

The Energy Taxation Directive Reform and the promotion of advanced biofuels

The use and development of advanced biofuels will be essential not only for the transition to a carbon-neutral economy as planned by the EU Green Deal (EGD), but also for the transition to a green economy in line with the objectives of the EU NextGeneration Recovery Plan. In fact, the International Energy Agency have stated that replacing fossil fuels with advance biofuels is one of the primary ways to decarbonize the transport sector, specially, in the initial phases of the transition to a neutral emission mobility. Particularly, biofuels will play a fundamental role by presenting the advantage of being functionally equivalent to fuels derived from petroleum and compatible with the existing fuel infrastructure.

Despite their pivotal role in low-carbon scenarios, advanced biofuels are produced on a limited scale. From an economic point of view, the main challenge of advance biofuels it that their production costs are currently higher than conventional biofuels and the fossil fuels they are intended to replace.

From this perspective, economic instruments for carbon pricing such as the EU Emission Trading System (ETS) or the Energy Tax Directive (ETD) could play a significant and complementary role in carrying out this intervention and make advanced biofuels cost competitive. However, to date, none of these instruments seems to have been effective in introducing an adequate price signal to favour renewable energy products. This paper will consider whether the Commission's proposal to review the Energy Tax Directive is in conformity with the circular and energy strategy insofar that it can create incentives to produce advance biofuel.

Short bio

Dr Álvaro Antón is an Associate Tax Law Professor at CEU Cardenal Herrera University. Academic Secretary and Coordinator of the Master's Degree in Access to the Legal Profession in the Cardenal Herrera University. Dr Antón holds an International PhD (cum laude) in Tax Law. Former postdoctoral research fellow at IBFD and research associate of the IFA. Member of the Spanish branch of the IFA, and coordinator of several research projects on environmental taxation.

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Keywords: Energy taxation, renewable energy, carbon taxation, advanced biofuels, circular economy.

CARBON TAX: TAXATION FOR ENVIRONMENTAL SUSTAINABILITY

Adriana Fonteles Silva ¹

Talking about environmental protection and sustainability requires remembering that in Brazil a balanced environment is everyone's right, and not only a duty of the State, but the entire society that composes it. Recognizing that it is up to the Public Power to provide mechanisms that enable the fundamental right guaranteed in the Brazilian Constitution and it is the collectivity duty to cooperate for the development and maintenance of a healthy environment. It is known that one of the greatest environmental impacts is caused by the use of fossil fuels such as CO₂, one of the main responsible for global warming through the emission of greenhouse gases. In this sense, we will specifically address the issue of taxation as an instrument to discourage the use of non-renewable energy in the means of production. Creating therefore, an environmental tax that burdens in a differentiated progressive way the one that uses the greatest amount of fossil fuels in its means of production, and at the same time encourages the use of clean and renewable energy sources. Thus, although the development of societies and the economy is necessary, this development must occur in an orderly manner with the environment, hold environmental devastation and promote ecological sustainability for present and future generations.

Fundamental Law - Environmental Taxation - Sustainability

¹ Adriana Fonteles Silva. Researcher at Environmental Taxation Group (GTA) of the Federal University of Ceará -UFC (2022) Graduated in law from Estacio – Ceará (2019) E-mail: adrianafonteles.af@gmail.com

Business fleets the pathway to the uptake of Battery Electric Vehicles.

Dr Anna Mortimore
Griffith University
Australia

Business fleets are an effective pathway for early adoption of Battery Electric Vehicles (BEVs) but the availability of workplace charging infrastructure in Australia is low. Businesses will not invest in workplace charging infrastructure when fleet managers are not choosing BEVs. Fleet managers decide which vehicles to purchase based on a range of criteria including Total Cost of Ownership. Currently the wide cost gap between the BEV and an equivalent internal combustion engine vehicle (ICEV), finds BEVs are not cost competitive.

In Australia, businesses account for 40% of light vehicle sales but their uptake of electric vehicles (EVs) was a mere 488 vehicles in 2020, or 0.08% of passenger vehicles and light vehicle sales.

This presentation's focus is on recent collaborative research with state governments, fleet managers, and industry leaders, identified that the current taxation system is a cost disincentive to the uptake of BEVs in Australia. Furthermore a 2020 business fleet survey indicated home charging would need to be considered in Australia because over 47% of passenger car and SUV business fleets are home garaged.

The presentation will review what taxation changes are necessary for Australia to address the business fleets lack of BEVs, to address affordability and encourage home charging of work business fleet.

Five key words: battery electric vehicles, business fleets, workplace charging infrastructure, home charging, tax changes, affordability

Bio:

Dr Anna Mortimore is a taxation law lecturer and researcher with interests in environmental taxes and reducing road transport emissions. Anna was invited by The Senate Environment and Communications Legislation Committee to make a submission on the proposed changes to the Motor Vehicle Standards (Cheaper Transport) Bill 2014. She received a grant in 2020 was for preparing, promoting and analysing the Queensland survey of Early Adopters of Electric Vehicles in collaboration with the Queensland Government Transport Main Roads and Energy Queensland.

Dr Diane Kraal is a taxation law lecturer and researcher with interests in individual and business taxation. Previous, successful grants have included research into biofuels in the context of energy justice of \$80,000; and a consortium grant of \$779,464 for the Monash University ' Micro-Grid Electricity Market Operator project. Diane's tax law research will underpin her contribution to this project in the context of climate change.

EVALUATION OF THE ITALIAN FISCAL POLICY ON BIODIVERSITY AND NATURAL CAPITAL CONSERVATION

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Keywords: biodiversity, externalities, biodiversity harmful subsidies, environmental fiscal reform, public policy.

Abstract

The Environmentally Harmful Subsidies (EHS), neglecting externalities, can generate altered price signals to producers, investors and consumers. The resulting damage to biodiversity and Natural Capital increases the ecological restoration need, amplifying the effects of the negative externalities generated. Therefore, an environmental fiscal reform is urgently required. Similarly, the Post-2020 Global Biodiversity Framework called for reforming or eliminating Biodiversity Harmful Subsidies (BHS) and for ensuring that incentives, including public and private economic and regulatory incentives, are either positive or neutral for biodiversity. OECD and UNEP have developed significant work on the BHS' removal; BHS also represented a priority among the CBD's Aichi Targets to 2020 and is currently under negotiation ahead to CBD COP in Kunming (China 2022). As a result, in January 2021, the Italian Ministry of Ecological Transition published the fourth National EHS Catalogue with a section dedicated to BHS. The effects on biodiversity have been evaluated following the "Toolkit to identify and reform incentives harmful to biodiversity" assessed by the Institute for European Environmental Policy (IEEP), at the request of the European Commission. The analysis included five sectors: (i) agriculture and fisheries, (ii) energy, (iii) transport, (iv) Vat, and (v) Others.

Short group bio

The Catalogue was prepared for the Italian Ministry of Ecological Transition by the Environmental Economics team – Technical Assistance Sogesid S.p.A.

Authors and contributors of the BHS part of the fourth edition were: Antonia Oriani, Federico Drogo, Luca Grassi, Mario Iannotti, Greti Lucaroni, Nicolò G. Tria, Aldo Ravazzi Douvan (coordinator). Besides the yearly work on the EHS-EFS & BHS Catalogue, the environmental economics team contributes to the Report on the State of Natural Capital in Italy. They also participate in, follow and give expert advice regarding the international issues of ecological fiscal reform and sustainable finance. More recently the team is expanding its area of expertise to circular economy.

Aligning transport taxes with external costs: is it possible? European and national efforts in transport taxation

Marina Bisogno, University of San Pablo CEU¹

Transport remains a challenge, it is responsible of around 30% of global energy consumption and one of the major sources of global pollution. Taxation can bring a substantial support for a behavioral change in transport use; in fact, taxes, which influence prices, are economically attractive instruments to reduce the negative externalities of transports. Vehicles remain the dominant source of transport emissions and are responsible for 15% of Europe's greenhouse gas emissions. A clear paradigm shift is needed to foster the transition from fossil fuel-based mobility towards a more sustainable one, also considering the electrification driver in progress.

Different policy options are under scrutiny at international, European and national level to revise transport sector. From one hand the revision of the energy taxation directive and of the emission trading system are at the top of the EU political agenda and they probably will influence transport sector. On the other hand the revision of the directive 1999/62/EC on charging of heavy-goods vehicles for the use of certain infrastructures is under discussion; it was introduced to eliminate distortions of competition between transport undertakings but its revision relies on environmental concerns and it could be a useful test to take a step forward consolidating distance-based taxes; finally congestion charges are in force in some cities around the world with a positive effect in term of reduction of negative externalities.

This paper aims at analysing how policymakers at European and national level are looking for aligning transport taxes with external costs, how the different measures put in place work, if they are coordinate and compliant with EU principles and how they could be improved to accelerate the green transition of the transport sector.

Keywords: transport taxation – external costs – eurovignette directive – distance-based taxes – green transition

¹ Ph.D. in tax law at the University of Naples Federico II and at the University of Paris 1 Panthéon-Sorbonne (double-degree Ph.D.). She obtained a Marie Curie fellowship at the University of San Pablo CEU (Spain) to develop a research project on transport taxation (VTAX, project ID: 101024306). Her principal line of research is environmental taxation. She published several contributions on legal-tax issues and presented papers at specialized national and international forums

Abstract for “Estimating the CO2 emission and revenue effects of carbon pricing: new evidence from a large cross-country dataset”, joint with Filippo Maria D’Arcangelo, Mauro Pisu and Kurt Van Dender

This paper estimates the long-run responsiveness of emissions and carbon-related government revenues to carbon pricing, based on the OECD Effective Carbon Rates database. Policy scenarios point to considerable emission reduction potential from introducing a carbon price floor along with increases in government revenues (as carbon prices are still low in most countries). Emissions and government revenues responses differ across countries depending on their sectoral structure and fuel uses. The analysis underlines the importance of policies aiming at easing the substitution of clean energy sources for fossil fuels (such as innovation and reallocation policies) to increase emission responsiveness to carbon pricing and meet ambitious emission reduction targets at lower carbon pricing levels than otherwise.

Here are four keywords for the paper: climate change, carbon pricing, carbon pricing effectiveness, carbon-related revenue.

Short bio

Anasuya Raj is an economist at the Tax Policy and Statistics Division of the OECD’s Centre for Tax Policy and Administration. Her work focuses on the use of taxes to pursue environmental and climate policy objectives. Prior to joining the OECD, Anasuya was a postdoctoral researcher at the University of Zurich and she holds a Ph.D. in Economics within the field of taxation from CREST-Ecole Polytechnique, in France. Anasuya has published in academic journals and has frequently spoken at research and policy events.

Kurt Van Dender:

“Kurt Van Dender leads the Tax and Environment Unit, which is part of the Tax Policy and Statistics Division of the OECD’s Centre for Tax Policy and Administration, since 2013.

Earlier, he was Chief Economist at the International Transport Forum and Assistant and Associate Professor of Economics at the University of California at Irvine. He also worked as a researcher at the University of Leuven (Belgium), where he obtained his Ph.D. with a dissertation on the economics of road pricing.

Kurt’s work focusses on the use of taxes as instruments of environmental policy, and on tax policy more broadly. Some of his work is published in leading academic journals, and he is an author of several reports published by the International Transport Forum and the OECD.”

Mauro Pisu:

“Mauro Pisu is Senior Economist in the Economics Department of the OECD and Policy Associate in the Leverhulme Centre for Research on Globalisation and Economic Policy (GEP) at the University of Nottingham. Currently he leads the work of the OECD Economics Department on Green Growth and Resource Allocation, and Going for Growth. Previously he worked on different country desks (Brazil, Costa Rica, Greece, Indonesia and Italy) and contributed to different cross-country studies. Before joining the OECD he held positions as Research Economist at the National Bank of Belgium and Research Fellow at GEP, working on applied international trade. He obtained his PhD in Economics from the University of Nottingham in 2005.”

Filippo Maria D’Arcangelo:

“Filippo Maria D’Arcangelo is an economist at the OECD, in the Green Growth and Resource Allocation workstream of the Economics department, where his research aims at helping countries in tackling climate change. His most recent works investigate mitigation policies, carbon pricing and carbon markets. He uses empirical economic models and policy analysis tools to investigate how households and firms respond to such policies adjusting consumption, innovating and deciding where to invest. Filippo Maria has conducted academic and policy research in many other areas of economics, such as industrial organization, agricultural economics, and public economics. Filippo Maria holds a PhD in Economics from Toulouse School of Economics and Masters’ from TSE and Bocconi University, Milan.”

Personal Biography

I am Lookman Issa, I hold a Master's Degree (Environmental Resource Management) from BTU, Cottbus, Germany. I am currently a PhD student at the Chair of Microeconomics at BTU, Cottbus, Germany.

For my PhD research, I am working on "The political economy of carbon pricing in Canada: From a public choice analysis perspective".

I am strongly passionate about the economics and politics of environmental policies. To be specific, I am passionate about the use of market-based instruments (MBIs) to achieve climate change mitigation goal.

Abstract Title:**Carbon Pricing in Canada: The story so far**

The Justin Trudeau led Liberal government in Canada has affirmed that putting a price on GHG emissions will continue to be a fundamental part of the country's climate policy as it is essential for the polluters to be faced with the full cost of their pollution in line with the "polluter pays principle" doctrine. Hence, carbon pricing is an integral part of the country's response to address the climate crisis.

This paper sets out to review the historical evolution of carbon pricing policies in Canada. It takes into account its complexity and the associated political contention.

It concludes with thoughts on the future of carbon pricing in the country by evaluating the possibility of its permanence.

Keywords: polluter-pays-principle, carbon pricing, permanence, the federal backstop, the federal benchmark

A) Risk of an energy shock and environmental taxation

Industrialization has led all the world to live in great dependence on energy. The cost of energy affects the economic life of both companies and citizens. Evidence of this is the current crisis in Ukraine, the major transit site for the highly competitive energy market coming from Russia. Continuous increase in prices can cause high inflation and a consequent loss of competitiveness of many countries on the global market. In such a framework, it is necessary to envisage greater investments in renewable energies as an alternative method to the traditional production methods. Without safety shock absorbers in this new type of eco-compatible market, there is a risk of total shut down.

It is not only the energy market that is experiencing a period of crisis, but the entire sector that is aiming for sustainability.

The most used tool for the ecological transition is taxation in its forms of taxes and concessions. For their better success, however, it is necessary to review the current rules that are ineffective to implement their ability to change the behavior of producers and consumers.

Examples are the Plastic Tax, the application of which is foreseen since its inception, in a not incisive way, and the Carbon Border Adjustment Mechanism, still too uncertain. Both, in the EU's own resources system, have been introduced as new revenue for EU funding. The greatest criticality consists in the fact that both meet the Pigouvian tax category, therefore, once the environmental objective is reached, their revenue is cancelled out, making their investment and use inefficient.

Therefore, the effective applicability of the Global Minimum Tax could be envisaged as a minimum contribution that each country pays, and that this revenue is tied to the investment of innovative "green" technologies, as well as the improvement of the two above-mentioned Pigouvian taxes.

Keywords:

- Energy dependence
- Eco-compatible
- Ecological Transition
- Plastic Tax and CBAM
- Global Minimum Tax

ELENA BRIGUGLIO

I was born in Bergamo on 3rd February 1995, the city where I live.

I attended Classic studies during the High School.

In 2019 I graduated in Law with a thesis in International and EU taxation at University, entitled "*The Digital Services Taxes: foundations and criticisms*".

Now, I am attending the first year of the PhD program in Business and Law at University of Bergamo. More precisely, I am a PON student and, therefore, the lessons scheduled for this course mainly concern the topic of environment and how the increasing focus on environmental protection is influencing the ways of doing business and, nonetheless, the tax systems of the various countries.

Given my legal background, the scope of my PhD research concerning "*The impact of the tax in the ecological transition. The case of the so-called plastic tax*".

ANNA MIOTTO

I was born in Padova on 1st February 1995. Now I live and work in Milan.

I had a Scientific High School Diploma.

Last year, in 2021, I graduated in Law at the University of Ferrara with a thesis entitled "*Energy Taxation and Climate Change: the Italian Perspective*".

Now, I am a PON PhD student in Business and Law at University of Bergamo. During my PhD Program I am attending lessons and seminars which focus on environmental problems and the consequences that it has having in the world and the ways in which markets and fiscal jurisdictions in different States are addressing and mitigating the environmental problem.

During the next three years I will work on my PhD Project which regards "*Energy transition and business operations. Implication of ESG criteria in company management and problems of harmonization with the contractual conception of social interest*".

During my PhD I'm taking part to seminars at University of Ferrara as discussant and I've published two articles related to International and Domestic taxation.

Abstract:

U.S. Climate Change Policy in Peril: The Impact of the U.S. Supreme Court's decision Striking Down EPA Climate Regulation.

By Mona L. Hymel, Arthur W. Andrews Professor of Law
James E. Rogers College of Law, University of Arizona, Tucson, AZ

The U.S. Supreme Court significantly limited the Environmental Protection Agency's (EPA) power to regulate carbon emissions that cause climate change.¹ The decision by the conservative court majority implicates further limitations on the regulatory power of other agencies as well. This paper will first provide some background on current U.S. Climate policies, both regulatory and fiscal measures, such as tax incentives and penalties. The paper will next discuss the recent U.S. Supreme Court decision limiting the EPA's regulatory power and the implications of its decision. Next, the paper will discuss how current fiscal measures addressing climate change are impacted by the decision. Finally, the paper analyzes the current U.S. situation and offers possible solutions if the United States is to live up to its climate change obligations.

In *West Virginia et al. v. Environmental Protection Agency*, by a vote of 6 to 3, the U.S. Supreme Court said that any time an agency takes action that is "something big and new – in this case addressing climate change – the regulation is presumptively invalid, unless Congress has specifically authorized regulating in this sphere."² One Harvard law professor who is an expert on environmental law warned "That's a very big deal because they're [the EPA] not going to get it from Congress because Congress is essentially dysfunctional."³ The timing of the Court's decision is a tragedy because the consequences of climate change are increasingly dire. The time to deal with climate issues is NOW. In addition, one commentator observed, "The Court is definitely sending a signal to regulatory agencies more broadly that they only have the power that Congress delegated to them, and that agencies need to think twice before they try to pour new wine out of old bottles."⁴ In other words, an agency cannot use a statute enacted to address other issues to address new problems that are generally within the agency's jurisdiction. The implications of this decision could affect other agencies as well.

This case will have an immediate effect on U.S. climate change policy. When President Biden was elected, he planned to use a whole big government approach to climate change, not just EPA regulation. However, this whole government approach may now be in question in light of this court's opinion. The Court's Chief Justice John Roberts said that under what the court has recently called the "major question's doctrine," neither the EPA nor any other agency may adopt rules that are "transformational" to the economy — unless Congress has specifically authorized such a transformative rule to address a specific problem, like climate change.⁵

¹ *West Virginia et al. v. Environmental Protection Agency et al.* _____ (June 30, 2022).

² NPR article

³ *Id.*

⁴ *Id.*

⁵ *West Virginia et al. v. Environmental Protection Agency et al.* _____ (June 30, 2022).

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The decision imposes major new limits on agency regulations across the economy, limits not imposed by the court for at least 75 years. The decision, for instance, casts a cloud of doubt over a proposed Securities and Exchange Commission (SEC) rule that would require companies offering securities to the public to disclose climate-related risks – like severe weather events that have or likely will affect their business models.⁶ Also in jeopardy is a new interim rule adopted by the Federal Energy Regulatory Commission "aimed at treating greenhouse gas emissions and their contribution to climate change the same as all other environmental impacts [the Commission] considers."⁷ The decision is a particularly bad sign for environmentalists, because the court seemed to reject any holistic regulatory attempt to deal with climate change. This paper considers the many issues created by this case, and offers several possible options, such as a carbon tax, to ameliorate the drastic consequences to U.S. climate change policies and initiatives.

Hymel GCET 2022 Bio:

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Prior to joining the law faculty in 1995, Professor Hymel worked both as a Certified Public Accountant and a Tax Attorney. She received a bachelor's degree in accounting and a juris doctorate from the University of Texas at Austin. Her experience includes 8 years of both auditing and tax practice with Ernst & Young (formerly Arthur Young) and several fortune 500 companies in federal tax compliance. After law school, Professor Hymel worked for the law firm of King and Spalding specializing in tax transactional work involving many of the most well-known U.S. companies. Professor Hymel teaches and has taught many courses including, Federal Income Tax, Partnership (passthrough entity) Taxation, Federal Tax Policy, Corporate Taxation, Estates and Trusts, Professional Responsibility, Corporate Law, Finance and Accounting for Lawyers. Since joining the law faculty, Professor Hymel has published many articles and book chapters on environmental taxation. She has participated as both moderator and panelist in numerous environmental conferences. Professor Hymel has presented her research on U.S. environmental all over the world. Professor Hymel worked with the government

⁶ Cunningham, SEC and climate rules.

⁷ Need cite to rule.

Abstract:

**U.S. Climate Change Policy in Peril: The Impact of the U.S. Supreme Court's decision
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and the private sector on many U.S. Federal tax issues. She also writes in Ethics, Financial Accounting and Federal Tax Expenditures. When not working at the law college, Professor Hymel works as Vice-Chair of the Faculty Senate with the University Leadership to make university policy and resolve university issues.

