had since 2005 had in fact a similar purpose, but it did not perform its function adequately, as it did not provide the slightest incentive to invest in low-carbon industrial infrastructure. For this reason, it is believed that a progressive global tax on (direct and indirect) greenhouse gas emissions, considering both the differences between countries and the differences between people with different levels of wealth within countries, could play a decisive role in speeding up the economic transition to a decarbonized society that is also attentive to the needs of the poorest.\footnote{See Piketty and Chancel (2015).} However, this proposal, while attractive in terms of fairness, is characterized by a number of interlinked critical points, which suggest that this proposal is applicable, but only on condition that the proceeds of the tax are used to finance a global plan for adaptation to climate change and to reduce or eliminate other forms of taxation.\footnote{On the point, Elliott and Fullerton (2014) and Fullerton-Muelegger (2019).} This tax, in other words, should not simply be an additional form of levy that helps to increase the tax burden on companies and (by translation) on workers, but a fair, growth-oriented, growth-oriented tax that is the result of the wider international coordination of tax action.\footnote{In this sense, Carattini et al (2019), who demonstrated - through a survey carried out on a sample of citizens from five different English-speaking countries (India, USA, UK, Australia and South Africa) - that making the application of a global carbon tax acceptable is possible, as long as it is not the citizens who pay, but the companies that produce and distribute fossil fuels. In support of their proposal, aimed at avoiding opposition to the idea of establishing a carbon tax, these researchers also cite the case of the Canadian state of British Columbia, where in 2008 it was possible to introduce a tax on fossil fuels thanks to the fact that the drained resources were redistributed in a clearly perceptible way to the population. The experiment, among other things, according to Canadian Prime Minister Justin Trudeau, worked so well that it was decided to extend the application of this type of tribute to other states in the country. The authors of the research argue, therefore, that it would be worth insisting on this approach throughout the world, in order to obtain mass consensus for the realization of an operation that is absolutely imperative.}

Finally, let us consider the key role that taxation can play in the fight against energy poverty. It is well known, in fact, that one of the determinants (of the causal factors) of energy poverty is the cost of energy and that this cost is often heavily influenced by fiscal and parafiscal components, which are added to the other cost components of bills. In this context, as also suggested by the OECD, it is essential to take restrictive action on fossil fuel subsidies to control price volatility and to improve the competitiveness of renewable energy and efficient energy technologies. It is important, however, in the same logic, to intervene both by providing tax relief for fuel poors and by reducing the overall tax burden on ‘good-energy’.\footnote{In this sense, see already Pistone (2016).} The use in this sense of the tax lever is perfectly, in our opinion, part of a taxation system inspired by the principles of the Capabilities Approach, since it presupposes the recognition of energy as a primary and fundamental good for the life and social development of the person.

These measures obviously represent only a first step towards the decarbonisation of the global economy. In order to reduce energy poverty and prevent the possibility of conflict between fossil fuel energy consumption and climate mitigation, major investments in energy infrastructure and appropriate incentives are needed to make them affordable in developing countries as well. It is with this in mind that we welcome the creation of a global tax system aimed at limiting the exploitation of transnational disparities between tax systems and recovering the revenue losses generated by the tax planning strategies of multinationals.\footnote{48. The use in this sense of the tax lever is perfectly, in our opinion, part of a taxation system contained in Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity and the introduction of a Carbon Border Adjustment mechanism aimed at countering the strategic carbon leakage.}

47\footnote{An internationally coordinated approach would, in fact, serve to provide reassurance against losses of competitiveness and to prevent any opportunistic conduct (free-rider issues) in some countries. See Weitzman (2016), Cramton et al (2017), IMF (2019).} In this respect Supino-Voltaggio (2018), pp. 310–327.

48\footnote{In this sense, see already Pistone (2016). On the growing difficulties that many countries face in continuing to collect, in a fair and efficient way, the tax revenues they need to finance their public spending, see also Tanzi (2016). For a deep study on the application of some normative justifications of taxation to a global level, see Eskelinen-Laitinen (2015).}
ORCID iDs