Key words: Environment, Environmental Protection Agency, Federal Taxation, Climate Change, Administrative agencies

THE END OF TAX EXEMPTION FOR SOLAR ENERGY IN BRAZIL: WHAT COMES NEXT?

Paulo Caliendo

Isabela Weingärtner Welter

ABSTRACT

In the field of alternative power sources and “clean” energy, solar energy plays an important role. Worldwide, nations attempt to promote this type of power, using tools such as tax exemptions. In Brazil, up until 2022, a fiscal incentive was created in order to foster this source of electricity. Individuals who produced their own energy through solar power had the exemption from the tariff “Fio B”. Fio B is one of the components of the TUSD (Tariff for the Use of the Distribution System), a tariff on the use of the electric power distribution system. In 2022, law no. 14.300 came into force, seeking to review this exemption and to start taxing solar energy users. Taxpayers who utilized their own solar power prior to this law as well as individuals who begin to use this form of energy in the 12 months following the law’s entry into force must enable themselves in the “Distributed Generation System”, which will ensure the tariff exemption. Otherwise, they will lose the right to the exemption, alongside new users who begin to produce their own solar energy after the 12 months following the law’s publication. The idea behind the new legislation is to gradually reduce tax incentives on the solar energy field, since this market would already be properly developed and established, not needing any more encouragement to grow. The present study seeks to better understand law no. 14.300, in order to comprehend its impacts on this form of energy consumption. It is important to understand the real scenario of solar power in Brazil - if it is, in fact, established - and how will this new legislation affect the growth of this clean energy form in the country, as well as its impacts on the environment.

KEY-WORDS

Solar energy; tax incentives; tax exemption; brazilian law; energy consumption;

SHORT BIO

Paulo Caliendo: graduated in Law from the Faculty of Law of the Federal University of Rio Grande do Sul - UFRGS (1992), Master in Law from the UFRGS (1996) and Doctorate in Law, in the area of Concentration of Tax Law, from the Pontifical Catholic University of São Paulo - PUCSP (2002), Sandwich Doctorate at Ludwig-Maximilians Universität in Munich (Germany) (2001), as well as Doctorate in Philosophy from the Pontifical Catholic University of Rio Grande do Sul - PUCRS (2021). He participated in the Program of Instruction for Lawyers at the Harvard Law School (2001). Arbitrator of Brazilian List of the Mercosur Controversy System. He is currently a permanent professor at the PUCRS. Author of the finalist work for the Jabuti Prize “Tax Law and Economic Analysis of Law” and of the work “Tax Law: three ways of thinking about taxation”.

Isabela Weingärtner Welter: Graduate in Law at Pontificia Universidade Católica do Rio Grande do Sul - PUCRS, and at Università degli Studi di Parma - UNIPR, by the Double Degree Program between both universities. Wrote her graduation thesis on comparative tax law, making an analysis between Brazil's federation principle and European Union's harmonization principle, on the grounds of indirect taxation. Fluent in Portuguese, Italian and English, and has advanced knowledge of German and French. Enthusiast of tax law and comparative law. Researches the topics of international and comparative tax law.

THE TAX (DES)INCENTIVES FOR IMPLEMENTING A CIRCULAR ECONOMY IN BRAZIL

Maria Carolina Maldonado Mendonça Kraljevic

ABSTRACT:

Studies carried out by the OECD show that extraction, processing, use, and disposal of materials are responsible for 2/3 of all GHG emissions globally. By 2060, the global use of materials is projected to double. In 2020, a person living in the OCDE area consumed about 15 tons of materials and generated 520 kg of waste per year. In the same period, each Brazilian citizen generated an average of 390 kg of waste. In the coming decades, the growing population and higher living standards are expected to increase the consumption of materials and the generation of waste in developing economies.

Thus, for Brazil to lower its GHG emissions, among other measures, it is necessary to reduce the consumption of materials and encourage recycling and adequate disposal of waste. Since 2010, the country has a National Solid Waste Policy, which assigns responsibility for the life cycle of products to all agents in the production chain. The policy is guided by the principles of non-generation, reduction, reuse, recycling, and treatment of solid waste. To that effect, it allows governments to adopt inducing measures and grant tax incentives to entities that promote waste recycling and disposal.

In this context, the scope of this study is to analyze whether the tax treatment given to recyclable products in Brazil encourages or discourages the achievement of the goals set out in the National Solid Waste Policy. The conclusion of the study indicates that there are a few tax incentives for recyclable product chains in some states, but the taxation remains neutral in the biggest waste generating centers. The study concludes with reflections on the possibilities to use taxation as an effective instrument of climate policy for the implementation of a circular economy in Brazil.

KEYWORDS:

CIRCULAR ECONOMY. TAX INCENTIVES. BRAZIL.

SHORT BIO:

Member of the UFC Environmental Taxation Research Group of the Federal University of Ceará (2022). Master's degree in tax law from Pontifícia Universidade Católica de São Paulo – PUC/SP (2020). Postgraduate in international tax law from the Brazilian Tax Law

Institute of Universidade de São Paulo – IBDT/USP (2014). Bachelor of accounting from Trevisan Escola de Negócios (2010). Bachelor of laws from Universidade Presbiteriana Mackenzie (2007). Counselor at the Federal Administrative Council of Tax Appeals in Brazil. Email: mcarolmm83@hotmail.com.

Biographical details on the author

Stefanie Geringer is a researcher in the Department of Tax Law at the University of Vienna and a senior associate at BDO Austria. In her research she focuses on EU and international tax law, particularly on the interplay between EU law and OECD work.

THE EU VAT REFORM FROM AN ENVIRONMENTAL TAX POLICY PERSPECTIVE

Stefanie Geringer

Today's societies live in a time of multiple crises. Particularly the effects stemming from climate change and global warming will likely have a significant impact on our prosperity and well-being also in the mid and long run. Counteracting these developments will require the use of a broad array of measures, taxes such as the value added tax (VAT) being one of them.

The Member States' representatives agreed on a reform concerning the tax rates of the European Union (EU) VAT system in December 2021. These actions are generally aimed at making the VAT's related structures more flexible. Another objective of the EU VAT reform is to align its system with the overall EU agenda, such as the Green New Deal. Accordingly, the environmental-related measures in the reform package follow a two-pronged approach. Reduced tax rates on the supply of environmentally friendly goods and services shall help to establish a climate-neutral and green economy. Conversely, favorable treatment of harmful activities is to be phased out. Undisputedly, the goodwill to make the EU VAT system fit for the green transition is there. Nevertheless, it appears questionable whether these VAT-related measures are indeed able to meaningfully contribute to accomplishing these goals.

This paper hence sets out to analyze the EU VAT reform from an environmental tax policy perspective. An outline of the general reform agenda is followed by a presentation of the proposals related to the EU's climate policy. The focus is then set on a critical assessment of these measures with regard to their capability to achieve the objectives pursued. Emphasis is particularly laid on the suitability of the use of reduced VAT rates to foster eco-friendly consumption behavior. The paper closes with a summary of the key findings and observations on favorable policy strategies.

Keywords

VAT, reduced tax rates, regulatory role of taxes, efficiency of taxes, environmental tax policy

ENVIRONMENTAL TAXATION IN PRODUCT DIFFERENTIATED UNCERTAIN INDUSTRIES

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Overview

In this paper, we present an analysis of how environmental taxes should be levied when the regulator and firms, face uncertainties about the state of the world in a multi-stage game. We formulate a precommitment environmental policy in which the regulator, who usually possesses sovereign authority, occupies a position of leader. In the initial stage of the game, given costs uncertainties, the regulator chooses the intensity of emissions taxes in order to reduce negative externalities. Then, in a later stage, facing industry-related shocks (common signal) and firm-specific shocks (private signals), firms are engaging in Cournot competition on an output market for differentiated commodities.

Under the adopted information structure, each polluting firm can strategically manipulate both its rival and the regulator's prior cost perceptions. The analysis is potentially relevant to uncertain industries, where firms are taking steps to differentiate their products in order to capture particular market niches, and lower production and abatement costs. For example, the model represents a contribution to the evaluation of energy-input taxation in order to tackle higher Greenhouse Gas (GHG) emissions. For instance, in the electricity market, a unit of electricity corresponds to different amount of GHG emissions according to what type of power input is used.

The model setting allows us to analyze the influence of common and private signals on the efficiency of the regulatory instrument and to consider the consequences of varying the informativeness of signals. Highly differentiated industries may experience a rapid increase in emissions and so a fine-tuning of the intensity of the policy instrument may be needed to tackle higher emissions. When dealing with serious and irreversible damages, emissions taxes must be set accordingly in order to avoid or diminish environmental harm, including threats to human life or health. Further, we show that information precision enables the regulator to set the regulatory instrument towards specific environmental circumstances and to levy firm-specific taxes.

Methods

The modelling framework for the analysis of environmental taxes with abatement costs uncertainties and market power aims to place our results in relation to the respective literature. Our modeling strategy is to consider affine information structure with common and private shocks (signals). We determine the Bayesian Nash equilibrium of the game in which the regulatory instrument is made under informational constraint, i.e., before the realization of the state of the world. Further, we examine the consequences of varying the informativeness of signals and its impact on welfare and collusive behavior.

Results


- We show that, facing common and private signals, the regulator sets firms-specific differentiated taxes.
- Information precision is welfare enhancing and enables the fine-tuning of the intensity of the tax towards specific environmental circumstances.
- Comparative statics are performed meaningfully in order to analyze changes in environmental taxes in response to changes in the parameters of the model which sometimes are inherently difficult to estimate.

Conclusions

Today, efforts to enhance informational access may offer important lessons for environmental regulation moving forward. Facing industry wide and firm-specific shocks, there are enormous opportunities to make the best use of available set of data to enhance the quality of the environment. Such information (and precision) may be used to overcome a serious lack of information on polluted activities, and could have impact on firms' behavior and levels of pollution. Furthermore, where there threats of serious environmental damage, there is no reason for postponing any externalities pricing policy. This is the case when damages yield irreversible direct and social losses.

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Taxation and Fiscal Policy for a Circular Economy in Australia

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ABSTRACT

The current use of fiscal policy in Australia to drive a circular economy (CE) is extremely limited and warrants exploration for its potential to drive both businesses and consumers towards CE activities. While circular public procurement rules are being developed by various state governments, there have been direct grants for recycling infrastructure, the influence of taxation on the circulation of resources is largely limited to landfill levies, which are not consistently applied. This paper reports on the review conducted by our team for the New South Wales government funded NSW Circular Network (now Circular Australia an independent NFP) setting out a consolidation of the international literature regarding fiscal policy to drive a CE, both in terms of proposals and experiences with implementation. Through this review, we identified current best practice and identified opportunities for fiscal policy reform in Australia.

This paper provides a description of the basic structure of the tax system in Australia, followed by a critique of the literature defining the various dimensions of a CE and the transition to a CE with the aim of highlighting some possible policy approaches. Having identified these possible avenues, an analysis of the international literature related to fiscal policy then explores possible policy settings to drive a CE. This paper then discusses the application of international experiences in the Australian context at all three levels of government, federal, state and local, to identify specific opportunities for fiscal reform. Finally, we provide some recommendations for further consideration based on the international literature review and review of current fiscal policy in Australia.

KEY WORDS:

Circular economy, fiscal policy, tax reform

BIO

Natalie P. Stoianoff is a Professor and Director of the Intellectual Property Program at the Faculty of Law, University of Technology Sydney, since 2008. She is Australia's first female Taxation Law Professor and is a regular participant in the annual Global Environmental Taxation conference series publishing on the evaluation and impact of taxation concessions for mine site rehabilitation, local government taxes and conservation covenants. She is the Chair of the Indigenous Knowledge Forum Committee, Co-Convenor of the Technology and Intellectual Property Research Cluster, a member of the UTS Commercialisation Advisory Panel and is a Chartered Tax Adviser of The Taxation Institute.

Professor Stoianoff is the author of numerous publications in the fields of intellectual property, environmental law and taxation law. As an internationally recognised leader in environmental taxation, she sits on the editorial boards of the Journal of Behavioural Economics and Social Systems, the Journal of the Australasian Tax Teachers Association, and Critical Issues in Environmental Taxation. After hosting GCET16 in Sydney she is the Lead Editor of 2 publications from the series (August 2016): *Volume XVII, Green Fiscal Reform for a Sustainable Future - Reform, Innovation and Renewable Energy*, and *Volume XVIII, Market Instruments and the Protection of Natural Resources*. She is also currently serving on the National Standing Committee on Energy, the Environment and Agriculture.

Dr. Monique Retamal is a Research Director at the Institute for Sustainable Futures, University of Technology Sydney, specialising in sustainable consumption and production (SCP) and the circular economy in the Asia-Pacific region. Monique has qualifications in environmental engineering, water resources and the social sciences, and 15 years' experience in urban sustainability research and consulting. Monique's interdisciplinary PhD at ANU investigated the prospects for emerging business models such as the sharing economy to contribute to sustainable consumption in Southeast Asian cities. Her recent research has focused on the sustainability of packaging and plastics; the clothing industry; metals and e-waste; and policies for a circular economy.

Dr Steven Liaros, Honorary Associate at the University of Sydney, is a consulting town planner, who also holds a degree in Civil Engineering and a Masters in Environmental Law. His PhD is in political economy and he has written extensively on economic strategies and public policy principles that would drive the implementation of the Circular Economy as a framework for building resilient and globally connected local communities.

IMPACT OF THE NEW SPANISH TAX ON WASTE DEPOSIT IN LANDFILLS AND WASTE INCINERATION AND CO-INCINERATION

Dr. Rodolfo Salassa Boix

Abstract:

In 2008, the European Union set an environmental objective in terms of waste that the preparing for re-use and the recycling of waste materials would be increased to a minimum of overall 50% by weight (art. 11.2.a), Directive 2008/98/EC) by 2020. Ten years after that Directive, the European Commission published an Early Warning Report warning Spain that it was at risk of failing to meet that objective. To make this statement, the European Commission relied on data collected during 2016, when the percentage of municipal waste recycling reported by Spain was well below 50% (closer to 30%). The Report attributed these poor results, on the one hand, to insufficient coordination between the government levels (national, regional, and local) and, on the other, to the absence of nationwide taxes on the dumping or incineration of waste and local instruments to ensure their application, thus giving priority to the national and local levels. At the end of 2020, beyond a slight improvement, the worst omens for Spain regarding non-compliance with environmental objectives (33.5% recycling of municipal waste) were confirmed.

This scenario led to the enactment of State Law 7/2022, on Waste and Polluted Soil for a Circular Economy, initial text of which dates from June 2020, with the first draft of the law that was modified and criticized several times by different sectors. This new law regulates, among other issues, the future implementation of local waste generation charges and two national taxes on non-reusable plastic packaging and waste deposit, incineration and co-incineration for 2023, although our attention is focused on the latter.

Based on this, this work will analyze the impact of the new Tax on waste deposit in landfills and waste incineration and co-incineration and its relationship with the European Commission's proposals in the 2018 Early Warning.

Keywords:

circular economy, waste tax, Spain, European Union

Short Bio:

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Abstract

Due to its very good energy balance and because of the almost unlimited availability of the resource wind, great hopes are pinned on wind power production in Europe and it is regarded as the "essential pillar of the energy turnaround" in Germany.

However, the expansion of wind power plants is encountering numerous hurdles in Germany and has stalled with regard to onshore wind power: Too few areas are designated, the planning and approval processes take several years, federal states enact rigid distance regulations from residential areas and, last but not least, citizens file lawsuits against such projects.

Planning processes in the affected communities often lead to bitter conflicts and fierce opposition to wind turbines. In Germany, therefore, informal citizen dialogues are often conducted voluntarily in the run-up to approval processes for wind power plants. These are designed differently also in terms of the influence on planning.

The aim of my research project is to find out how informal citizen dialogues take place in the planning of wind turbines in Germany and what approaches can be found to improve them.

Research questions:

- 1) How are the informal citizen dialogues moderated?
- 2) Which aspects provoke the most opposition from citizens?
- 3) How is complex information (e.g. planning law) communicatively included in the citizens' dialogues? Do the citizens feel well informed?
- 4) Are there any relevant disruptive factors or obstacles in the communication process? If so, what are they? At what points and for what reasons do they occur?
- 5) How are any results dealt with and how are they secured? Is there dovetailing with a planning process?

Interim results include the fact that particularly controversial topics are the aspects of landscape, infrasound, shading and nature and species protection.

Research methods: Observation of informal citizen dialogues; supporting interviews; literature review.

Keywords:

Citizen participation, wind turbines, conflicts, renewable energies

Prof. Dr. Claudia Stachel:

Prof. Dr. Claudia Stachel, born 1974 in Düsseldorf (Germany), is professor for Business Law and Conflict Management at HfWU Nürtingen-Geislingen in Germany. She worked as a lawyer for several years and is a trained mediator. Her research interests are mainly Conflict Management and Alternative Dispute Resolution, where she has several publications to her credit.

Abstract: Consumption orientation of Tax Systems and its Ecological effects

In my research, I am concerned with the consumption orientation of tax systems. I ask to what extent consumption is gaining importance as a tax base - as opposed to income and wealth - and what the implications are. One of these effects could be a positive ecological effect:

The unbridled consumption of goods is problematic with regard to the sustainable use of resources. Environmental science is providing evidence that anthropogenic climate change is advancing, and the global economy has reached a level that is beyond the resilience of ecology. The main points of the findings of climate research in recent years are well known: the climate change caused by humans is a fact, and manifold effects on the environment can be demonstrated. By maintaining the lifestyle, which is defined by consumption, the climate impacts are unforeseeable for many countries and regions.

Overall, these developments suggest that climate policy impacts must also be taken into account in the course of discussing tax reforms.

Taxes primarily serve to generate income, but they are also often used by politicians as an effective control measure. For example, the introduction of a CO₂-tax as a control measure to minimise environmental pollution is under discussion. At the heart of these discussions is the demand for the ascertainment and publication of true costs. By introducing levies on certain raw materials or on environmentally harmful behaviour, an attempt is made to internalize the external environmental costs by adjusting the prices for the raw materials concerned and behaviour patterns in such a way that the ecological costs are also taken into account. With the implementation of a consumption-oriented tax system, the one with an increased tax burden would be confronted with those who consume more. A consumption tax would therefore possibly have the positive effect of relieving the burden on the environment.

Abstract: The concept of waste for the purpose of its possible taxation: The Italian experience between European profiles and possible comparisons.

The Italian experience linked to waste taxation has lived several stages due to: the complexity of the subject and its discipline; a series of normative interventions which are not always reasoned and coherent; an intense and changing jurisprudential production, resulting from the remarkable disputes that has been aroused. It should be added that, in spite of what one may first think, a real "*punctum dolens*" of the discipline of waste taxation seems to be the notion of "waste" on which we want to carry out some considerations, drawing where possible from the actions of neighboring systems.

The waste tax, in all the regulatory interventions that have taken place in recent decades, has maintained a fixed constant that is: the taxable event is given by the possession or detention of areas that are likely to produce urban waste. Therefore, the concept of "urban waste" is paramount to the purpose of taxation. In this regard, however, it should be noted that the Italian legal system has been characterized for years by a lack of legislation (with real legislative gaps), due to the disinterest of the legislator on the one hand and to the difficulty of reaching satisfactory results on the other: an example is the concept of "assimilated waste" – which should be considered special but is considered urban by the law through the mechanism of the so-called assimilation – herald of many problems, often still unresolved.

The Italian Legislative Decree 116/2020 seems to show a certain discontinuity compared to the past. In fact, it welcomes a reconstruction, that seems, at first glance, more in line with the EU law and in particular with the directives 2018/851/EU on waste management and 2018/5852/EU on the management of packaging and waste generated by them. It is probably too early to draw up the first statements. However, we want to critically analyze the legislative and jurisprudential distinctions and classifications of waste affirmed in its practical applications, and the structures before the aforementioned 2020 reform and future possible systems, in order to reach, if possible, more satisfactory results in line with the concept of European environmental tax.

Curriculum vitae Alessia Marano

My name is Alessia Marano, and I was born on 02.05.1996 in Catania. In November 2019 I degreed *cum laude* in law at the University of Catania discussing a thesis in tax law under the supervision of Professor Antonio Guidara. In June 2021, I successfully concluded the training internship at the Court of Appeal of Catania – Criminal Section. Currently, I am a PhD student of Tax Law at the University of Catania. The research project is based on the study of tax instruments with a view to protecting and promoting environmental sustainability, especially focused on the study and the definition of the notion of environmental tax of European genesis. I speak English, French and Spanish languages. In May 2022 I spoke about waste taxation during the conference "*The polluter pay principle e i tributi ambientali. Principi europei e applicazioni interne*" organized by University of Catania and Naples.

Keyword: tax law, environmental law, environmental tax, innovation and environmental sustainability, green economy.

THE LINK BETWEEN DECARBONIZATION AND DEFORESTATION PROCESS: WHICH ROLE FOR TAX MEASURES

Roberta Alfanoⁱ and Alessia Tomoⁱⁱ

Nowadays deforestation might be recognized as a driver of global warming and biodiversity loss. It has been esteemed that the 23% of GHG emissions come from agriculture, forestry, and other land uses. Thus, the EU Commission in November 2021 adopted a proposal for a Regulation to curb EU-driven deforestation and forest degradation. The UE Commission's aim is to give an important impulse to the implementation of the Green Deal and also promote sustainable consumption.

Indeed, the world has lost 420 million hectares of forest, an area that is larger than the EU itself, just counting from the last 20 years. The Proposal would promote sustainable consumption by guaranteeing that the products that EU citizens buy, use, and consume do not contribute to global deforestation and forest degradation. The main driver of these processes is agricultural expansion linked to some commodities such as soy, beef, palm oil, wood, cocoa, and coffee, and some of their derived products. The Proposal seems clearly aimed at reinforcing the polluter pays principle with the so-called "extended producers' responsibility", explicitly mentioning companies' responsibilities by providing for due diligence procedures and establishing the obligation for Member States to lay down rules on penalties to be imposed in case of infringement.

The present paper aims at analyzing, on one side, which role can taxation play considering this Proposal. On the other, it also highlights the link between this specific legal instrument proposed by the Commission and the wider EU legal framework, considering the support and funding that the EU provides to adopt to the required measures. Moreover, the paper points out the link between this Proposal and the Italian Constitution, which in its Articles 9 and 41 has recently explicitly introduced environmental protection as a fundamental principle.

ⁱ Roberta Alfano is an Associate Professor in Tax Law at University of Naples Federico II and the coordinator of the Summer School in European Environmental Taxation (Jean Monnet). Since her PhD, her principal research field is environmental taxation, indeed she is author of a monography and several publications in this specific sector and she took part at several national and international conferences.

ⁱⁱ Alessia Tomo is a Ph.D. student at the University of Naples Parthenope in co-thesis with the University Complutense of Madrid. She is also an honorary fellow in tax law at University of Naples Federico II. She is author of several national and international peer-reviewed publications, and she took part in several international conferences, including previous editions of GCET.

THE IMPORTANCE OF THE SUBNATIONAL DIMENSION OF DEVELOPMENT FOR THE CONSTRUCTION OF THE SUSTAINABLE CITY: FOR AN INCLUSIVE TAX REFORM

Lucas Antunes Santos

ABSTRACT

Since 1988, Brazil has adopted an ecologically balanced model of environmental protection. Under the Brazilian Constitution, the implementation of this fundamental right is the expected result of public policies and to achieve this result, planning is necessary. In this context, the environmental emergency attracts attention to the development of public policies that minimize negative impacts on the environment.

It is expected from this idea to demonstrate the importance of the participation of municipalities (subnational governments) to achieve the Sustainable Development Goals, as well as to encourage the "location" of the 2030 Agenda. To this end, Member States should involve local governments in the processes of drafting, defining, implementing, monitoring, reporting and evaluating public policies. The existence of decentralised structures usually means the regular functioning of a multi-level governance approach, as well as greater leadership by local and regional governments in public policies.

Among the proposals for greater participation at the local level are ecological tax transfers (TFEs), which refer to tax transfers between levels of government that use environmental indicators and criteria to define not only the amount of transfers as means of monitoring and evaluation. This system proposes to reward with a greater share of IBS revenue scans of municipalities that achieve satisfactory results in relation to environmental preservation and conservation, taking into account indicators such as: i) guarantee of basic sanitation to the local population and ii) promotion of the reduction of GHG emissions by their companies and producers iii) adoption of clean energies. It should be highlighted that the Ecological IBS (Taxes on Products and Services) does not represent an increase in the tax burden to the citizen.

With IBS Ecológico, effective incentives and compensation are created to incentives the responsibilities of federal entities in the socio-environmental agenda, while representing greater participation of local governments and a greater commitment to the achievement of the Sustainable Development Goals.

Keywords: Subnational Dimension. Ecological Tax Reform.

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**Environmental taxation as an instrument for economic growth
in Brazil and developing countries**

Prof. Arthur M. Ferreira Neto

Tax Law Professor at Federal University of Rio Grande do Sul (UFRGS – BRA), Vice-President of the Administrative Fiscal Court of Rio Grande do Sul and Vice-President of the Institute of Tax Studies (BRA), PhD in Tax Law and PhD in Philosophy.

In recent decades, Tax Systems around the world are undergoing an intense paradigm shift. We no longer see taxation as a simple instrument for collecting public revenues as the only way to finance the state apparatus and other governmental enterprises, nor do we understand markets and their economic reality as a mere passive element of submission to state forces that only intend to appropriate a portion of their wealth. In fact, the new mentality that inspires contemporary taxation models is now being shaped towards the notion of collaboration between the economic and the political agents with the broader intention of creating new taxation instruments that go far beyond their mere function of collection of revenues, but that also pursue extra-fiscal purposes. This of course is being gradually done to achieve broader objectives that are being put in place for the benefit of the whole community (local and global) and of future generations, and not just to please the immediate interest of a specific central state power or a specific economic sector that has some influential pull in the formation of fiscal policies. Therefore, the new taxation paradigm, which is still being consolidated, is based on the ideals of cooperation, transparency, neutrality and sustainability.

Considering these facts and using the Theory of Justice structured by Martha Nussbaum and her “Capabilities approach” to confront social problems, we intend in this Paper to analyze the recent developments in Tax Law by means of the implementation of Environmental taxes, mainly in Brazil, and discuss how these changes can function as instruments for economic growth and as a mean to reduce inequalities in developing countries.

TAXATION. SUSTAINABILITY. CAPABILITIES APPROACH. SOCIAL JUSTICE IN DEVELOPING COUNTRIES. ENVIRONMENTAL TAXES.

The contribution of post-growth instruments to resource conservation

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Abstract

The paper is based on a study for the German Federal Environment Agency, investigating the contribution of the post-growth and green growth discourse to resource conservation, both in terms of conceptual design and instrumentation.

The central questions of the study are (a) to what extent the approaches and instruments proposed in the post-growth and green growth discourse contribute to resource conservation, and (b) how and in what way they can be applied in the context of governmental resource conservation policies.

Based on a broad research of pertinent literature, a number of instruments was identified, selected and analysed with regard to possible and expected resource conservation effects, whereby both "classical" economic instruments (e.g., eco-taxes, value added taxes, land value taxes) as well as prominent proposals from the post-growth discourse were taken up (e.g., commons-based decentral production, working time reductions, regional currencies, extension of product life cycles). Despite a striking limited empirical evidence, indicating a clear research demand, a second task was to seize the policy core of those proposals and compile a suitable policy mix for resource conservation contributing to a German post-growth path. Exemplary individual instruments / approaches were discussed in depth, an ideal and practicable policy mix was developed and a potential transition process outlined.

Central goal of the study was to support the directional safety of resource conservation policies (in particular, the German Resource Efficiency Programme) and, at the same time, to further develop approaches proposed in the post-growth and green growth discourse in an action-oriented manner.

(248 words)

Keywords: Post-growth, green growth, policy mix, resource conservation, circular economy

Short bio

Bettina Bahn-Walkowiak is a senior researcher in the Circular Economy Division, Research Unit Material Loops at the Wuppertal Institute for Climate, Environment and Energy. As a social scientist by training, her activities today include the comparative analysis and evaluation of national and international policies, programmes, strategies, governance structures, target systems and institutional infrastructures in the field of resource efficiency, circular economy and eco-innovation. An additional focus is the analysis and design of policy mixes for resource efficiency and circular economy.

The integration between tax agencies and environmental policy as a factor in development and consolidation of environmental taxation in Brazil: an analysis of the structure of Ceará State Taxpayer Defense Council

Fabício Barbosa Barros

Abstract

The environmental complexity and the transversality of the matter lead to a set of technical and scientific information that will be decisive for understanding and acting in an area ruled by specificities. This finding does not differ in the context of environmental taxation, insofar as it consists of a state action to protect the environment.

The sufficient environmental information has direct repercussions on the formulation and quality of environmental taxation decisions, which is why integration with agencies that take care of the country's environmental policy represents a condition for the possibility of adequate and efficient environmental taxation. Knowing the structure of agencies responsible for defining country's environmental taxation policy can be a useful and rich tool for assessing the degree of integration with their counterparts in the environmental area.

The objective of the present study is to analyze the degree of openness to environmental information from taxation agencies, based on the Brazilian reality, especially in the composition of Ceará State Taxpayer Defense Council. This Council was created to plan, elaborate, propose, coordinate and execute a policy for the protection of taxpayers. It was concluded that there is no participation of members specialized in the environmental area in Ceará State Taxpayer Defense Council, an objective factor that highlights the lack of integration between these areas. It was also proposed that the change in the structuring of Ceará State Taxpayer Defense Council for this informational opening could contribute to the development and consolidation of the environmental taxation policy in Brazil.

Keywords: technical information. Environmental taxation. Brazil. Integration between agencies.

SHORT BIO

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Environmental taxes and transport fuel consumption choices

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Abstract

European countries are about to face dramatic transformations necessary to follow up on the commitments made to reduce emissions with the Climate Law and the Green New Deal. Although not without criticism, carbon pricing has been identified as a key instrument to support these changes (Hepburn et al. 2020) because it can convey the signal of the real cost of carbon in relative prices. The evidence on energy demand shows that energy price elasticities depend on several structural characteristics. However, when considering price and tax elasticities as two distinctive factors, there is some evidence that energy demand is more reactive to changes in the tax rate, perceived to be more permanent than price changes (Bardazzi et al. 2009 for manufacturing firms, Tiezzi and Verde, 2016 for Us). If these hints are confirmed, carbon pricing could be used as an incentive to move from high polluting energy sources – as fossil fuels for transport – towards more environmentally friendly bundle such as better transport mix. On the other hand, this transition process may imply adverse distributional effects as not all the consumers have the same ability to interpret the signals and to change transport means. To study the efficacy of energy taxation and identify the most vulnerable consumers we aim at estimating price and tax elasticities for transport related fuels. Our two main research questions are: 1) is there a persistent difference between price and tax elasticities? 2) is it true that vulnerable consumers – those more exposed to transport affordability problems – exhibit lower adaptation ability? Our analysis is relevant for the future energy transition that is meant to be as fair as possible and to leave no one behind.

We use microeconomic data from Italian Household Budget Surveys (IHBS) for the period 1997-2019 concerning demographic characteristics and household expenditure on several energy products. We estimate gasoline and diesel demand elasticities with a double-hurdle pooled regression and with a dynamic model by transforming the microdata in a specifically-built pseudo-panel (Bardazzi and Pazienza, 2017; Faiella and Lavecchia, 2021). With the first approach we exploit the cross-sectional variability of the population, while using the latter we follow families over time as in panel data. Indeed, cross-sectional estimates cannot capture the dynamic nature of households' fuels consumption decisions that is influenced by the energy equipment, such as car ownership. Therefore, cross-sectional models may produce biased estimates of the long-run effects. Dynamic pseudo-panel estimates take into account a longitudinal perspective to overcome these limitations (Deaton, 1985) and assess if a state dependence exists due to the persistence of capital equipment ownership (Song et al 2021). Elasticities will be estimated according to several dimensions such as the household income distribution, the household type, the age and generation of the head, the condition of vulnerability to transport poverty.

Our study assesses if general findings from the related literature are confirmed by answering to our research questions. Preliminary results show that transport fuel household demand reacts more to the tax component than to the oil price, with a more significant impact for gasoline than for diesel. The estimated parameters of our empirical analysis can be used to evaluate the impact of alternative policy scenarios including the recent EC directive on energy taxation and eventual measures for vulnerable households to compensate the increasing tax burden for reaching a just energy transition.

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Keywords: carbon pricing, energy consumption choice, transport mode, dynamic panel

Rossella Bardazzi is currently associate professor of Macroeconomics, Department of Economics and Management of the University of Florence, Italy. Her research interests relate with multisectoral input-output modelling, microsimulation models, demand systems, consumer behaviour and demographics, households and firms energy demand. She is Jean Monnet Chair in Energy Poverty (HOPPER project)..She holds a Ph.D. in Economics, University of Siena, Italy.

Maria Grazia Pazienza is currently associate professor of Public Finance, Department of Economics and Management of the University of Florence, Italy. Her research interests relate with environmental taxation, environmental related incentives and households and firms energy demand. She holds a Ph.D. in Economics, University of Siena, Italy.

Short bio:

Olimpia Fontana holds a PhD in political economy from Università Cattolica del Sacro Cuore with a thesis in Post Keynesian economics and heterodox economic models. She is Mario Albertini Fellow of the Centro Studi sul Federalismo, where she has been a researcher since 2013. She deals with European economic policy issues, with a focus on economic governance and investment policy related with environmental and social aspects. She is adjunct professor in Macroeconomics at Università Cattolica del Sacro Cuore, Cremona Campus.

Title (preliminary):

Carbon Pricing and Carbon Border Adjustment Mechanism: potential and critical aspects

Abstract:

In 2019, the European Commission launched the European Green Deal and outlined its developing model to combat climate change, particularly focused on accelerating the pace of reducing CO₂ emissions. To reduce the risks of human activity to the planet, the EU, a key player in global climate policy, would have to strengthen its domestic carbon pricing system. Furthermore, the challenge of climate change, must be addressed through the efforts of all countries.

The Commission has proposed to supplement the existing European Union Emission Trading System (EU ETS) with a Carbon Border Adjustment Mechanism (CBAM). The decision on the CBAM will require careful reflection, by domestic institutions, about environmental diplomacy relations, at a time of energy crisis, price increases and risks of recrimination and retaliation.

The paper discusses on three particular issues related to CBAM proposal: first, the increase of carbon price in EU ETS, the need for stronger international cooperation on climate; second, the use of part of CBAM resources for poor countries.

It advocates that the a Climate club with US and China would be necessary to effectively tackle climate change and that equity issue, raised by emerging and poor countries, would need to be carefully addressed.

BIOGRAPHICAL DETAILS



LUISA DRESSLER

*Economist in the Tax Policy and Statistics Division
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Organisation for Economic Co-operation and Development*



Luisa Dressler is an Economist in the Tax Policy and Statistics Division at the OECD's Centre for Tax Policy and Administration, a position she has held since 2015. Her work focuses on the use of taxes to pursue environmental and climate policy objectives and on the nexus of tax and investment policy. Luisa leads on the investment tax incentives workstream that establishes and informs a dialogue between tax and investment policy makers and is building an Investment Tax Incentives Database and related analysis. Luisa was also a co-author to the flagship OECD publications focusing on carbon pricing trends (*Effective Carbon Rates*), a lead author of country-specific tax policy analysis and policy papers on the use of tax policy to support a green recovery. Luisa has published in academic journals and frequently speaks at policy and research events.

Before joining the OECD, Luisa was as a researcher with the Belgian National Science Foundation and a visiting doctoral researcher at UC Berkeley. She holds a Ph.D. in Economics from the Université libre de Bruxelles in Belgium.

T. Falcão_Bio



Tatiana Falcão is the Coordinator for Helsinki Principle 3 (carbon pricing), at the Coalition of Finance Ministers for Climate Action, hosted by the World Bank. She is also a senior policy expert in international tax and environmental taxation, providing expert consultancy services to the World Bank, the African Tax Administration (ATAF) Forum, and a diverse range of NGOs.

Tatiana is a founding member of the United Nations Subcommittee on Environmental Taxation, and a member of the Scientific Committee of the Africa Tax Research Network (ATRN) of the Africa Tax Administration Forum (ATAF). She was previously with the U.N. Environment Program (UNEP), where she was the manager of the Green Fiscal Policy Network and U.N. DESA, overseeing the work of the Committee of Experts in International Cooperation in Tax Matters.

Her research focuses on the interface between international tax law and policy issues, with emphasis on the impact on emerging economies. Her book “A Proposition for a Multilateral Carbon Tax Treaty” was published by the IBFD in 2019.

Tatiana is a columnist at Tax Notes International and a frequent contributor to Kluwer International Law Tax Blog.

In 2019 Tatiana was named by the International Fiscal Association’s Women in Tax Committee one of the top 40 women-lawyers who have shaped international taxation over the last 100 years, in light of her contribution to the development of research centred around the topic of environmental taxation.

Tatiana is a graduate of the Vienna University of Economics and Business (AU, Ph.D), the University of Cambridge (UK, LL.M) where she was the editor and treasurer of the Cambridge Law Review, and New York University (USA, LL.M). Her bachelor in law was obtained at Universidade Candido Mendes (BRA), *cuma sum laude*.

SELECT LIST OF PUBLICATIONS

(In chronological order)

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Author(s)

Falcão, Tatiana

Citation

Tax Notes International, October 11, 2021, p. 199

Publication Date

October 2021

Updating Carbon Tax Policy Is Crucial To the EU Green Deal

Author(s)

Falcão, Tatiana and Englisch, Joachim

Citation

Tax Notes International, July 26, 2021, p. 485

Publication Date

July 2021

EU carbon border adjustments for imported products and WTO law

Author(s)

Falcão, Tatiana and Englisch, Joachim

Citation

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Environmental Law Reporter, 51, 10935, November 2021 (part 2)

Available for download at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3863038

Publication Date

June 2021

A Multilateral Approach To Carbon Taxation

Author(s)

Falcão, Tatiana

Citation

Tax Notes International, May 10, 2021, p. 775

Publication Date

May 2021

Ensuring an EU Carbon Tax Complies With WTO's Rules

Author(s)

Falcão, Tatiana

Citation

Tax Notes International, January 4, 2021, p. 41

Publication Date

January 2021

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Author(s)

Falcão, Tatiana

Citation

Chapter in "Tax Justice and Global Inequality: Practical Solutions to Protect Developing Country Revenues" (edited by Krishen Mehta, Esther Shubert, and Erika Dayle Siu), ZED publisher, 29 October 2020

Publication Date

October 2020

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Author(s)

Falcão, Tatiana

Citation

Tax Notes International, August 31, 2020, p. 1199

Publication Date

August 2020

Toward Carbon Tax Internationalism: The EU Border Carbon Adjustment Proposal

Author(s)

Falcão, Tatiana

Citation

Tax Notes International, Emerging Economies Segment, June 1, 2020, p. 1047

Publication Date

June 2020

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Author(s)

Falcão, Tatiana

Citation

Intertax Law Journal, volume 47, issue 10 (double peer reviewed section of Intertax)

Publication Date

September 2019

Yellow Vests and Young Greens: Searching for Equity and Public Acceptance in Carbon Taxation

Author(s)

Falcão, Tatiana

Citation

Tax Notes International, Emerging Economies Segment, July 15, 2019, p. 227

Publication Date

July 2019

A Proposition for a Multilateral Carbon Tax Treaty

Author(s)

Falcão, Tatiana

Citation

IBFD Books, Doctoral Series

Publication Date

April 2019

Taking the Environmental Tax Agenda Forward: How the U.N. Committee of Experts Can Lead the Way

Author(s)

Falcão, Tatiana

Citation

Tax Notes International, Emerging Economies Segment, pp. 949

Publication Date

March 2018

BEPS and the Paris Agreement: Unthinkable Bonds

Author(s)

Falcão, Tatiana

Citation

Intertax Law Journal, Issue 11, Volume 45, pp. 688 – 700 (peer reviewed segment).

Publication Date

October 2017

Is a Carbon Tax Compatible with the WTO Treaties?**Author(s)**

Falcao, Tatiana

Citation

Peer reviewed section, Intertax, Volume 43, Issue 10, pp. 571-588.

Publication Date

2015

Providing Environmental Taxes with an Environmental Purpose**Author(s)**

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Citation

In: Chapter in Book: Critical Issues of Environmental Taxation (Volume XIII), Market Based Instruments – National experiences in Environmental Sustainability (edited by Larry Kreiser et. al.), Edward Elgar publishing, p. 41-62.

Publication Date

2013

Impact of an energy taxation reform on Italian corporations: results from simulations with ISTAT-MATIS.b model

Cristina Brandimarte and Antonella Caiumi

Abstract

This paper proposes an evaluation of the direct impact on Italian firms' performance and labour demand of the implementation of environmental measures consistent with the recent proposal for ETD (Energy Taxation Directive) revision and Fit for 55 scenario. In particular we consider a remodulation of excise duties on energy based on emission content in presence of different hypotheses of revenue recycling.

We use a behavioural and environmental extension of the ISTAT-MATIS microsimulation model on corporations (MATIS.b). The new features of the model include:

- 1. energy intensity and carbon emission indicators at firm's level*
- 2. input price elasticities of substitution among labor, capital and energy estimated at the firm level.*

The new MATIS.b allows to investigate the distributional impact of changes in relative prices, due to fiscal measures implementation but likely also to an energy shock, on firm's performance, labour demand and tax liabilities for specific groups of companies and territorial areas.

We focus on the effect of an increase in the excise duties on energies in different sectors assuming alternative uses of additional environmental tax revenues: either to reduce public debt or to reduce, assuming a revenue neutral impact, the corporate tax burden.

Even if no technological changes nor long term reactions nor macro retroactions are considered, the exercises provide helpful indications for complementary measures aiming to reduce the short term trade-off between environmental, economic, and social goals.