Salvatore Villani  
https://orcid.org/0000-0002-6165-5137

References

Aiginger K 2009 Strengthening the resilience of an economy Interconomics 44 309–16
Angel F, Frattola E and Mistura E P 2020 Anti-Covid tax measures in the 32 advanced countries: an updated comparison
University of Milan Cattolica Observatory on Italian Public AccountsMilan
Bird R M 2018 Are global taxes feasible? International Tax and Public Finance 25 1372–400
Bird R M 2015 Global taxes and international taxation: mirage and reality ICTD Working paper 28(Institute of Development Studies) (Brighton) January
Carattini S, Kallbekken S and Otrof E A 2019 How to win public support for a global carbon tax Nature 565 289–91
Cramton P, Mackay D, Okenfels A and Stoett J S 2017 Global Carbon Pricing: The Path to Climate Cooperation (Cambridge, MA: MIT Press)
Crist M 2020 Does Coronavirus Bring a New Perspective on Climate Change? Readers Discuss the Effect of the Virus on the Environment Going Forward The New York Times 5 april
Deneulin S N and Townsend 2007 Public goods, global public goods and the common good International Journal of Social Economics 34 19–36
Elliott J D and Fullerton 2014 Can a unilateral carbon tax reduce emissions elsewhere? Resour. Energy Econ. 36 6–21
EUROPEAN COMMISSION 2011 Revision of the Energy Taxation Directive—Questions and Answers Press Release Brussels https://ec.europa.eu/energy/en/energy-policy/energy-taxation/directive
EUROPEAN COMMISSION 2010a Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions: International Climate Policy Post-Copenhagen: Acting Now to Reinigrate Global Action on Climate Change, COM (2010) 86 final, 9 March, Brussels https://eur Lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0086&from=EN
EUROPEAN COMMISSION 2010b EUROPE 2020 A strategy for smart, sustainable and inclusive growth, COM (2010)/2020 final, 3 March, Bruxelles https://eurlex.europa.eu/legal-content/IT/TXT/PDF/?uri=CELEX:52010DC0280&from=IT
Eskeninen T and Laitinen A 2015 Taxation: its justification and application to global contexts ed H P Gaisbauer et al 2015Philosophical Explorations of Justice and Taxation. National and Global Issues (Cham: Springer) 40, 219–36
Evans S 2020 Analytic Coronavirus set to cause largest ever annual fall in CO2 emissions Carbon Brief 9 april
Fedeli S E F and Forte F 1999 Competition versus tax harmonization: the choice of the rules of the game in the European Union Fiscal Competition in an Integrated International Economy ed M Bordignon and E D Da Empoli (Milan: Franco Angeli) 78–103
Fichera F 2003 Taxation and European Union: the acquis communautaire Journal of Financial Law and Finance Science 62 427–50
Forte F 2007 The ethics of taxation Tax, Individual, Community (Rome: Magna Carta Foundation)
Fraser N 1997 Justice Interruptus: Critical Reflections on the "Postcapitalist" Condition (London-New York: Routledge)
Freebairn J, Stewart M and Liu P X 2015 Reform of State Taxes in Australia: Rationale and Options (Melbourne: Melbourne School of Government, University of Melbourne)
Fullerton D E E and Muehlegger 2019 Who bears the Economic Burdens of environmental regulations? Environ. Res. Commun. 2 103003
Galfi J 2013c A taxman who knows how to distribute the resources at the basis of modern democracies in Strategic Management and Public Policy (London-New York: Routledge) 84 951–65
Galfi F 2012a Inequality, distributive justice and the principle of progressiveness Tax Review 2 2012 287 ff
Galfi F 2012b Tax Equality, Naples, Scientific Editorial
Galfi F 2013a The evolution of the tax system and the principle of the ability to pay Report to the conference ‘The evolution of the tax system and the principle of the ability to pay’ (Rome, 11 June 2012) Rassegna tributaria 56, 499–507
Galfi F 2013b Still on the subject of tax equality Journal of Financial Law and Finance Science 72 2013 321–53
Galfi F 2013c A taxman who knows how to distribute the resources at the basis of modern democracies Tax Law and Practice 84 994–5
Galfi F 2014 Rethinking the tax system in terms of greater distribution equity in Social Policies 2 221–32
Gallo F 2015 New expressions of contributory capacity Tax Review 4 771–84
Giraud G 2012 Illusion financière. Des subprimes à la transition écologique, Les Édition de L’atelier, Paris
Giraud G 2020 Per ripartire dopo l’emergenza Covid-19 La Civiltà Cattolica 4075 4 april 55–67
Grabowski M H 2005 Fiscal integration in the European Union: challenges, results and prospects Public Economy 4 145–57
Hepburn C, O’callaghan B, Stern N, Stiglitz J and Zenghelis D 2020 Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change Working paper No. 20–02 prepared for the submission to the ‘Oxford Review of Economic Policy’ 364 May,
Holland B 2014 Allocating the Earth: A Distributional Framework for Protecting Capabilities in Environmental Law and Policy (New York: Oxford University Press)
Holland B 2017 Procedural justice in local climate adaptation: political capabilities and transformational change Environmental Politics 26 391–412
Holland B 2008 Justice and the environment in Nussbaum’s ‘Capabilities Approach’ why sustainable ecological capacity is a meta-capability Political Research Quarterly 61 319–32
Holland B 2005 Environment and capability: a new normative framework for environmental policy analysis unpublished PhD Dissertation (Chicago) University of Chicago (on file with the Harvard Law School Library) Aug
IEA, OECD and WORLD BANK 2010a The Scope of Fossil Fuel Subsidies in 2009 and a Roadmap for Phasing Out Fossil Fuel Subsidies, prepared for the G-20 Summit, Seoul (Republic of Korea) 11–12 November 2010 OECD/IEA available at: http://oecd.org/env/CC/46575783.pdf
IEA, OPEC, OECD, and World Bank 2010b Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 initiative, prepared for the G-20 Summit Meeting Toronto (Canada) 26–27 June 2010 OECD/IEA available at: http://oecd.org/env/43575666.pdf
IEA, OECD and WORLD BANK 2011 Joint report by IEA, OPEC, OECD and World Bank on fossil-fuel and other energy subsidies: An update of the G20 Pittsburgh and Toronto Commitments, prepared for the G-20 Meeting of Finance Ministers and Central Bank Governors (Paris, 14–15 October 2011) and the G-20 Summit (Cannes, 3–4 November 2011) OECD/IEA available at: https://oecd.org/env/49990716.pdf
IMF 2019 Fiscal Monitor: How to Mitigate Climate Change (Washington) October