Keywords: Energy taxation, environmental fiscal reforms, energy shock risk, microsimulation models, corporate tax

Cristina Brandimarte is a senior Researcher at the Italian National Institute of Statistics (ISTAT), expert in economics and economic policy analysis, particularly in the fiscal and environmental fields. She currently works at the Italian Ministry of Economy and Finance, in the Minister's Direct Collaboration Offices, where she carries out her studies and researches in support of government activities. Her major research areas include economic modelling, economic forecasting and policy simulations, fiscal policy and environmental taxation analyses, monetary policy and economic European governance issues. She participates in several institutional Commissions, working groups and international projects and is author of several works and publications on these themes.

Antonella Caiumi is an applied economist in the field of Corporate taxation. Her areas of expertise include microsimulation modelling, effectiveness evaluation of fiscal incentives, and firm behaviour modelling. Antonella is a senior research officer at the National Institute of Statistics (ISTAT). Previously she was an economist at the Centre for Tax Policy and Administration (CTPA) of the Organization for Economic Cooperation and Development (OECD) in Paris (2007), and policy analyst at the DG Taxud of the European Commission (2016-2018). Antonella holds a PhD in Applied Economics from the University of Modena. Antonella's research has been published in leading academic journals, policy paper and book chapters. She is a member of the International Institute of Public Finance (IIPF).

Macro-economic impact of a green tax reform in Belgium

Author(s) & affiliation¹

Main author: Christophe Heyndrickx (1)

Supporting authors:

Saskia Vanderloo (1), Rosanne Vanpée (1)

Fanny Vanrykel (2)

Abstract

Reaching the ambitious emission reduction objective of fit for 55 as well as the burden sharing agreement laid out in EU Climate law requires strong incentives for households and firms to reduce their consumption of fossil fuels. Given recent research that points to substantial fossil fuel subsidies and uneven taxation of fossil fuels in Belgium, we analyse potential avenues for reforming the federal tax system in order to make it more environmentally-friendly. Our research is integrated in the broader context of the European Union (EU). At this level, we refer to the revision of the EU's Energy Taxation Directive (ETD) and the extension of the Emissions Trading System (ETS).

We establish a two-part scenario. The first part of the scenario of reform integrates the revision of the ETD, as if it was adopted. The second element of our scenario of reform is a tax levied on the CO₂ content of fossil fuels in non ETS sectors with revenue recycling. This is also known as a budget-neutral climate tax shift. We assess the environmental and socio-economic impact of an introduction of a carbon tax on transport and heating fuel of respectively €20/tonne in the short run (2023) and € 70/tonne CO₂ or alternatively €100 /tonne CO₂ in the medium run (2030).

We assess the impact of a climate tax shift at the macroeconomic level. For this we use the European Model for the Assessment of Income Distribution and Inequality Effects of Economic Policies (EDIP), which is a Computable General Equilibrium (CGE) model. We use EDIP to calculate the impact of different levels of carbon taxes on total CO₂-emissions from transport and buildings by 2030. The model also allows to estimate total fiscal revenues and assess the impact of different tax redistribution alternatives. We compare our results with a sufficiently broad review of carbon pricing studies in Belgium and other EU countries. Our focus is on the social impact of the policy.

Besides carbon pricing, we make suggestions for broader fiscal measures. We propose a list of specific priority measures that can be taken in five key areas. These measures, in combination with the proposed energy tax reform can be part of a green taxation policy mix, that contributes to a greater protection of the environment.

Acknowledgments

Our research was based on a project funded by the Federal Ministry of Finance for Belgium.

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Short Biography

Dr. ir. Christophe Heyndrickx is a bio-engineer in agricultural and environmental economics and has a master's degree in advanced economics. During his career as a researcher at TML, he obtained a PhD in economics in the field of transport, energy, and urban development. Christophe has experience as a project leader of several large EU projects and smaller national projects. He specializes in modeling regional and national economic policies, using general equilibrium modeling. He is involved in model development at national and European level, and is responsible for the further development of general equilibrium models by TML. He is also involved in calculating social, environmental, and transport economic indicators in the context of sustainable economic development and transport. He also has experience in adapting transport to changing climate conditions, public transport planning, the socio-economic impact of kilometre charging, and cost-benefit analyses of infrastructure projects.

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Legal Path To A Comprehensive Carbon Pricing System In China

Abstract: to achieve China's climate goal of peaking emissions by 2030 and reaching carbon neutrality by 2060, it's difficult to achieve low-carbon transition by relying solely on emission trading system. The coordinated use of a carbon tax and ETS can promote optimization of energy consumption structures with lower cost and GDP losses. It is recommended that China shall impose a carbon tax on industries not covered by ETS. The introduction of China carbon tax needs to consider tax fairness, the impact on the competitiveness of power generation industry and social welfare and strengthen the synergy with carbon emission trading system. In the short term, China should revise relevant Resource Tax Law to integrate carbon tax into existing energy tax. According to foreign experience of the UK, Sweden and other countries, the legislator could phase in carbon tax progressively with fixed, low tax rate and deductions for energy intensive industry to mitigating loss of competitiveness in the early stage. The carbon tax law shall cover emitters in energy mining and transportation, and gradually expand to individual consumers. The revenues shall be used in climate mitigation to achieve fairness and neutrality. To improve the synergistic effect of carbon tax-ETS hybrid, it's crucial to clarify the scope of application of carbon tax and carbon emissions trading legislation. Larger carbon emitters shall be regulated by carbon trading system, while the small and medium sized emitters could be included in taxation. To avoid double taxation on the same emission source or enterprise, the emission source or enterprise incorporated into the carbon trading system should be exempted from carbon tax.

Keywords: carbon peak; tax-ETS hybrid; taxation neutrality; synergistic effect

CAO Mingde, Distinguished Professor at China University of Political Science and Law (CUPL), Ph.D of law at China Academy of Social Sciences, Vice President of

China Association of Environmental Resources Law Research, member of the Advisory Committee at the Supreme People's Procuratorate of the P.R.C., Director of Climate Change and Natural Resources Law Research Center at CUPL, legal expert of All China Environment Federation (ACEF). He was a visiting scholar at Pace Law School from 2005 to 2006, Faculty of Law University of British Columbia 2012. He has earned LLM from Vermont Law School, and SJD from Elisabeth Law School at Pace University in U.S. He was honored the National Ten Outstanding Young Jurists Award in China by China Law Society in 2006. His area is environmental law, particularly specializing in energy and climate change law.

ZHANG Yiran, Ph.D student at Civil Commercial and Economic Law School at China University of Political Science and Law. She received her Master of Laws (LL. M) degree in environmental law from China University of Political Science and Law and Master of Laws (LL. M) in animal law from Northwestern school of law of Lewis & Clark college. She is currently a PhD student in environmental law at China University of Political Science and Law. Her research focuses on climate change law.

From the “table of Cles” to the constitutional reform: a long way from the past to the future.

Carlo Soncini

Degree Tax Law – University of Parma

Phd Tax Law University “Luigi Vanvitelli” – Neaples – IT/2001

Stipendium at the “Max Planck Gesellschaft fuer Steuerrecht” – München – DE/2005-2006

Visiting Scholar Boston College Law School – Boston (MA) – U.S.A./2019-2021

The recent reform of the Italian constitutional principles - to protect the environment, promote sustainable development, and future generations' rights - is very important and can have effects that at the moment we can't even imagine.

Furthermore, in a multilevel legislation system like the ones regulated by European principles, not only regarding environmental taxation. In this interesting perspective, the role of global, national, and local public goods has to be deeper investigated together with also role of the subsidiarity principle to promote effective democratic participation and the protection of the rights of future generations but also of linguistic minorities.

In this perspective, food sovereignty and food safety have to be combined with tax sovereignty through the subsidiarity principle, as done during centuries in the past. It leads also to a new application of the new Italian constitutional principle as introduced by Italian legislation to protect and promote environmental protection and sustainable development and future generation rights. So tax exemptions and reductions have to be directed to better and wider improve biodiversity in the mountains (but not only) and agricultural activities to produce safe and healthy food to better afford the recent post-pandemic and war crisis.

Lessons from the past are important to better understand the present. Roman law is lost in the past and sometimes a fragment of that glorious history comes from ancient times to give us important suggestions for the future. In a public library in Trento, directed in the past also by a very famous parmesan law scholar, Giandomenico Romagnosi, for its contribution to constitutional law, a book draws my attention. It regards the old “table of Cles” (in origin called “Tavola clesiana”) given in 30-40 d.c. by the Roman emperor to the alpine people. It recognized the roman citizenship of these people combining it with the right to use private and common goods and rules regarding taxation and related exemptions. Hoping that those lessons, will be also useful, perhaps, to avoid new bread's wars too.



Mag.ª Dr.ª Anna-Maria Anderwald, LL.M. (Columbia)

25th January 1992

Main research areas:

Sustainable Taxation encompassing demographic, societal, economic and ecological objectives, Consumption-oriented taxes, Tax policy, International and European Tax Law

Education

09/2021 – 08/2024

post-doc research and teaching assistant,
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Graz
Hertha Firnberg scholarship holder 2021-2024, FWF –
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Research project: From Income to Consumption

06/2019 – 08/2020

post-doc research and teaching assistant,
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08/2018 – 05/2019

Master of Laws, Columbia Law School, New York, USA
Main research area: International Tax Law and Business Law
Thesis: *The International Compliance Assurance Programme and its different risk assessments*
Memberships:

- Columbia Business and Law Association
- Columbia Law School Negotiation Association
- Columbia Law School Legal Technology Association
- Columbia Law Review
- CLS iTrek

May 2018

Austrian Bar Exam Oberlandesgericht Wien

10/2014 – 08/2017

Doctor iuris, Karl-Franzens-Universität Graz
summa cum laude
Thesis: *Die Abgrenzung zwischen Schein- und Umgehungsgeschäft im Steuerrecht. Eine Analyse vor dem Hintergrund des Zivilrechts*

10/2010 – 09/2014

Magistra iuris, Karl-Franzens-Universität Graz
cum laude

08/2008 – 07/2009

School leaving examination, Nottingham, England

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Realgymnasium St. Martin, Villach

Professional Career

10/2020 – 07/2021

Associate, Binder Grösswang Rechtsanwälte GmbH, Vienna
Main area: Taxation
Qualified as Austrian Lawyer at the Austrian Bar Association

06/2019 – current

Lector, UNI for LIFE Weiterbildungs GmbH, Graz
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Associate, Held, Berdnik, Astner & Partner Rechtsanwälte GmbH, Graz and Wien
Main area: Taxation, Corporation and White-Collar Crime

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Legal Intern, Held, Berdnik, Astner & Partner Rechtsanwälte GmbH, Graz

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Judicial Clerk
District Court, Regional Court for Criminal Matters and Regional Court for Civil Matters Graz

Awards

12/2021

Heinrich Graf Hardegg'sche Stiftung Award

07/2021

Hertha Firnberg Scholarship, FWF – Wirtschaftsfonds

05/2019

Harlan Fiske Stone Scholar, Columbia Law School

12/2017

Best of REWI – Award for one of the best dissertations, Karl-Franzens-Universität Graz

2014-2017

Merit-based scholarship, Karl-Franzens-Universität Graz

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Best of REWI – Award for one of the 15 best law students, Karl-Franzens-Universität Graz

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Merit-based scholarship, Karl-Franzens-Universität Graz

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Merit-based scholarship, Karl-Franzens-Universität Graz

2011-2012

Merit-based scholarship, Karl-Franzens-Universität Graz

Language

German – native language

English – C2

Abstract

With the emission of greenhouse gases being recognized as the main cause of human-induced climate change, curbing them is of primary importance.

However, achieving an agreement that comprises all major emitters in the world is a prohibitive task, and countries that do not adhere, beyond not curbing emissions, can cause carbon leaks, that is, attract polluting production processes from more environmental friendly countries.

The European Union's Carbon Border Adjustment Mechanism is a groundbreaking attempt at solving this problem by levying border duties on the import of goods at "high risk" of carbon leakage.

We evaluate its effects using Comtrade data and a model of the import/export network.

We find that the scheme's potential is significantly undermined by two main unintended effects: 1) the redirection of flows of goods via non-EU economies that already impose carbon quotas, and 2) the increased export of manufacturing goods not included in the scheme.

We simulate alternative specifications of the scheme that might lessen these issues, characterizing their success both in reducing emissions, and in mitigating the issue of unfair competition due to heterogeneous energy costs.

Short bios

Donatella Baiardi is Associate Professor of Economics at the University of Parma. Previously, she was Post-Doc Research Fellow at the University of Pavia and Milan Bicocca. She graduated from the University of Pavia, where she also obtained a PhD in Economics. Her research interests include environmental and energy economics, applied macroeconomics (with a particular attention to the interconnection of financial and economic cycles and their impact on income distribution) and international trade. Her empirical studies employ the most recent estimation techniques characterizing panel data analysis. She has published more than 15 articles in academic journals on the above topics, including Energy Economics, Energy Policy, Environment and Development Economics, Journal of Agricultural Economics and Economic Modeling.

Pietro Battiston is an Assistant Professor in Economics at University of Parma. He graduated from university of Bologna and obtained a PhD from University of Milan Bicocca. His research interest include network analysis, tax evasion and behavioral economics. On such themes, he has published on international peer-reviewed journals, including Scandinavian Journal of Economics, World Development, Journal of Economic Behavior & Organization, Health Policy. He is an occasional contributor to open source software projects related to scientific computation.

Keywords

carbon leaks, international trade, trade agreements, CBAM, European Union

“Climate-damaging subsidies in Austria – an economic and legal assessment of the status-quo and reform options”

Daniela Kletzan-Slamanig

Abstract for the 23rd Global Conference on Environmental Taxation (GCET23)

Discussions on the identification and reform of subsidies with negative climate impacts have been going on for decades at the (international) policy level and in the scientific community. Such subsidies counteract climate protection efforts, contradict the polluter-pays principle and reinforce market distortions and the carbon lock-in.

The study presented in this paper examines which subsidies with negative climate effects are in place in Austria. Based on a literature review of international studies, the paper summarizes the results of a comprehensive bottom-up analysis of direct subsidies and fiscal measures (indirect subsidies) that are granted on the federal level. The focus is put on the areas of energy generation and use, transport and agriculture. The analysis on the one hand considers the legal foundations and original motivations for the subsidies and on the other hand quantifies the respective subsidy volumes and identifies the beneficiary groups.

In addition to the quantification of subsidy volumes related to the mainly indirect subsidies (e.g. commuter allowance, energy tax exemptions and reductions), relevant regulatory framework conditions that have a subsidy character (e.g. parking space obligations) are examined. Taking into account the environmental effectiveness, economic criteria (like distributional impacts) and potential legal constraints reform suggestions are developed for the selected support measures.

Key words: fossil fuel subsidies, energy taxation, legal framework, fiscal reform, Austria

Short bio:

Daniela Kletzan-Slamanig is Senior Economist at WIFO and has been working in the research area "Environment, Agriculture and Energy" since 1999. She has comprehensive expertise in environmental policy assessment. Her key areas of

research include EU and Austrian climate and energy policy, with a focus on market-based instruments and policy indicators as well as environmental innovation.

DEVELOPMENTS AND SETBACKS ON CARBON TAXATION IN BRAZIL

Denise Lucena Cavalcante

Brazil has pledged to reduce its greenhouse gas (GHG) emissions by 37% below 2005 levels until 2025 and by 43% until 2030. For its goals to be achieved, it's imperative that the country implements measures to attain such reductions. Some options are: forest restoration; environment subsidies; diversification of Brazilian energy sources; and carbon pricing.

The country, however, remains on a slow pace towards carbon pricing regulation. Some bills are currently being discussed at the National Congress about the subject, but no decision has been taken. On the other hand, in the private sector, carbon pricing is at the center of a myriad of ongoing changes. Our forecast is that those moves will intensify in the next few years.

Not only there remains no doubt that local carbon tax is powerful tools to haste the achievements of the Paris Agreement, this study also concludes that carbon pricing is highly beneficial to the Brazilian economy. We foresee a considerable prospect for carbon credit to become a new Brazilian commodity. Furthermore, carbon pricing, by raising the cost of production to correct the externalities of climate change, stimulates the economy to produce less GHG emissions. The core idea of this study is that, as well as environmental advantages, carbon taxation promotes the change in attitude required to lead Brazil to a low-carbon economy (LCE).

KEYWORDS: Environmental taxation. Carbon taxation in Brazil. Green economy.

SHORT BIO: Post-doctorate at the University of Lisbon. PhD at the Pontifical Catholic University of São Paulo (PUC/SP). Full Professor of Tax Law at the Federal University of Ceará. Leader of the Environmental Taxation Research Group of the Federal University of Ceará\Brazil (since 2007). Governmental Attorney. Email: deniselucenac@gmail.com.

ENVIRONMENTAL COMPENSATION OR TAXATION: REFLECTIONS ON LEGAL MECHANISMS FOR SUSTENTABILITY

Clara de Oliveira Adão¹

Constitution of Brazil assures the reparation for Ambiental harming due to the provision of article 225, assuring enterprises which activities may cause environmental damages need to do a study of its impacts. Referring to that provision, the National System of Conservation Units (NSCU), law 9.985/2000, was created instituting two types of protected areas: untouched areas and sustainable areas. The main objective is to protect the biodiversity, mostly the untouched areas.

To accomplish the goal of conservation brought by NSCU, there is a mechanism named Environmental Compensation, which is a financial obligation of every enterprise which causes significant impacts to environment. Environmental Compensation provides the payment of creation of protected areas, or their maintenance. It is relevant to highlight the priority of funding untouched areas, which does not correspond to the territorial reality of the country. Research was carried out by Chico Mendes Institute of Biodiversity Conservation, who manages protected areas in Brazil, pointing out that untouched areas are not more effective than sustainable areas. It makes necessary to question the model of conservation and its instruments.

The way the Environmental Compensation was developed result in discussion of sustainability and the importance of native communities, as indigenous people, quilombolas and other traditional groups. Article 225 of Constitution of Brazil can engender the correspondent environmental tax, regulating the harmful activities of enterprises, also with the possibility to destinate the resources on a more effective way.

Due to those points, the present research intends to analyze the possibility of the development of environmental taxation, utilizing the inductive method, through bibliographical research. Preliminarily the results point out to the displacement of the State, through the obligation for an environmental compensation which provides the

¹ **Clara de Oliveira Adão.** Lawyer. PHD student in Law from University of Ceará (UFC). Master's degree in Law from University of Sergipe. Graduated in Law from University Center of Formiga (UNIFOR). Researcher at DITERRA – University of Rondônia (UNIR). Researcher at the Environmental Taxation Group (GTA) of the University of Ceará (2022).

budget maintenance by enterprises, instead of the own State. These results demonstrate the need to develop an effective environmental taxation.

KEYWORDS: protected areas; National System of Conservation Units; environmental law in Brazil; environmental compensation; environmental taxation.

Green with envy? Carbon pricing impacts on the economic viability of green and blue hydrogen

Mark Droessler and Andrew Leach

Alberta School of Business, University of Alberta

Abstract

Hydrogen presents a compelling energy carrier and is forecast to be an important tool for meeting green growth objectives as part of the global low-carbon energy transition. On the demand side, hydrogen is a critical input into existing petrochemical supply chains and is emerging as a leading clean energy option to fuel personal and freight transportation, blend into existing natural gas streams for residential and commercial heating, or be used separately to generate process heat or electricity, among other applications. In most end-use processes, hydrogen is free from greenhouse gas emissions with water the sole product of pure combustion.

Our paper is focused on the supply side, asking how policies and commodity market conditions can favour low-carbon hydrogen production pathways including green (produced from renewable electricity) and blue (produced from fossil fuels with carbon capture and storage to mitigate emissions) hydrogen. We use a detailed financial model to demonstrate how emissions control policies including emissions taxes, output-based allocations of emissions credits, and investment and/or production tax credits affect the cost of hydrogen supply. We overlay this analysis with consideration of the underlying commodity markets for natural gas and electricity. We show that in areas with high natural gas prices including Europe and Asia, where benchmark natural gas prices temporarily traded at more than ten times the price of North American benchmarks over the last year, conditions are likely to favour the adoption of green hydrogen. Conversely, lower natural gas prices in North America are expected to favour blue hydrogen production where emissions control policies exist and grey (unabated fossil fuel) hydrogen otherwise. Using industrial hydrogen production in Alberta, Canada as a case study, we show that existing output-based allocation policies can reduce the levelized cost of blue hydrogen production by between 18% and 37%, making it cost competitive with grey hydrogen. We also show that the cost of green hydrogen is highly sensitive to electrical power prices, requiring an average delivered power price of CAD\$48/MWh (net of transmission) to match the cost of blue hydrogen under existing policies and local commodity price forecasts.

We characterize the risks faced by hydrogen project developers from potential changes in emissions control policies, commodity prices, and construction costs. We find that actions to mitigate policy risk such as investment tax credits or guaranteed emissions abatement payments make the adoption of green and blue hydrogen more likely in the near term, but with disproportionate effects resulting from differences in capital costs, expected project life, and emission intensities between pathways. We draw conclusions for policy makers regarding the effects of emissions control policies on the expected supply cost for each pathway, which is a key driver of capital investment decisions.

Keywords: hydrogen; climate change; carbon pricing; carbon capture and storage; renewable energy

Researcher biographical sketches

Mark Droessler

Mark Droessler is a senior analyst with the Government of Alberta, and is responsible for analyzing global natural gas market fundamentals and supporting the implementation of Alberta's Hydrogen Roadmap. Mark is a professional engineer who has worked for more than thirteen years in the energy industry and co-authored several research publications. His experience includes field operation of natural gas assets, applied research and technology development, technical and economic feasibility assessments, and professional team leadership. He holds a Bachelor of Science degree in mechanical engineering and a Master of Business Administration in Natural Resources, Energy, and Environment from the University of Alberta.

Andrew Leach

Andrew Leach is an energy and environmental economist and is Associate Professor at the Alberta School of Business at the University of Alberta. He has a Ph.D. in Economics from Queen's University, and a B.Sc (Environmental Sciences) and M.A. (Economics) from the University of Guelph and recently completed an L.L.M. (Constitutional Law) from the Faculty of Law at the University of Alberta. His research spans energy and environmental economics with a particular interest in climate change policies and the law. He has also worked in several applied policy roles, including secondments to the Governments of Alberta and Canada, in which he advised on the implementation of carbon pricing and regulatory policies.

Comparing the efficacy and effectiveness of carbon pricing instruments: a global assessment

Changjing Ji: Center for Energy and Environmental Policy Research (CEEP), Beijing Institute of Technology (BIT), Beijing, China

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Carbon taxes and cap-and-trade schemes are often considered to be two sides of the same coin in terms of their impacts on emission reductions. However, the exact design of the two pricing instruments will affect the outcomes and real-world carbon pricing systems differ widely. For example, some cap-and-trade systems have a price floor (which gives firms some level of certainty about future prices) while others do not, and both cap-and-trade systems and carbon taxes differ in their sectoral coverage and interaction with other instruments (such as subsidies for renewable energy). We use country-level panel data to assess the efficacy and effectiveness of carbon taxes and cap-and-trade schemes in reducing greenhouse gas emissions. We find that having a cap-and-trade scheme in place has a stronger effect on emissions (Average Treatment Effect of -15.7%) than having a carbon tax (-6.6%): the difference is statistically significant at the 10% level. A robustness check using the event study approach finds slightly smaller effects (-12.4% and -4.4%, respectively; difference statistically significant at 5%). Regarding effectiveness, we find that a 1 US\$ increase in a carbon tax reduces emissions by 0.57% and a 1 US\$ increase in the emissions price of a cap-and-trade system reduces emissions by 0.47%. However, this difference is not statistically different, which suggests that the marginal effects of the two pricing systems are equal. The results suggest that expanding the scope of carbon pricing systems or increasing the tax rate or emissions price can lead to considerable emission reductions.

Keywords: Carbon pricing, cap and trade, emission trading, carbon tax, policy evaluation

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Dr. Edwin van der Werf is an Associate Professor at the Environmental Economics and Natural Resources Group of Wageningen University, the Netherlands. He holds an MSc in Economics from Erasmus University Rotterdam and a PhD in Economics from Tilburg University and CentER. He is especially interested in the design of policy instruments for climate change mitigation and the ex ante and ex post assessment of policy instruments. He has published his research in journals like European Economic Review, Energy Economics, Energy Policy and Forest Policy and Economics.

Submitted by Femke Groothuis, co-founder and president of The Ex'tax Project
May 26, 2022

The Ex'tax Project (et al.) (upcoming publication June 2022), [The Taxshift. An EU fiscal strategy to support the inclusive circular economy](#). In collaboration with Cambridge Econometrics, Deloitte, EY, KPMG, PwC. Author: Femke Groothuis.

Abstract

The European Green Deal includes a commitment to shift the tax burden from labour to pollution. This study presents a roadmap for such a rebalancing of the tax mix, both at national levels and in an EU context. It assesses the impact of 20 taxshift measures that significantly decrease the tax burden on labour while increasing taxation of resource use and pollution.

The burden for households is eased through a reduction in income tax and social contributions, and income support for the lowest income groups. For employers, various payroll tax credits have been included: a generic payroll tax credit, one specifically for new employment, for reskilling and training, and for circular process innovation. Finally, a payroll tax credit has been included in the corporate income tax.

The necessary tax revenues are generated by introducing a kilometre charge, increasing VAT, taxing CO2 emissions and other emissions from industry, aviation, shipping and agriculture, and increasing excise duties on tobacco. In addition, measures have been included that put a higher price on water, waste and the use of fossil fuels in chemical processes.

Cambridge Econometrics has modelled the impacts in 27 EU Member States using the E3ME model. In the scenario, GDP levels in the EU in 2025 are on average 1.6% higher. Employment levels are 3.0% higher than business as usual. At the same time, CO2 emissions have fallen by 7.1%. Over the five-year period, EU Member States would jointly save €56 billion on their energy import bill.

Real incomes are higher than the baseline and the results suggest that a progressive impact is possible, with more benefits (in relative terms) for lower income households. This means that it is possible to design policy measures that address environmental issues (applying the Polluter Pays Principle) and social issues ('leaving no-one behind') simultaneously.

Short Bio

Femke Groothuis is author, speaker and advisor in the field of taxation, business and the inclusive circular economy. She is the co-founder and president of The Ex'tax Project (www.ex-tax.com), a think tank focused on opportunities to shift the tax burden from labour (work) towards the use of natural resources (such as water, fossil fuels, and carbon emissions). Since 2009, Groothuis has published a series of reports on the taxshift and she has presented on more than 100 stages around the world. Between 1999 and 2009 she was Investment Manager at Ex'tent Green Venture Capital, a pioneering impact investment fund. She is a political scientist specialized in international relations and environment.

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Keywords

#taxshift #polluterpays #justtransition #circulareconomy #taxpollutionnotpeople

IS A CAP-TRADE-TAX AN OPTIMAL DESIGN FOR INDONESIA CARBON PRICING POLICY? A SWOT ANALYSIS

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ABSTRACT

The subject of the research is motivated by the necessity to review carbon tax policy design as part of carbon pricing policy in environmental management in Indonesia. Indonesia has recently issued the Tax Regulations Harmonization Law (UU No.7/2021), which allows the implementation of carbon taxes for coal-fired power generators for the first phase of implementation. The government of Indonesia also enacted Presidential Decree No. 98/2021 (Perpres 98/2021), which regulated the unit carbon's economic value through carbon pricing mechanisms. The interaction and functional linking between the trading of unit's carbon based on Perpres 98/2021 and the taxes policy scheme under UU No.7/2021 through cap-trade-tax is not without its challenges. Do the linking will be a complementary policy in emission reductions remains unanswered.

Against this backdrop, we do a SWOT analysis to study the interaction policy between carbon taxes and carbon trading in search of optimal tax policy design. After briefly describing the theoretical basis for carbon pricing policy, regarding the interaction of carbon taxes with carbon trading policy, we detailed Indonesia's current policy measure for emission reduction. Our analysis shows that the carbon tax and carbon trade policy mix, especially for the energy sector with cap-trade-tax, has potentially created complexity and failed to find the root problem of policy implementation for effective emissions reductions. The optimal carbon pricing policy depends on the complementary policy measures available to address market failure that inhibits emissions reductions. As a result of the absence of complementary policy design, the social cost resulting from the action of industries will exceed the private cost and reduce the environmental quality.

Closing the gap, this study would be a push factor in drawing policy measures, especially in the roadmap for carbon tax implementation for other sectors in Indonesia, as one of the instruments in environmental management. Moreover, calibration of the current policy design for optimal interaction will be a 'forward looking' approach for policy improvement.

Keywords: Carbon Tax, Carbon Pricing, Interaction Policy, Indonesia

SHORT BIO



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Firman is a Government Officer responsible for developing business processes and regulations in tax policy for the Directorate General of Taxes (DGT). As a research officer with more than ten years of experience in policy development, Firman is currently serving as one of the Carbon Taxes development teams from DGT in Indonesia. In addition, he has served as an officer in the DGT field office responsible for audit, compliance supervisory, and tax arrears. Firman currently also serves at Pamulang University as a Senior Lecturer in Tax Management and International Finance.



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Nofryanti is an Associate Professor for Corporate Reporting and Management Accounting at Pamulang University, South Tangerang-Indonesia. She earned a doctoral degree in accounting from Trisakti University Jakarta -Indonesia, specializing in Sustainable Development Goals and Sustainability Performance. Nofryanti's primary research interests are in Financial Accounting, Taxation, and Corporate Reporting.

The tax role in the ecological transition: the social economy perspective

The ecological transition is a new development model according to which is necessary an interconnection between economic development, social inclusion, environmental sustainability.

The Social economy is a model of economic development which joins the traditional /capitalistic one. It is a different way of organizing economic activity, in order to achieve goals of social utility and not to maximize profits.

The Social economy is active for years in the protection of the environment and in the promotion of circular economy models (an example: RReuse - Reuse and Recycling european union social enterprises - international network representing social enterprises active in the field of reuse, repair, recycling).

In recent years there have been many EU initiatives aimed at a legal recognition of this macroeconomic sector. Lastly, the *Action Plan* for the European social economy (European Commission, December 2021) places social enterprises among the main players in the ecological transition.

In Italy Social enterprises are Third Sector entities and, according to what the Constitutional Court has said (n. 131/2020 e n.72/2022), they belong to the so called "solidarity market" where taxes are paid indirectly (through the exercise of activities of general interest).

Keywords: ecological transition, social economy, positive utility, public expenditure reduction, indirect contribution to public expenditure.

Essential biography:

Giulia Boletto is Associate Professor of Tax Law at the Department of Law of the University of Pisa and currently holder of the teaching of Tax law and Taxes and digital markets.

PhD in Tax Procedural Law, she is the author of more than fifty between articles and judgment notes. She is the author of two monographs, one on the subject of tax collection, the other on the taxation of the income of the third sector company

Since 2019 she has been a member of the Research Center "Frontier Law and Technology" (DETECT) established at the Department of Law of the University of Pisa. Since 2012 she has been a member of the teaching staff of the Doctoral School in Legal Sciences of the University of Pisa.

She took part at national and international research projects, and also at scientific conferences, including international ones. Since 2021 he has been a member of the CONI Tax Commission. She is married and has a daughter.

Draft Abstract

South Africa's Carbon Tax: *Contra* Simplicity?

Kenneth Richards, Andrew Gilder and Lee-Ann Steenkamp

Carbon pricing instruments (CPIs), including carbon taxation, have been advanced as critical financial mechanisms to reduce greenhouse gas (GHG) emissions. The World Bank, the International Monetary Fund and other multi-lateral organizations support CPI implementation by national governments to curtail emissions at the lowest possible cost. The cost-effectiveness of CPIs, however, depends very much on their design and implementation. While economists broadly agree that design of the ideal carbon taxation system is reasonably simple in principle, practice is demonstrating tremendous variation in their design and implementation across jurisdictions. In fact, virtually all examples have deviated significantly from the ideal design. This raises important questions. First, why have countries departed from the theoretical ideal of carbon tax design? While it is tempting to attribute the cause to political pressure, there may be more nuanced reasons. Second, are policy makers aware that they are deviating from the ideal and that the departure may carry an economic cost with it?

This analysis of the formulation and implementation of the South Africa carbon taxation system is the first in a series of case studies to unpack the extent of and reasons for the departure of carbon taxation practices from the theoretical ideal. The analysis posits an ideal carbon taxation design, describes the South Africa carbon taxation system as implemented in June 2019, and identifies the differences (between the ideal and the practice) before assessing reasons for the departure. While raw political forces explain some of the observed differences, the case study demonstrates that some deviations from the ideal were the result of legal and institutional constraints, while others reflect compromises necessitated by the multiple objectives of the government. The study provides a starting point for development of a richer normative model of carbon tax design in the context of a developing economy.

Keywords: carbon pricing; carbon taxation; comparative policy analysis; climate policy.

Biographical notes:

Dr. Kenneth Richards is a professor of environmental economics and policy at the O'Neill School of Public and Environmental Affairs at Indiana University, an affiliated professor of law at the IU Maurer School of Law, an affiliated faculty member at the Ostrom Workshop in Political Theory and Policy Analysis, and a principal associate for Gnarly Tree Sustainability Institute. He recently served as the Fulbright Research Chair in Environmental Policy at the University of Ottawa and has held visiting positions at the University of Oxford and the Business School, National University of Singapore.

In addition to his research on environmental policy instrument design and carbon sequestration economics and law, he supports governments in the design and analysis of environmental policies, including, e.g., environmental taxation (Vietnam), emissions levies (Costa Rica), and carbon offsets (South Africa). He was a lead author of the *World Bank Carbon Tax Guide: A Handbook for Policymakers* (2017), and senior editor of *Policy Instruments in Environmental Law* (2020). He has produced extensive training materials on carbon taxation for the United Nations and the World Bank and conducted training courses internationally.

He holds a PhD in public policy and management from the Wharton School, a JD from the Law School at the University of Pennsylvania, degrees in civil engineering from Northwestern University, and a degree in botany and chemistry from Duke University. He is a member of the Indiana Bar Association.

Andrew Gilder is South Africa's leading private sector environmental, climate change and carbon markets lawyer – he is a Director of Climate Legal, with more than twenty years' legal practice experience specialising in climate change (mitigation and adaptation), climate finance and development, carbon markets, carbon tax, environmental and energy law, policy and governance. His practical experience includes advising government, businesses and industries on climate change policy development and its implications, including climate change business risks and opportunities, assessing commercial relationships against evolving climate change policy and regulation and relevant contractual considerations, as well as advising on, negotiating and drafting of carbon commercial contracts. Andrew (as Climate Legal) was the external climate change legal counsel which advised the South African government on the Climate Change Bill, and was extensively involved in South Africa's adaptation legal and policy alignment process. Andrew has worked on climate change legislation and strategy in Zimbabwe, Thailand, The Seychelles and the Southern African Development Community and has been recognised as a leading lawyer by PLC Which Lawyer? 2012 (Environment, South Africa), Best Lawyers 2018, 2020 and 2021 (Environment, South Africa) and Chambers and Partners 2021 and 2022 (Environment, South Africa), and was shortlisted for an African Legal Award, in 2015. Andrew is the co-editor and co-author of three seminal works in the South African climate change and carbon market arena, namely: *Climate Change Law and Governance in South Africa* (Juta, 2016), *Concise Guide to Carbon Tax* (LexisNexis, October 2020) and *Comprehensive Guide to Carbon Tax* (LexisNexis, pending July 2022)

Dr Lee-Ann Steenkamp is a tax and accounting lecturer at the Stellenbosch Business School, as well as an Extraordinary Professor in Tax at the University of South Africa (UNISA). Lee-Ann is a National Research Foundation (NRF) rated researcher – a rare accolade which is bestowed on academics with exceptional research output. Lee-Ann obtained her PhD in Public Law from the University of Cape Town, wherein she examined the transition from the old Kyoto Protocol to the new Paris Agreement on Climate Change. She holds a Master's degree in Taxation and is a registered Master Tax Practitioner (SA)[™]. Her research focuses on green tax issues, including

biodiversity conservation, the taxing of energy use in developing countries and most notably South Africa's new carbon tax. Lee-Ann advises on carbon tax policy matters and serves on the South African Institute of Chartered Accountants (SAICA) Carbon Tax subcommittee which provides input to National Treasury, as well as serving on the African Tax Administration Forum (ATAF).

THE NECESSARY REDUCTION OF DEPENDENCE ON FOSSIL FUELS OF VEHICLES IN BRAZIL

Denise Lucena Cavalcante*

Edilson da Silva Medeiros Junior**

Although Brazil has already begun the process of transition from the brown economy to the green economy within the automotive sector, the process is still slow and costly. Vehicles in Brazil are mostly fossil fuel-based, electric cars being luxury goods, considering their high market value, especially when compared to the value of the Brazilian minimum wage. Another aggravating factor in the Brazilian context is the lack of quality public transportation and the lack of public policies that provide this culture change from the excessive use of private transportation. It is also noteworthy the high taxes levied on electric vehicles that make them even more expensive, with several taxes being applied indiscriminately or even lower for more polluting vehicles. The aim of this article is to point out the main obstacles of fiscal legislation that, instead of stimulating, discourage the acquisition of electric vehicles in Brazil. To this end, federal and state legislation will be analyzed, which will predominantly focus on operations with electric vehicles. In this context, we conclude that it is urgent to review federal and state laws in tax matters, seeking uniformity and creating paths capable of accelerating the transition from the automotive sector to the most ecologically balanced vehicles.

KEYWORDS: Environmental taxation. Electric vehicles. Fossil fuel.

SHORT BIOS:

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Taxation of Blockchain Technology Considering Its Environmental Effects

N. Nilay Dayanç Kuzeyli

Abstract

Blockchain is a pivotal technology for digital transformation. However, some forms of blockchain require scarce resources like enormous amounts of energy, thus contributing to long-lasting harms to life on the planet. Given that one of this century's top priorities is to build economies that are not only digital but also green (the so-called "digital and green transition"), there is a widespread recognised need to urgently develop policies that promote a socially responsible use of the world's resources, notably in relation to new technologies and new business models. Accordingly, one of the most effective regulatory tools for shaping market actors' behaviours and shifting them towards more sustainable practices is through targeted tax policies. This is acknowledged in both the European Union's Green Deal and the United Nations' 2030 Agenda for Sustainable Development, where taxation features as key for fostering a greener, resource-efficient, and climate-neutral economy. But although governments around the world have already started to reflect on the proper tax treatment of emerging digital technologies, so far initiatives have not gone much further than trying to prevent income generated via blockchain-based assets (such as cryptocurrencies and other virtual currencies) to go untaxed. The upshot is that current tax systems create incentives for private players to choose whatever technology is cheaper or more profitable, regardless of the resulting environmental and social damages. My paper therefore aims to address this knowledge gap in literature and policy, by way of investigating what and how tax reforms could encourage a change to less energy-intensive types of blockchain or, alternatively, the development of blockchain-like technologies that function with renewable/greener sources of energy.

Keywords

Environmental Taxation, Blockchain Technology, Digital and Green Transition

Short Bio

I am an affiliated post-doc researcher at University of Antwerp, Belgium and a lecturer in Tax Law, Business Law and Basic Concepts of Law at Bilkent University, Turkey. I educated at the Bilkent University, where I graduated in Law in 2010. I hold a LL.M. degree in Law and Economics and a PhD degree from the Bilkent University.

A REVIEW OF ENVIRONMENTAL FISCAL POLICY CONSIDERATIONS IN PETROLEUM-PRODUCING DEVELOPING COUNTRIES

Abstract

Environmental fiscal policy instruments (including environmental taxes) can play a role in transitioning economies and citizens away from fossil fuel reliance towards renewable energy sources. This energy transition presents a challenge for petroleum producing countries who rely on the petroleum sector for government revenue in the form of oil rents and taxes as well as export revenue. Petroleum producing countries ideally want to design environmental fiscal policy instruments that can yield the double dividend of reducing carbon emissions and promoting sustainable economic growth.

Through a qualitative literature review this study seeks to understand the mix of environmental fiscal policy instruments that can achieve a double dividend in the petroleum sector of petroleum producing countries. Whilst research has been done on design, implementation and effectiveness of environmentally related taxes, the novelty of this study is the focus on the petroleum sector for petroleum producing countries who must face trade-offs between climate change mitigation measures and the United Nations Sustainable Development Goals such as sustainable economic growth.

This study seeks to understand how a policy mix (including environmental taxes) could be designed in the context of a petroleum producing developing country pursuing environmental goals without compromising economic growth. The positive correlation between economic growth and greenhouse gas emissions provides the impetus to focus on the climate change mitigation and adaptation strategies of developing countries because they will impact whether the Paris Agreement goals are met within this century.

Keywords: environmental fiscal reform, environmental taxes, revenue recycling, petroleum sector, double dividend

Towards a Green Transition – proliferation of decarbonization policies, carbon leakage and linking

The urgency of addressing the Climate change crisis is outlined ever more forcefully by, inter alia, the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change. The EU prides itself to be a global climate change leader and has announced its ambitious Green Deal that has as its objective in the area of Climate change to reduce GHG emissions by 55% by 2030, compared to 1990 levels and to reach net-zero by 2050.

To realize this objective the European climate change policy must be overhauled. The current support system for Energy Intensive Trade Exposed (EITE) industries will be phased out and incentives need to be set for the industrial sectors to decarbonize. This is to be achieved via a carbon border adjustment mechanism (CBAM). Given its impact on other jurisdictions, the CBAM is a game changer.

This paper compares different EITE support schemes across various jurisdictions and assesses how they contribute to decarbonisation and how they address competitiveness concerns. The paper will also examine how these new developments are to be assessed from a linking perspective.

Keywords: Green Transition, Climate change, CBAM, Carbon Leakage, Linking

Short Bio:

Stefan Weishaar is Professor of Law and Economics at Groningen University. He is also a research affiliate at MIT Center for Energy and Environmental Policy Research in Boston (USA) and Adjunct Professor at the China University of Political Science and Law. Stefan has a keen interest in the working of markets and regulatory instruments. His work covers several law and economics domains in the areas of Climate & Energy law, Environmental taxation, Competition law, Procurement law and Market integration. His research frequently employs a comparative law perspective.

Abstract: A proposition for a multilateral carbon tax treaty

Tatiana Falcão

The global economy currently subsidizes the environmental cost of production and transport of goods on a recurrent basis. The business-as-usual scenario is one where the environmental cost of using the environmental commons is not considered.

This is because – from an economic perspective – it would be impossible, for example, for a UK-based individual to acquire a product manufactured and distributed from China for a cheaper price than the nationally produced product, in a scenario where the environmental cost of transportation is factored into the overall cost of production. This result is only possible because the environmental cost of production and distribution is being subsidized.

Coming from a setting where global economies will need to develop new strategies to raise revenue resources from vacant tax basis when recovering from the recessionary environment caused by the COVID-19 pandemic, carbon taxation is expected to be a sought-after instrument to both raise mobilize domestic resources and provide a positive impact on the environment, promoting sustainable growth as countries leave the current recessionary environment.¹ There is as of yet no single multilateral or coordinated approach which countries can feed from in developing synergetic approaches to taxing carbon. This project aims to overcome that gap by: (i) identifying local, regional and global synergies that can be translated into a coordinated or multilateral practice; and (ii) developing a multilateral coordinated framework that can be employed by global economies going forward, by taking into account in particular the interests of low- and middle-income countries.

This abstract is to propose presenting the draft version of the proposed multilateral carbon tax treaty, and discuss its scope, reach and language. It is a project that is being financed by the International Centre for Tax and Development (ICTD), a research centre based at the Institute of Development Studies focusing on tax and development issues in Africa and parts of Asia.

This project is based on previous work conducted by the author on the field of multilateralism in carbon taxation. As part of her Ph.D, the author has previously developed a draft text for a proposed Multilateral Carbon Tax Treaty (MCTT).² This project would therefore rely on that draft text to take it to the next level and obtain a consensual approach amongst experts in this field as to the general framework of a treaty envisioning multilateral coordination in the application of carbon taxes. It relies on an integrative, interactive approach, through which experts provide their own inputs and views on the proposed texts, raising issues for consideration and discussion. By presenting this text at the GCET, I would seek the views of the conference participants as well, and open the forum for wider consideration.

¹ IEA. 2020. “Global Energy Review 2020: The Impacts of the Covid-19 Crisis on Global Energy Demand and CO2 Emissions.” See also: IMF, 2020. *Greening the Recovery*. Special Series on Fiscal Policies to Respond to COVID-19. International Monetary Fund, Washington, DC.

² T. Falcao, *A Proposition for a Multilateral Carbon Tax Treaty*, IBFD, 2019.

The development of global international tax policy approaches is often hampered by unilateralism. It is not uncommon for countries to introduce domestic legislation bearing in mind the concerns and economic needs of the domestic market, without looking at the global picture, and investigating whether it will lead to double taxation, will negatively impact third countries, or will impede free trade.³

The objective is to propose a model that countries can draw inspiration from when introducing their own domestic taxes, and perhaps obtain bilateral, regional and on a long term, global consensus on the employment of carbon taxes domestically utilizing a credit system on cross border transactions. The purpose of this project is hence to shift the focus from domestic unilateral solutions to a global multilateral consensus, and to provide low- and middle-income countries an opportunity to take part in those debates.⁴

The time is ripe for the analysis of a multilateral approach from a low- and middle-income country perspective. The Africa Tax Administration Forum is seeking guidance on the role of environmental taxes in development resource mobilization and transition into a sustainable growth pattern, more middle-income countries than ever have joined the Coalition of Finance Ministers for Climate Action, hosted by the World Bank, and there is a growing number of countries, particularly in Asia (i.e. Indonesia, Singapore, Kazakhstan) investigating the impacts of establishing a domestic carbon price. It is clear therefore that there is growing interest on unilateral and multilateral practices by LMICs, although there is still widespread lack of knowledge concerning the mechanisms that are available to tax carbon, and their impacts on LMICs.

The feeling of lack of awareness has been exacerbated more recently by the recent European Commission Proposal for a Carbon Border Adjustment Mechanism (CBAM), and the German proposal for a climate club. As high-income countries advance on the carbon pricing debate, a knowledge gap is created between countries with different levels of development. The introduction of a MCTT bearing into account the interests of both developed and developing countries, while emphasizing the needs of LICs and MICs, would have the effect of narrowing that gap.

The objective in suggesting a multilateral carbon tax model treaty is to strive to obtain consensus between policy makers, academics, intergovernmental officials and civil societies at this initial stage where carbon taxation is still incipient; is not widespread across the world, and still does not carry a mainstream approach. It is a process that would be particularly important for low- and middle-income countries to engage in because, were the MCTT to be accepted and negotiated in an international environment, it would provide them with the opportunity to take part in the negotiation process and instruct the carbon price floor that is to be adopted for the countries in their own categories of economic and social development. For now, the experts invited to contribute to the debate many of

³ Mirrlees, J. et al. (2011). *Mirrlees Review: Tax by design*. Oxford University Press, London. Retrieved from <http://www.ifs.org.uk/publications/5353>

⁴ See in this respect, the following primary documents: United Nations (1992). *Framework Convention on Climate Change*. Doc.FCCC/INFORMAL/84. June 4, 1992. United Nations (1997). *Kyoto Protocol to the United Nations Framework Convention on Climate Change*. December 11, 1997. United Nations (1997). *Rio Declaration on Environment and Development: application and implementation*. Report of the Secretary General, Fifth Session, 7-25 April 1997. Doc. E/CN.17/1997/8. UN Economic and Social Council, Commission on Sustainable Development. United Nations (2015a). *Adoption of the Paris Agreement, Doc. FCCC/CP/2015/L.9/Rev.1 (12 December 2015)*. Retrieved from <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>

whom will come from intergovernmental organization and academia are expected to reflect the views of low- and middle-income countries.

How to Design a Socially Fair and Politically Acceptable Carbon Tax in Belgium?

Research's Abstract

Carbon taxes are recognized as an efficient and effective solution to mitigate climate change. However, its adoption raises the question of its distributive impacts, in particular for low-income households, and especially if they rely heavily on fuels to heat their homes or drive their cars (we then refer to them as *energy-poor*). The Yellow Vests movement in France illustrates the topicality of this issue. Accordingly, the social and political acceptability of a Belgian carbon tax will depend on its socioeconomic impact. The purpose of this research is to evaluate the distributive impacts of carbon taxation in Belgium. To this end, we have developed a microsimulation model aimed at *ex-ante* evaluating the monetary effects on Belgian households of different fiscal reforms involving fuel taxation based on carbon content. Winners (or losers) of such reforms are identified as a function of their income and other sociodemographic characteristics. Econometric analysis is conducted to identify which factors are preponderant in predicting the budgetary impact for Belgian households. We find that the most important driver of carbon tax incidence in Belgium might not be income *per se* but underlying households' characteristics such as the type of heating system, car ownership and type of housing. We also quantify the magnitude of these effects and present them for different groups of interest (based on equivalent income deciles, poverty and energy-poverty indicators, *etc.*). In addition, the choice of revenue recycling is discussed as it is key in designing a budget-neutral fiscal reform whose impact on vulnerable households is limited. We show that the politically attractive lump-sum redistribution fairly compensates households on average. However, as intra-decile heterogeneity is important, targeted schemes would be more suited to better support households in (energy) poverty.

Short Biography

Audric De Bevere is a PhD student in Public Economics at Université Saint-Louis – Bruxelles and holds a Master degree from the Economic School of Louvain (Belgium). He is member of the Center for Applied Public Economics that develops the Belgian Arithmetic Microsimulation Model (BEAMM). Audric thrives on applied research projects that address critical issues of our time.

Keywords

Carbon tax, Microsimulation, Distributional impacts, Public Economics.

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Abstract submission
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Should the California-Québec carbon market be a model to emulate? A brief legal analysis of the model's linking arrangements

Carbon market, Western Climate initiative, linking arrangements, legal and institutional vulnerabilities

Jacques Papy, LL.D.

Are the Western Climate Initiative (WCI) legal and institutional arrangements, stable enough to provide the California-Québec carbon market with long-term predictability? Is the market safe enough to meet the reasonable expectations of all categories of participants? These questions arose when, in December 2020, Koch industries Inc. and Koch Supply & Trading LP filed a request for the institution of arbitration proceedings against Canada under Chapter 11 of NAFTA, and in February 2021, SMV Energy solutions initiated a class action before the Ontario Superior Court against the government of Ontario.

These legal actions stem from Ontario's abrupt withdrawal from the WCI's common carbon market in the summer of 2018. Beyond the specific situation of the plaintiffs, they highlight the vulnerabilities of the legal architecture of the WCI market, and in particular, the linking arrangements. While this market is regularly presented as a model to be emulated, particularly in the context of the implementation of Article 6 of the Paris Agreement, those vulnerabilities might be worth exploring.

Using, as a common thread, some of the arguments made by the plaintiffs, the study focuses on the legal and institutional arrangements of the California-Québec carbon market linkage. It includes an overview of the issues raised by the *Agreement on the harmonization and integration of cap-and-trade programs for reducing greenhouse gas emissions* signed by California, Ontario and Québec in 2017. The Study covers the agreement's characterization in public international law from a Québec standpoint, the scope of the obligations of the signatories including regarding accession and withdrawal procedures, as well as the differences resolution mechanism. It then addresses more broadly, the ability of the linkage arrangements to withstand fluctuations in the domestic law of a partner state, whether to accommodate the continuing transformation of a partner state's domestic environmental norms or to stand the regulatory upheavals resulting from political and judicial reversals.

Jacques Papy is a professor at the Law and Political Science Faculty, Université du Québec à Montréal (UQAM), where he teaches business organizations, corporate finance and business law. His current research focuses on the efficiency of rules governing emissions trading schemes. Prior to joining UQAM, Jacques Papy practised corporate and securities law in two of Canada's leading law firms. He is a member of the Québec Bar and holds an LL.D. from Université de Montréal and an LL.M. from McGill University.

“Political Appeal and Administrative Obstacles: Environmental Taxation in Sub-Saharan Africa”

Giovanni Occhiali, Elena Belletti and Diana Szpotowicz

Abstract

The term “Environmental fiscal reforms” (EFRs) describes the adoption of a range of fiscal instruments having as their tax base economic activities with an environmental dimension. Major international institutions have promoted EFRs since the early 1990s because of their potential triple dividend (increased revenue, reduced pollution, and reallocation of tax burden from productive assets).

However, the theoretical appeal of EFRs doesn’t always match the empirical reality of their applications in the Global South, especially in Sub-Saharan Africa (SSA). The few studies that review the status of EFRs in SSA stress the necessity of understanding both existing administrative obstacles and political economy barriers in their implementation.

This study aims at shedding light on the barriers and opportunities of EFRs in SSA, through a series of semi-structured interviews of selected revenue authorities and ministries of finance across the region. For this study, EFRs are considered in their broad definition, covering any tax on an environmental bad or its proxy, as well as on environmental goods, without requiring these measures to have an explicit environmental goal.

The barriers assessed will cover a number of dimensions, including practical and administrative concerns, political acceptability and demand for environmental measures within society, and the existence of institutional fora for discussion. We will also investigate whether policymakers and administrators consider the triple dividend (often the starting point for the promotion of EFRs amongst various international donors) as a realistic claim; and what environmental, revenue, and equity issues they see as most pressing.

Keywords: Environmental Fiscal Reforms; Tax Administration; Sub-Saharan Africa; Political Economy

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Dr Giovanni Occhiali is a Development Economist for the International Centre for Tax and Development, where he leads the Climate and Environmental Tax research stream and co-leads the capacity building program. He holds a PhD in Economics from the University of Birmingham and prior to joining ICTD, he was a Researcher at the Fondazione Eni Enrico Mattei and an Overseas Development Institute Fellow at the National Revenue Authority of Sierra Leone. His research focuses on Sub-Saharan Africa, and outside of the field of taxation his main interests are energy economics and industrial policies.

Elena Belletti, Wood Mackenzie, Head of Carbon Research

Elena Belletti is the Head of carbon research at Wood Mackenzie since 2021, where she works with energy-intensive industries to accelerate the energy transition. Her focus is on carbon pricing, carbon prices and the reduction of GHG emissions. Prior to joining Wood Mackenzie, she worked at the United Nations on taxation and climate, advising senior government officials from low-income countries on the development of policies that generate revenues while protecting the environment. She also worked in the energy industry as an economist and consultant. She holds an MPA in Environmental Science and Policy from Columbia University and an MSc in Economics from Bocconi University.

Diana Szpotowicz, International Centre for Tax and Development, Communications Officer

Diana is a Communications Officer for the International Centre for Tax and Development, based at the Institute of Development Studies. Her written work has specialised in the anthropology of development, climate change, sustainable agriculture, environmental conservation, food waste, smallholder farmers, indigenous knowledge and plastic pollution. She holds an MSc Anthropology and Development Management from the London School of Economics and Political Science and a Bachelor of Journalism, High Honours degree from Carleton University in Canada.

Overcoming inequality and social vulnerability of carbon taxing: Estimating effects for the most vulnerable in Austria

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Abstract

23rd Global Conference on Environmental Taxation (GCET23)

We study the distributional, equity and emission impacts of a carbon tax in Austria and focus on vulnerable and deprived population segments. We extend previous studies by (i) including emission reduction in addition to economic and social indicators and (ii) quantifying the impacts for the most vulnerable groups as well as designing targeted compensating measures to overcome these vulnerabilities. We draw on pertinent literature and derive six different metrics of energy and fuel poverty. Methodologically, we apply the EASI demand system. It captures non-linear Engel curves and heterogeneous preferences, which are both crucial to estimate energy consumption. CO₂ emissions are calculated from a demand-side perspective and comprise the CO₂ emissions emerging directly and indirectly in the household sector.

By simulating two carbon taxation scenarios we find that focusing on the potential regressive nature with respect to income classes strongly underestimates the impacts for vulnerable households. Fuel and energy poor households are affected the most and by taking a closer look, we find that the severity of effects depend on several characteristics: (i) welfare loss is higher in rural regions than in urban areas, (ii) the age of household members matters, with elderly households more harmed than younger ones, due to the heating system used and the age of the building, and (iii) couples with children are disproportionately more affected, mainly due to the increase in fuel costs. Turning to elasticities, we find that energy poor and low-income households have smaller own-price elasticities in case of heating and electricity than more affluent households, while the own-price elasticity for motor fuel is much larger. We tested several designs of cash transfers to support households and show that carbon tax inequities could be offset at reasonable cost relative to total carbon tax revenues. Transfer schemes focusing on household size or on particular vulnerable population segments show the strongest effects in terms of equality, proportionality of the tax burden and welfare.

Keywords: household energy demand, carbon taxation, microsimulation, distributional effects

V. Kulmer is a post-doc scientist with an international background in the field of economic impact assessment of environmental policies and technologies. She has advanced knowledge in mathematical modelling, computable general equilibrium modelling and empirical policy analysis. Her research interests comprise climate and energy policy related issues as well as challenges and their potential impacts on the economy and environment. Trained as an economist, her current research focuses on climate change mitigation measures and low carbon transformation of the household, transport and energy sector.

China's Environmental Protection Tax : An Effective Instrument for Strengthening Green Development of Firms

Fei LIN; Ping GAO

Abstract: The EPT was the first independent tax with environmental protection as its policy objective in China, and it represents a major breakthrough in the construction of a green tax system. The paper discusses the role of China's EPT in facilitating green development from micro perspective. The paper is divided into three parts:

First, this paper analyzes the impact mechanism of the EPT on firms. On the one hand, by comparing the EPT and original sewage charges, this paper verifies the institutional advantages and green effects of the EPT. On the other hand, based on classical theoretical hypothesis, this paper combs the direct and indirect influence mechanism of the EPT on companies green development.

Secondly, this paper empirically investigates the impact of EPT on corporate green development based on quarterly data of listed companies in Shenzhen and Shanghai in the heavy pollution industry from 2014 to 2020 by the Difference-in-differences (DID) model. And we mainly study the economic effect, innovation effect and green effect of the EPT.. It's found that heavily polluting firms in China feel the pain of the EPT obviously, and their companies' performance is significantly reduced in the short term. What's more, the EPT forces companies to engage in green innovation and pay attention to environmental management.

Finally, this paper suggests that China should continue to play the role of the EPT in guiding the green development of companies. In order to realize the environmental economic benefits of the EPT, China need to enhance the strength of tax and further improve the EPT reverse positive incentive and constraint mechanism. In addition, the capacity and level of collection and administration on EPT needs to be improved. Take advantage of big data in tax, and make use of the "green effect" of EPT by the principle "manage taxation by data".

Keywords: Environmental protection tax; Corporates green behavior; Sewage charges; Impact mechanism; Sustainable development

Short Bio:

Fei LIN, who graduated from Xiamen University in 2019, is a PhD candidate in taxation at Central University of Finance and Economics. Her research direction is environmental taxation and environmental economics. She is currently an intern in the Environmental Planning Institute of the Ministry of Ecology and Environment of China, participating in the preparation of China's environmental tax policy development report.

Ping GAO, received Ph.D. in Economics from Central University of Finance and Economics in 2009. She is currently a professor at the School of Finance and Taxation of the Central University of Finance and Economics, director of the tax department, certified public accountant, and certified tax agent. She lectured on tax law courses, focusing research on environmental taxation policies and participating in environmental protection tax legislation in China. She also has published monographs and papers on environmental

taxation in China.

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Call for Abstracts: The Green Growth Challenge

Author: Giulia Giaimis

Abstract:

The present paperwork aims to describe the critical aspects of “The Green Growth Challenge”, and to look for suitable fiscal instruments and/or policies to foster this growth. Before looking for solutions, though, it is crucial to take into account the stratification of problems that countries have already been addressing. In many States, like in Italy, historical issues have underpinned the difficulty to endorse a clear and coherent path regarding two pivotal themes, such as energy sources and waste management, strictly related to the overall fiscal system balance. Moreover, the predictions of future global migration waves caused by the green transition, and the following pressure on the social systems of the countries involved, will need to be considered in terms of required financial support. Against this backdrop, the present work investigates the possibility of borrowing the cycle concept introduced by the circular economy in order to deconstruct the production line, and even the supply chain, to incentivise or impose taxes on the single action, instead of considering the production process as a whole. Thus, managing imposition in order to control and reduce energy consumption. Charging the action instead of the person, physical or juridical, could be one of the steps towards an omni-comprehensive taxation, which would be, also, easier to apply homogeneously in different legal systems, since it would focus on tasks more than on subjects. Then, this paperwork focuses further on the final products to address the problem of global sustainability. Since many countries are introducing environmental protection as a principle in their constitutions, the calculation of the impact on the environment of a single product (good) during its predictable time of life, could be seen as the basis for a subsequent taxation. This would, probably, lead to the withdrawal of the upstream separation between green and non-green enterprises.

Keywords: environmental taxation, just transition, circular economy, sustainability.

Short bio: My name is Giulia Giaimis, I graduated in Law and I am a PhD student in “Business and Law” at the University of Brescia, and recipient of the PON scholarship. I have recently been selected as a Young Scholar for the ISLSSL 8th seminar, where I presented my paperwork on the Just Transition.

EUROPEAN UNION CARBON BORDER TAXATION AND ITS IMPLICATIONS TO THIRD COUNTRIES

Melih Poyraz & Amparo Grau

ABSTRACT

To fulfill the objectives in the European Commission's Green Deal initiative, in line with Paris Agreement, a Carbon Border Adjustment Mechanism has been proposed by the European Commission to reduce carbon leakage. Accordingly, the European Union will be charging a tax on imports of cement, electricity, fertilizers, iron and steel, and aluminum based on their carbon content. The tax will mirror the European trading Scheme Certificates. This paper will be comparing the EU CBAM with the US Proposal and the Canadian Consultation. The paper studies the effect of CBAMs on third countries and assesses it based on arguments of discrimination due to an inequitable burden. The paper concludes by underscoring that cooperative effort and fairness is the key to the successful implementation of carbon emission controls. Globally, in the light of the complexities of international trade developed countries should consider supporting developing countries with relevant technological, trade and financial aid for a just implementation of the CBAM. Otherwise, it will create undue burden on the companies which operate in developing countries which are already facing supply chain hurdles, rising material and freight costs and recession. Indeed, the CBAM proposal has created a lot of uncertainty and stress, not only on third States governments', but also on the corporate institutions operating in the developing countries.

Keywords:

Carbon Border Adjustment Mechanism, comparative Law, implementation, companies, developing countries

María Amparo Grau Ruiz is Full Professor of Financial and Tax Law, at the Complutense University of Madrid and Visiting Professor of Transnational Taxation, at Northwestern University in Chicago.

She has been a member of the United Nations Subcommittee on Environmental Taxation Issues from 2017-2021 and will continue as a member in the current mandate.

She is the Director of the Research Group "Law for Sustainable Development: socially responsible tax, labor and administrative measures" at the Complutense University of Madrid. She is a member of the Academic Committee at the University Institute for Environmental Sciences (IUCA-UCM)

<https://www.ucm.es/iuca>

She is the principal investigator of the AudIT-S project, on "Legal and financial significance of sustainability audit schemes through smart data management", funded by the Spanish Ministry of Science and Innovation,

<https://www.ucm.es/proyecto-audit-s/> She has led the CertificaRSE project, on "Legal-Financial Effects, And Control Of The Social Impact For Sustainable Development: The Role Of Labels", funded by the Spanish Ministry for Research and FEDER, <https://www.ucm.es/proyecto-certificarse/> And also the DESAFÍO

project on “Tax measures to promote socially responsible foreign investment”
<https://www.ucm.es/proyecto-desafio/>

She obtained her Law Degree at the University of Valencia, her MBA from the University San Pablo-CEU, and her PhD in Law at the Complutense University of Madrid. She is a corresponding Member of the Spanish Royal Academy of Jurisprudence and Legislation.

Some recent publications:

- a. Environmental robotics for a sustainable future in circular economies. *NATURE Mach Intell* 4, 3–4, 2022 (with F. O’Brolchain)
<https://doi.org/10.1038/s42256-021-00436-6>.
- b. Financing for SDGs: Toward a Responsible Public-Private Tax Approach, in Leal Filho W., Azul A., Brandli L., Özuyar P., Wall T. (eds): *Partnerships for the Goals. Encyclopedia of the UN Sustainable Development Goals*, Springer, Cham, 2020.
- c. Environmental Impact of Robotics: Ethical Concerns and Legal Alternatives, in Leal Filho W., Azul A.M., Brandli L., Lange Salvia A., Wall T. (eds) *Industry, Innovation and Infrastructure. Encyclopedia of the UN Sustainable Development Goals*. Springer, Cham, 2021 (with F. O’Brolchain). https://doi.org/10.1007/978-3-319-71059-4_147-1
- d. Sostenibilidad global y actividad financiera. Los incentivos a la participación privada y su control, Thomson Reuters Aranzadi, Cizur Menor, 2019, ISBN 978-84.1309-621-6.

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Pay-as-you-through charges as the keystone of circular economy (the Spanish experience)

Pedro M. Herrera Molina – Ada V. Tandazo Rodríguez

The Spanish parliament has recently passed a new Act on Waste and Contaminated Soil in a Circular Economy (Parliamentary Act no. 7/2022 of April the 8th) based on the EU Directive 2008/98/CE.

Among other provisions, it compels local entities to regulate waste charges based on pay-as-you-throw schemes, covering the entire cost of collecting, processing, and recycling urban trash.

Currently, not all Spanish local entities levy a charge for waste collection and management services. Furthermore, most existing charges do not cover the entire cost nor are designed according to pay-as-you-throw patterns. The new Act on Waste grants municipalities a three-year deadline to implement the new charges through local ordinances. Achieving this goal will be difficult, and the legislation does not provide specific consequences if the municipalities fail to enact the required charges.

According to the Waste Act, future fees may provide:

- Instruments to foster the separate trash collection regarding rental holiday homes.
- Allowances for home composting.
- Allowances for the use of clean points.
- Charge rebates for persons and families at risk of social exclusion.

The Act establishes a new tax on waste incineration and landfill to reinforce recycling. The primary taxpayers are municipalities. Therefore, they will foster residents and businesses to reduce the non-recyclable fraction.

Our paper will deal with the design of the new waste charges as an instrument of the circular economy and will propose the best strategies for their implementation.

Short bio:

Pedro Herrera is a Tax and Financial Law professor at the Spanish University of Distance Learning (Madrid, Spain). He has published a book and several papers on green taxation. Pedro chairs a research project on the environmental reform of local finances (Spanish Ministry of Science and Technology). He holds the Kreiser Award for Environmental Taxation (2018).

Ada Tandazo holds a Master's Degree in Environmental Sciences and a PhD in law. She is a lecturer in tax law at the Ramón Areces Center of Studies and has published a book on the taxation of forests. She contributes to the research project on the environmental reform of local finances chaired by Professor Herrera.

Keywords: circular economy, waste charges, pay-as-you-throw, municipalities, recycling.

TAX INCENTIVES FOR THE IMPLEMENTATION OF PHOTOVOLTAIC PANELS FOR THE BENEFIT OF THE RIVERSIDE POPULATION IN AMAZONAS, BRAZIL

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ABSTRACT

The present research has as theme the tax incentives for the implementation of photovoltaic panels to comply with the sustainable development policy of Agenda 2030, of the United Nations Organization. Thus, it considers the impacts of hydroelectric power plants on fauna and flora, as well as their multiple harms to society, especially to the traditional peoples of the Amazon who have a subsistence and natural conservation relationship with the forest. The methodology used

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is hypothetical-deductive, with the use of specialized national and foreign doctrine, as well as reports on the subject.

Keywords: Development, Public Policies, Environmental, Risks, Regulation.

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Italian Catalogue of Environmentally Harmful and Friendly Subsidies (EHS-EFS) (SAD-SAF): main findings from the fourth edition (September 2021)

2019-2020 data and estimates

Abstract

As required by the Italian Law on Green Economy and Resource Efficiency (L. 221/2015, art.68), a Catalogue of Environmentally Harmful and Friendly Subsidies (EHS-EFS) is compiled yearly. Here, data and estimates for 2019 and 2020 are presented. The Catalogue fulfills an informative purpose at the service of decision-making processes of policy-makers and stands as a knowledge base for the scientific community and civil society, spurring the debate around ecological fiscal reform. In drawing the boundaries of what is (or is not) a subsidy, it recalls the broad and accredited literature on the matter (i.e. WTO, OECD, IMF) and adopts the following final definition: a measure that keeps consumer prices underneath market level and producer prices above market level, or reduces costs for producers and consumers, via a direct or indirect (i.e. tax expenditures) financial support. In 2020, last year of analysis, 60 EHS were counted, corresponding to 21,6 mld €, of which 40 FFS (fossil fuel subsidies; 13,0 mld €). 44% of EHS, in monetary terms, accrue to the Energy sector; another 44% to the cross-sectoral VAT rebates. Transport sector accounts for 6%, same as Other subsidies. Only one EHS is observed in Agriculture & Fisheries (1,0 mln €). About 90% of EHS are indirect tax expenditures (19,9 mld €), or foregone State revenue, of which the largest sub-group are tax rate reductions. Between 2019 and 2020, an absolute net decline in the financial effect of EHS is observed (-12%). On the other hand, in 2020 EFS were 85, corresponding to 18,9 mld €, the largest part being incentives to cleaner energy technologies and energy efficiency. EFS worth grew by 8% between 2019 and 2020. Measures were also scrutinised in the specific domain of biodiversity: 103 measures, corresponding to 36,2 mld €, resulted harmful for biodiversity. In January 2022, 5 “low-hanging” EHS were suppressed and by June a full phase-out plan is expected.

Keywords: *environmentally harmful subsidies, fossil fuel subsidies, ecological fiscal reform, green economy*

Short group bio

The Catalogue was prepared for the Italian Ministry of Ecological Transition by the Environmental Economics team – Technical Assistance Sogesid S.p.A.

Authors and contributors to the fourth edition were: Nicolò G. Tria, Giulia Dramis, Federico Drogo, Luca Grassi, Mario Iannotti, Greta Lucaroni, Luisa Nenci, Antonia Oriani, Giulia Romano & Aldo Ravazzi Douvan (coordinator).

Besides the yearly work on the EHS-EFS & BHS Catalogue, the environmental economics team contributes to the Report on the State of Natural Capital in Italy. They also participate in, follow and give expert advice regarding the international key issues of ecological fiscal reform and sustainable finance. The team is also expanding its area of expertise to circular economy.

Full document is available at

<https://www.minambiente.it/pagina/economia-ambientale>

SILENT PARTNERS: ENVIRONMENTAL TAXATION AND ESG

Janet E. Milne

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Environmental, social and governance (ESG) perspectives have rapidly gathered speed and global reach over the past several years. Although often motivated by the desire to improve investor decision-making, ESG can also represent a broader ethic and understanding of the need for societal changes.

This paper focuses on the “E,” or environmental, component of ESG. It explores the relationship between environmental taxation and ESG’s environmental considerations. In working toward environmental protection, both share common characteristics. As environmental protection policies, they operate alongside but outside of traditional, environmental command-and-control regulations. They both send a strong educational signal that can influence behavior in environmentally positive ways. At the same time, they play very different but symbiotic roles. For example, environmental taxation instruments that effectively change behavior allow the private sector to show more positive results when they disclose ESG data on a voluntary or compulsory basis. Conversely, ESG programs may help policymakers develop stronger environmental taxation policies and build support for market-based environmental protection instruments.

Drawing on selected current ESG developments, the paper presents the relationship between environmental taxation and ESG as a silent partnership. The public ESG spotlight often places disclosures center front, but the more nuanced relationship between environmental taxation and ESG works quietly in the background. The paper considers how this relationship—the silent partnership—may have the capacity to improve environmental protection.

Keywords: environmental taxation, ESG, environmental taxes, environmental tax expenditures

BIO

Janet E. Milne is Professor of Law and Director of the Environmental Tax Policy Institute at Vermont Law School, USA, where she has taught environmental taxation since 1994. Publications include *Environmental Taxation and the Law* (J. Milne, ed.) and the *Handbook of Research on Environmental Taxation* (J. Milne and M.S. Andersen, eds.). She is a member of the GCET International Steering Committee for the Global Conference on Environmental Taxation (GCET), hosted GCET3 in Vermont in 2002 and co-chaired the virtual GCET21 in 2020. Before joining the law faculty, she served as tax legislative assistant to US Senator Lloyd Bentsen, Chairman of the US Senate Committee on Finance, an attorney at Covington & Burling in Washington, D.C., and an attorney for *The Washington Post*. She received her J.D. from Georgetown University Law Center and clerked for Frank M. Coffin, Chief Judge of the US Court of Appeals for the First Circuit.

FEES FOR ACCESS TO LOW EMISSIONS AREAS

This paper studies an environmental aspect of the Draft Law on Sustainable Mobility that will affect 130 municipalities with more than 50,000 inhabitants in Spain from 2023. Starting from the regulation it contains to implement low emission zones (LEZ) and the creation of a circulation fee, the different options are analyzed to reduce the problems of congestion, parking and pollution in these towns.

LEZ are a mechanism to reduce pollution without generating income if a total restriction is chosen, except for the penalties imposed. This makes sense for highly polluting vehicles, since the most serious behaviors must be sanctioned, excluding the ecological tax requirement or final charges.

Another alternative is to require a fee for vehicles that do not have the access specifications, when problems of congestion and pollution are tolerated, although undesirable. This makes it possible to combine to a greater extent the three development pillars of the 2030 agenda: economic, environmental and social. Thus, those vehicles that must go for economic reasons will be able to do so in a more flexible way than the restricted LEZ, and when due to social circumstances too such as residence in those areas, in both cases by paying a fee that would act as a limit on polluting emissions.

In this second case, it will be necessary to determine the type of levy (tax, fee, charge...), analyzing the advantages and disadvantages of one or another system. Starting from the basis that the Preliminary Bill intends to create a circulation fee, we will oppose it to a congestion rate with the positive and negative aspects of both. Finally, possible cases of exemption, the amount and the management mechanisms will be addressed, in which technology will play an essential role.

Keywords: low emission zone, fee, tax, congestion, circulation

“GREENING AT LAST? PROPOSALS FOR GREENING THE TAX SYSTEM IN BELGIUM”

Kris BACHUS, University of Leuven, Belgium

Wouter SCHEPERS, University of Leuven, Belgium

Belgium has never been a frontrunner when it comes to the use of economic policy instruments for the environment. In the past 20 years, proposals for a green tax reform made it to the highest political agenda several times, only to be stalled or severely watered down soon afterwards.

In the 2020 federal coalition government agreement, the Belgian federal government announced a new effort to reform the fiscal system, and supporting Belgium’s climate ambitions was one of the objectives of the reform. In 2022, the government commissioned a study to map the impact of several reform scenarios, and to put forward recommendations for the greening of fiscal policies. In this paper, the results and the policy recommendations of this study will be presented. The predominant focus will be on the part of the study for which the University of Leuven was responsible, which was the study of and proposals for greening existing fiscal measures, as well as proposing new ones. The paper will discuss the results of a qualitative Delphi study, based on 57 interviews conducted with 30 experts in two rounds. Furthermore, the paper will give an overview of the policy recommendations of the study overall, with a specific focus on measures in the following sectors and areas: industry and agriculture, transport, circular economy, financial sector and buildings.

Keywords: greening of fiscal policy, green tax reform, Belgium

Acknowledgments

Our research is based on a project funded by the Belgian Federal Finance Ministry.

Bio: dr. **Kris Bachus** is a research manager at the KU Leuven university. He leads a research team that executes policy-oriented research on environment-related themes. He did a PhD on the use of environmental taxation as a policy instrument. He also holds a master’s degree in applied economics and one in labour science. He has 24 years of experience in studies on environmental fiscal reform, sustainability of subsidies, circular economy, air pollution, sustainability transitions governance, green jobs, and climate finance. He is co-ordinator of the H2020 project ‘Pop-Machina’ on the maker movement and the collaborative economy.

Wouter Schepers is a senior researcher at the KU Leuven university with 10 years of experience in policy-oriented research by making use of both quantitative and qualitative research methods. He holds a master's degree in Policy Economics and International Politics with various courses in environmental economics. He mainly focuses on economic issues, mostly from a broader international perspective. His most recent research focused on proposals for greening the national fiscality by conducting a Delphi study based on 57 interviews with environmental experts.

Renewable Electricity in the EU - State of Play and Prospects for Regulation

Claudia Kettner and Michael Böheim

A shift towards renewable energy sources, especially renewable electricity, is one of the key pillars of the EU's planned transformation towards a climate neutral society. The planned phase-out of Russian gas imports according to the REPowerEU initiative further enhances the need for a shift towards renewable energy sources. Renewable electricity (RES-E) support schemes regulated under the EU's Renewable Energy Directive constitute the key instruments for the expansion of renewables. Other policy instruments, such as the EU Emission Trading Scheme, or the design of the electricity market also impact the profitability of RES-E investments or (renewable) electricity demand.

The imposition of a gas embargo as an effective economic sanction contrasts with the dependence of many EU member states on natural gas from Russian sources. The reduction of fossil energy sources leads to a strengthening of the strategic autonomy of the European Union. The expansion of renewable energy sources within the EU has the potential to not only make energy supply more environmentally friendly and economically sustainable, but also more politically resilient.

In this paper, we review the energy and climate policy documents for the period until 2030 at EU level focussing on changes in legislation that will impact RES-E generation. Based on a literature review as well as the processing of statistical data, a survey of RES-E policy and market developments in EU Member States is performed. For key RES-E technologies, a detailed quantitative data set is compiled that describes the historic trends for the period from 1990 to 2020 at Member State level. We analyse the extent to which the required changes have already been implemented and where further adjustments are still required. Finally, we discuss options how the EU's energy policy framework should be enhanced in the context of recent developments such as the war in Ukraine.

Keywords: renewable electricity generation, legal framework, EU

Short Bio Claudia Kettner

Claudia Kettner is Senior Economist at WIFO and has been working in the Research Group "Environment, Agriculture and Energy" since 2008. Prior to that position she worked as a researcher at the Weger Center for Climate and Global Change at the University of Graz and as a freelance researcher at WIFO and Joanneum Research, Graz. Her key areas of research include EU and Austrian climate and energy policy (with focus on the role of market-based instruments) and indicators for sustainable development. She holds a doctoral degree in Social and Economic Sciences from TU Wien, a Master's degree in Economics from the University of Graz and a Master's degree in Renewable Energies from the TU Wien.

Short Bio Michael Böheim

Michael Böheim is Senior Economist and has been working at WIFO since 1997 with special research focus on industrial, competition and regulatory economics and policy. He belongs to the Research Group "Industrial Economics, Innovation and International Competition". Since 2002 he acts as a certified expert witness to the Austrian Cartel Court and has been member of the Austrian Competition Commission from 2002 to 2018. He has more than 20 years of project relevant experience as a consultant and university lecturer as well as author of numerous publications on industrial, competition and regulatory economics and policy. Michael Böheim has studied economics, law and philosophy at University of Graz with research study visits in the UK and the USA. He holds Master's degrees in Economic Sciences, Law and Philosophy as well as a doctoral Degree in Economic Sciences.

CO2 tax – not in my backyard

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Abstract submitted to The 23rd Global Conference on Environmental Taxation

With the international commitments to cut CO₂ emissions by 50-70% by 2030 and 100% by 2050-2070, the search for cost-efficient tools is continuously ongoing. In theory, CO₂ taxes are one of the most efficient and simple tools. However, despite its nice economic properties, CO₂ taxes are not always preferred by the public and can have social inequality impacts. Another issue is that the CO₂ tax instrument can be substituted by other CO₂ reduction interventions, such as increased renewable energy like wind power. Nevertheless, wind power is also controversial, and the local acceptance of new, mainly onshore, wind power projects can be very low. In this paper, we test how these two issues are related. Using data from a national survey with 2,386 respondents, we test how the wind power landscape (number of turbines) where people live relates to the acceptance of CO₂ consumer taxes. Accounting for the many findings of decreasing acceptance of wind turbines with age, we also test if wind turbine landscape and CO₂ consumer tax relations are conditional on age (<51 years vs. >50 years). The average results show no relations. However, conditional on age, older respondents who can see many turbines from the residence are more *positive* towards consumer CO₂ taxes than respondents who see fewer turbines. In contrast, more turbines in the viewshed are *negatively* related to the acceptance of consumer CO₂ taxes among the younger respondents. First of all, our results illustrate the dynamic properties of support for CO₂ taxes. Secondly, our results also denote the complexity of substitution between acceptance of CO₂ consumer taxes and the wind power development across generations.

Keywords: CO₂ consumer taxes; acceptance; wind turbine pressure; age relations; wind power CO₂ tax substitution

Jacob Ladenburg is a Professor in Applied Economics in the Climate Economics and Risk Management Section at the Technical University of Denmark. Jacob's research is in three multidisciplinary areas: Preferences for and social acceptance of energy infrastructure and preferences for public good and services. He published several papers in high impact peer reviewed journals such as Journal of Environmental Economics and Management, Energy and Resource Economics, Journal of Choice Modelling, Energy, Applied Energy, Renewable and Sustainable Energy Reviews, Energy Policy, Ecological Economics among others. Citations to his works amount to over 2500 and he has an h-index of 22 (according to Google Scholar as of 07.06.2022).

Uğur SOYTAŞ is the Professor in Economics and Head of the Climate Economics and Risk Management Section at the Technical University of Denmark. His research is in two multidisciplinary areas: energy-economy-environment-society nexus and commodity-financial market links. He is the co-editor of Energy Economics and subject editor of Sustainable Production and Consumption journals. He is the lead editor of the Handbook of Energy Economics. He published several papers in high impact peer reviewed journals such as Energy Economics, Energy, Energy Policy, Ecological Economics, Journal of Banking and Finance, Journal of Commodity Markets, Journal of Policy Modeling, Technological Forecasting and Social Change, and Resources Policy among others. Citations to his works amount to over 10000 and he has an h-index of 36 and i10 index of 60 (according to Google Scholar as of 07.06.2022).

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IS THERE ROOM FOR GREEN TAXES IN CROATIA?

Abstract

In this paper the authors address the topic of environmental taxation in Croatia, the most recent EU Member State, and the challenges it faces in order to implement European and global standards of environmental taxation. With regard to environmental taxation, the Croatian system is rather distinctive as it encompasses many user charges and fees collected for various environmental causes. Additionally, it also includes a special extra-budgetary fund founded for inciting environmental projects. On the other hand, the real environmental taxes are underrepresented while only few environmental elements may be identified in only three of the taxes applied in Croatia. Therefore, the paper will provide a policy analysis and a normative analysis of the state of play and will identify the missing pieces of Croatian environmental tax policy puzzle. Also, the paper will address the fiscal elements of the EU Green Deal and examine the Croatian approach thereto. The legal analysis will be supplemented by a comparative analysis with the examples of best practices, resulting in recommendations which may assist the Croatian policy-makers in making the Croatian tax system more green.

Short bio

Prof. dr. Tereza Rogić Lugarić is an associate professor at the Faculty of Law, University of Zagreb, Department for financial law and financial science, where she also obtained her Masters and Doctoral degree. She published books and papers on public finance, budgetary law, tax law and fiscal federalism and also took part in many scientific conferences. In 2016 she was a visiting researcher at the Crawford School of Public Policy, Tax and Transfer Policy Institute, supported by the Australia Awards - Endeavour Fellowship and Scholarship.

Dr. Irena Klemenčić is a research and teaching assistant at the Faculty of Law, University of Zagreb, Department for financial law and financial science, where she also obtained her Doctoral degree. Her areas of interest include international tax law, European tax law and environmental taxation. She published papers, book chapters and took part in scientific conferences. Thanks to the Ernst Mach Grant, in 2016 she was a visiting researcher at the Institute for Austrian and International Tax Law.

Keywords: environmental taxes, user charges, tax policy, Croatia

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SHORT BIOGRAPHY

Marco Allena is currently Full Professor of Tax Law at Università Cattolica del Sacro Cuore di Piacenza, Faculty of Economics and Law.

He is actually President of the Master's Degree Course in Law (*Double Degree Law and Economics*), Member of *Agrisystem Doctoral School* since 2021 and Member of the Steering Committee of the Tax Studies Centre established at Università Cattolica del Sacro Cuore of Milan.

He spent research period abroad at Boston College, School of Law, MA, USA and at the "*Forschungstelle fuer Europaeisches und Internationales Steuerrecht*" of the Ludwig Maximilian Universitaet (Munich).

TITLE OF THE ABSTRACT – RESEARCH PROJECT

The title of the research project summarized in the abstract is as follows:

"Taxation as a tool for urban regeneration"

ABSTRACT

The triangular relationship between 1) urban regeneration, 2) environmental protection and 3) the use of *ad hoc* tax measures, represents a European and global perspective of action that could be addressed exclusively through policies - including fiscal measures - oriented towards the implementation of the aforementioned report. In this sense it is necessary (today more than ever) it is necessary to adopt fiscal policies aimed at improving urban fabric, making them sustainable and energy efficient.

In this context, taxation must play an absolutely central role and become a means by which to facilitate and encourage widespread urban regeneration. Reasoning in an Italian key, the fiscal policies that would seem - at least until today - to have characterized the relationship between taxation and urban regeneration seem to be characterized by their "exceptional" and "derogatory" nature the interventions with respect to the scope of ordinary taxation. In this perspective - reasoning at

least in an Italian key - it would seem to be already possible to highlight a first level of criticality, of a "systematic" type that is the lack of traceability of fiscal policies aimed at promoting and implementing regenerative actions of the urban fabric within the canons of ordinary taxation (be it direct or indirect).

That said, this research project is structured in a dual perspective of analysis.

In the first place, it is proposed to examine the current Italian regulatory framework by checking what are the tax provisions aimed, today, to encourage and implement urban regeneration.

Secondly, from a comparative point of view, proposes to study other experiences of a European and international nature in order to verify whether fiscal policies of urban regeneration have been adopted within other systems not only systematized within the framework of ordinary tax legislation but also more effective and widespread than the legislative experience (and tax) Italian.

KEY WORDS

Urban regeneration; Environmental taxation; Urban sustainability; regulatory systematization

A Comparative study on the taxation of waste disposal in Europe

Merve Ergun¹

Taxation can be used as a tool to promote sustainable waste management and recycling of industrial plastic, paper and glass; therefore, this article aims to assess the effectiveness of waste tax and its effects on waste generation and disposal in Europe.

Sustainable waste management is of particular importance for countries and requires effective investment and financing mechanisms. It can be argued that today's tax systems are asked to contribute to sustainable development by eradicating poverty, reducing inequalities and using tax incentives to reduce the amount of waste produced. This also means that tax systems, from time to time, may require to take more proactive *Pigouvian* roles. For instance: it is argued that Italy's tax on waste (Ia Ta.ri) should be updated because waste taxes should not only finance the service taken by the users (taxpayers), but also promote recycling and protect the environment and human health. Another example can be the EU's plastics tax. As part of the EU's Green Deal and by virtue of the EU Directive on single-use plastics, taxes on industrial plastic waste and incineration taxes should be supported. Besides, the Directive 94/62/EC on packaging and packaging waste and the Directive (EU) 2018/852 which amends this directive are other important legal instruments in this regard.

Collection of waste tax is mostly under the responsibility of local authorities, and these authorities may opt different methods, such as: Unit-Based Pricing (UBP) and pay-as-you-throw (PAYT) schemes, while calculating the amount of tax to be collected. Pigouvian taxes intend to discourage consumption of products that affect society and/or environment hazariously; therefore, taxation on non-recyclable consumption and Pigouvian taxes should be comparatively evaluated.

Key Words: Pigouvian Taxes, Waste Tax, Taxation in Europe

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PROFILE / Short Biography

Merve Ergun is a PhD Student in Civil Law & Constitutional Legality at the University of Camerino and a fully qualified lawyer registered with the Izmir Bar Association. Merve specialises in tax law, renewable energy law and complex commercial dispute resolution. Thanks to her professional and academic experiences in Turkey, Austria, Germany, the UK, Belgium and Italy, she is highly experienced in arbitration and familiar with practical knowledge in interpreting and applying the relevant laws.

She holds an LLM degree in International Commercial Law with distinction from the UK and LLB and BA degrees from Turkey. Merve has excellent command of Turkish and English and limited working proficiency in German and French. She can be reached by email at merve.ergun@unicam.it.

Merve Ergun

Turning cryptocurrencies green – tax policies that may accelerate change

Martyna Jermalonek

Cryptocurrencies often break the news in three contexts- the volatility of their value, new shopping opportunities, and growing concerns about their environmental impact. In recent studies, bitcoin's yearly carbon footprint is comparable to the carbon footprint of the Czech Republic (114.06 Mt CO₂) and its electrical energy consumption to the power consumption of Thailand (204.50 TWh). Despite its flaws, a cryptocurrency may be used to buy nearly anything, from groceries in the Netherlands to a mansion in the United States. Still, many countries have not yet introduced legal and tax frameworks answering the specifics of the cryptocurrency market.

The lack of local regulations allows the adoption of a unified, complex tax policy rewarding greener behaviours within the cryptocurrency market. The introduction of appropriate tax incentives and disincentives appears as the easiest path toward sustainability. In particular, since recent developments at the European Union level show that cryptocurrencies will not be subject to minimum environmental standards clause under the new Markets in Crypto Assets draft legislation.

The objectives of this paper are as follows: (1) investigate existing tax provisions concerning different stages of cryptocurrency trading - from mining to the final sale, (2) evaluate them from the perspective of their potential to induce market participants to adopt environmentally friendly behaviours, and (3) formulate recommendations concerning mechanisms and incentives that may lessen the negative environmental impact of the cryptocurrency market, e.g., by making high energy consumption economically inefficient.

Identification of tax provisions already implemented in selected countries, and formulation of the recommendations concerning ecologically friendly tax mechanisms was conducted with the use of comparative legal analysis, formal legal analysis, and desk research methods. The evaluation model applied to assess the regulations was developed utilising the literature review.

Keywords

cryptocurrency, tax policy, proof-of work, energy consumption

Biographical information

Martyna Jermalonek is a law graduate and an international tax law practitioner focused on cross-border transactions and corporate structuring. She gained experience working for an international consulting company from BIG4, and local law firms, where she participated in projects covering the taxation of cryptocurrencies and other digital assets. Her research interests are digital service tax initiatives and the impact of taxing rights allocation on tax avoidance. She conducts workshops on tax law for entrepreneurs and NGOs.

Experience with the Implementation of Sustainable Development Goals (and Green Tax Reform) in Western Balkan and Slovenia

Associate Professor Aleksandar Kešeljević and Associate Professor Matjaž Koman
School of Economics and Business
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Abstract

European Union as a whole has made in the last past 5 years (data are mainly based on 2014–2019 and therefore do not yet fully capture the COVID-19 and Ukraine crisis) respectful progress toward **sustainable development goals**. Substantial progress was achieved in fostering peace, access to justice and trust in institutions. Significant progress was also achieved in reducing poverty and social exclusion and in improving the health situation. In the article we will show, how successful Slovenia and Western Balkan countries (North Macedonia, Montenegro, Serbia, BiH) have been in implementing social development goals.

Global (UN Agenda 2030) and regional initiatives (EU) set the broader world context within which a country should develop and implement its own sustainable development strategy. Governments should implement the SDGs on a **national level** by embedding them into their national development strategy rather than designing a separate parallel process. In the article we will present how to include global SDGs in the preparation of the national development strategy of the country based on **Slovenia's experience** towards this end, problems that arised in the formulation of national strategy if they take SGD's goals as their starting point and challenges in linking SDG strategy to the budget (the issue of funding, program budget).

Experience from Slovenia shows that strong political commitment and proper political ownership of the SDG's by the government is the most crucial step towards SD. In order to successfully address and integrate the SDG's a whole-of-government approach is necessary with a clear top-down political commitment. Slovenian government also identified ten key projects to be implemented during mandate and in line with their SDG strategy (project office). This should be upgraded by building sound partnerships between government and stakeholders and with budget in accordance with national SDG's (program budget, **green tax reform**).

The main goal of the **green tax reform** is to yield a **double dividend**. Environmental dividend involves reduction in emissions, while economic dividend has to do with improved cost competitiveness, higher growth, and higher employment. In the article we will analyse the potential effects of the introduction of a new green tax relative to the baseline projection (in which no tax is introduced). In the second section, we will analyze the effects of different forms of tax revenue recycling, either through a decrease in the budget deficit or through a decrease of social security contributions payable by either the employers or the workers.

Key words: Sustainable development, SDGs, green tax reform, double dividend

Matjaž Koman is an Associate Professor of Economics at the University of Ljubljana, School of Economics and Business. He got his PhD from University of Michigan and was Visiting Researcher at Columbia University (USA) and National University of Singapore. His research

focuses on economics of transition and labor economics, with special emphasis on firm behavior and firm's productivity issues. He published a number of articles, among them also in *Journal of Comparative Economics* and *Eastern European Economics*. He was also involved in several national and international projects. He teaches microeconomics, managerial economics, and mathematics for economists.

Aleksandar Kešeljević is an Associate professor of Economics at the University of Ljubljana, School of Economics and Business, where he teaches Macroeconomics, Comparative Analysis of Economic Systems and Environmental Economics. From 2020 he also works as a visiting professor at Venice International University. He is the author of numerous scientific and professional papers and a member of several professional associations and international organizations (Global Strategy Group at the OECD 2014-2018, Expert of the Court of Audit, Member of the European Economic Association). He received his PhD from the Faculty of Economics in Ljubljana in 2004. During his doctoral studies in the 2000/2001 academic year, he was a visiting doctoral student at Columbia University, New York. Between 2014 and 2018, he served as an advisor to the Prime Minister of the Republic of Slovenia on economic policy, economic affairs and infrastructure.

GREEN GROWTH IN TRANSPORTATION: POLICIES AFFECTING ELECTRIC VEHICLE ADOPTION IN THE U.S. AND EUROPE

Roberta F. Mann

Diane Kraal

With greenhouse gas emissions (GHGs) from electricity generation declining across the developed world, transportation is becoming the top GHG emitter. While light-duty electric vehicles are far from a panacea for climate change, governments are increasingly considering promoting adoption of electric vehicles (EVs) through policies such as CO₂ performance, bans on the sale of new petroleum powered vehicles, and tax incentives.

In the United States, EVs gained significant market share in recent years, spurred by the adoption of a tax credit for electric vehicles in 2008. In 2010, 300 fully electric vehicles were sold in the U.S. By 2019, a total of 840,000 fully electric passenger vehicles have been sold in the U.S., with over 150,000 Tesla Motors EVs sold in 2019 alone. Tax expenditures for electric vehicles, from 2011 through 2017, measured by estimated foregone revenue, totaled \$2.2 billion.

In Europe, incentives include EV purchase subsidies for individuals and business, VAT concession, exemptions from stamp duty, and exemptions from vehicle registration charges. Norway has been particularly successful in incentivizing EV use.

While the environmental benefits from reductions in GHG emissions make EVs a green choice, EVs place additional burdens on electricity generation and transmission and require upscaling charging infrastructure. Reducing the number of vehicles using petroleum will reduce revenues from fuel taxes. This Article will assess the effect of policies that encourage the use of EVs on these issues as well as considering other policy responses to the challenges more wide-scale adoption of EVs create.

Key words: Transportation; electricity generation

Biographical note: Roberta Mann (presenting author) is the Mr. & Mrs. L.L. Stewart Professor of Business Law at the University of Oregon. She has been an enthusiastic participant at GCET conferences for many years.

Diane Kraal is Senior Lecturer at Monash Business School, Monash University. She has written extensively on transportation issues, particularly on the transition to EVs in Australia.

CIRCULAR ECONOMY AND DECARBONIZATION: ECONOMIC EFFECTS OF RECYCLING LITHIUM-ION-BATTERIES

Ina Meyer, Mark Sommer

The transformation to a low-carbon economy based on renewable energy technologies will lead to a significant increase in demand for raw materials. Austria aims at being climate-neutral by 2040, which has a direct impact on the demand for battery-powered vehicles, among other things. The rapid growth in battery production leads to considerable material flows via the resource-intensive value chain. To produce lithium-ion batteries (LIB), an exponentially increasing demand for the functional materials lithium, cobalt and nickel, among others, is forecasted. But the supply of primary raw materials requires considerable energy input for mining and processing itself. Recycling of LIB at their end-of-life is considered an effective strategy to manage future waste streams, and to provide secondary materials for further battery production, which are significantly lower in energy-intensity.

To be climate-neutral by 2040, the stock of battery-powered vehicles would have to increase substantially. For passenger cars, this could be an increase to over 5 million electrically powered vehicles in a maximum scenario for Austria. Due to the limited lifetime of batteries, this could result in a growing flow of end-of-life lithium-ion-batteries (EoL-LIB) of up to 144,000 tons per year in Austria, which would have to be treated. The study analyses the economic impact of a domestic collection, treatment and recycling of LIB. The evaluation of the necessary investments and the operating costs show that the profitability of recycling plants depends on the sales price, i.e., on the international raw material prices. In case of low-price development, the profitability of domestic recycling plants must be ensured by charging disposal costs at the rate of 0.185 € per kg EoL-LIB. The overall economic effect is positive in each of the three price developments examined. Last but not least, the recycling of LIB contributes to public goods such as climate protection and resource security.

Keywords: electromobility, lithium-ion batteries, recycling, circular economy, climate mitigation

Short Bios:

Ina Meyer is a senior economist at the Austrian Institute of Economic Research (WIFO) specialized in the field of climate mitigation, circular economy, and energy-economic impact analyses considering interdisciplinary and transdisciplinary research methodologies. Her research focuses on policy-relevant and application-oriented analyses in resource efficiency and decarbonization. Ina studied economics at the Free University of Berlin and received her doctorate degree from the University of Potsdam in close collaboration with the Potsdam Institute for Climate Impact Research (PIK).

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Mark Sommer is a senior economist at the Austrian Institute of Economic Research (WIFO). He is expert in macroeconomic multisectoral modelling and the linkage thereof to the energy system. His key research area is energy, emissions, renewable energy technologies, circular economy and the associated material flows using economic models (extended or econometric Input-Output models as well as CGE). He received his master's degree in Environmental Systems Sciences (key area Economics) at the University of Graz and finished the doctoral program of the social sciences at the Technical University of Vienna.

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Abstract proposal for the 23rd Global Conference on Environmental Taxation (GCET23)

September 21-23, 2022, Parma, Italy

Arianna Molinaroli

Bio

Arianna Molinaroli graduated *cum laude* at Università Cattolica del Sacro Cuore in 2017 discussing a thesis in the field of international taxation. Working for the following four years as tax consultant in tax law firms and qualifying as chartered accountant has allowed her to acquire in-depth knowledge both of the Italian tax system and international taxation, as well as strong analytical skills. In September 2021, moved by her passion for research, she applied to and won the Ph.D fellowship offered by her alma mater, with a research project concerning the role of environmental tax measures as key policy instruments for enhancing the so-called green transition in Italy.

Title of the abstract – Research project

The NRRP as opportunity for an environmental reform in Italy: focus on carbon pricing.

Abstract

Tax measures, in the form of taxes and beneficial tax incentives, have been proven to be effective in successfully incentivising behavioural change and, consequently, achieving policy goals. Accordingly, environmentally-related or green taxes can help, as part of a broader policy mix, to make societies and economies more sustainable and environmentally friendly. As a matter of fact, governments resort to different types of tax measures with a varying degree of success due to the complexity that policymakers face when aiming to deep societal change.

Fitting environmental taxation into a wider fiscal reform is what the Italian government is pledging to pursue with its National Recovery and Resilience Plan (NRRP), which draws its inspiration from the EU Country-Specific Recommendations and aims to thrive out of the post-pandemic phase of COVID-19, relaunching national development and spurring sustainable economic growth. Tax reform along with NRRP resources can help accelerate the shift towards a carbon-neutral economy and encourage investment. Nonetheless, NRRP addresses the fiscal reform as an “accompanying reform”, so that it consequently gives an ancillary nature also to the environmental fiscal reform.

That being said, this research project proposes, first of all, an initial scoping of the current framework concerning environmental taxation in Italy, with particular attention to carbon pricing instruments adopted so far and pinpointing taxes that hinder growth as well as environmentally harmful subsidies. Secondly, it explores the effects of market-based environmental policies. Thirdly, it examines the possibility of introducing a carbon tax to complement the existing emission trading system, aiming to achieve a decarbonised economy.

Lastly, it explores the options for revenue use, i.e., how the revenue from higher effective carbon rates can contribute to strengthening the competitiveness of the Italian economy, drawing on other EU countries’ practices and approaches, yet taking the specific Italian context into account.

Key words

Tax reform, Italian NRRP, policy mix, carbon pricing, carbon tax.

Managing a Melting Menace: Strategies for Methane Mitigation

By Nancy E. Shurtz

The recent Glasgow COP26 Conference produced numerous ambitious international group pledges to dramatically reduce emissions that contribute to global climate change. Amongst these was a pledge joined by the U.S., E.U. and 103 other nations to reduce global methane discharges by 30% from current levels by target year 2030. Methane contributes one-fifth of greenhouse gas emissions into the atmosphere, but its molecular construction allows it to generate up to 80-times more thermal energy than carbon dioxide. Methane is produced through various processes such as fossil fuel extraction, industrial chemical conversions, landfill content decay, water treatment and the like. A new danger has emerged recently with massive releases of methane in the melting permafrost regions of the Arctic.

The Biden Administration has revamped methane containment policies that had been abandoned by the preceding Trump White House. The current Administration has authorized the Environmental Protection Agency to enforce restrictions on methane emissions attendant to oil and natural gas extraction under the Clean Air Act. As part of his proposed "Build Back Better Act," President Biden has also proposed a "methane fee" as an additional curb on future emissions. However, this proposed levy would be imposed only on domestic oil and gas production and not apply to agricultural processes.

Much more needs to be done—and quickly. My paper will explore a broader range of international and domestic policy options aimed at accelerating the transition away from fossil fuel dependence as well as reducing the methane emission from agriculture, which both contribute to the ongoing menace caused by permafrost melting in the Arctic. It will assess economic, equity, practical and political considerations as they relate to realistic attainment of the Glasgow 2030 goals.

NANCY E. SHURTZ, the Bernard A. Kliks Professor at the University of Oregon School of Law, received her B.A. from University of Cincinnati, her J.D. from Ohio State University and her LL.M. in taxation from Georgetown University Law Center. Before coming to Oregon, she taught at the Wharton School of Business at the University of Pennsylvania. Before that, she practiced with the law firm of Ginsburg, Feldman and Bress in Washington D.C. Professor Shurtz teaches in the areas of taxation, estate planning, and sustainable business and has written and spoken extensively in these three areas. Professor Shurtz is currently the book review columnist for the Estate Planning magazine and Senior Editor of the Books & Media Committee of the Real Estate, Trust and Estate Law Section of the American Bar Association. She has recently co-authored a book with Judd Snierson on Sustainability and Business Law, published by Carolina Academic Press.

The impact of the EU Carbon Border Adjustment Mechanism and the presence of cross-hauling: the case of Italy

Carlo Orecchia, Gionata Castaldi

One instrument to reach the 55% GHGs reduction by 2030 at the EU level is to reinforce the effectiveness of the EU ETS (Emissions Trading System) by reaching higher carbon prices over time. This should be possible through the phase out of current free carbon leakage provisions of the ETS and the auctioning of all emission allowances. However, this reform increases the risk of carbon leakage in EU countries, i.e. the relocation of investments in countries with no or little carbon pricing or the replacement of foreign products coming from countries with less stringent climate policy action. For these reasons, the EU is considering the introduction of a EU Carbon Border Adjustment Mechanism (CBAM) on imports of emissions intensive and trade exposed (EITE) industries. This measure should contrast carbon leakage while encouraging foreign countries to increase their level of ambition in climate policies. This paper explores the macroeconomic and trade effects of introducing CBAM on EITE industries in Italy under different policy scenarios. The role of export rebates in fostering competitiveness in foreign markets, when coupled with import adjustments, is also analysed in the paper.

The interest for the Italian case is motivated by different factors. First, international trade flows of EITE products reveal the presence of cross-hauling (the simultaneous exporting and importing of one and the same type of product). Second, there are only few studies that analyse the impact of CBAM for Italy on these specific products and sectors.

Preliminary results using a suitably built global computable general equilibrium model (CGE) suggest that CBAM improves competitiveness, reducing the effect of carbon leakage with respect to the current EU-ETS system.

Keywords: Computable General Equilibrium Models, Trade Policy, Environmental Taxes and Subsidies, International Fiscal Issues

Gionata Castaldi is currently Economist at the Italian Ministry of Finance. He was Senior Economist in Environmental Economics at the Italian Ministry of Environment – T.A. Sogesid. He started his work in the Environmental Economics Unit on January 2016. His specific areas of interests and activities include environmental fiscal reform, natural capital and accountability, sustainable finance, environmentally harmful subsidies.

He is Vice-President OECD Working Party on Integrating Environmental and Economic Policies (WPIEEP). He is the Italian delegate at WPIEEP and the Joint Meeting of Tax and

Environment Experts (JMTEE) at OECD. In 2012-2015, he was a full-time Ph.D. student in Environmental Economics at the University of Rome “Tor Vergata” and achieved his Ph.D. in March 2018.

Carbon Markets in Brazil: Legal and Institutional Issues

Abstract:

Brazil still lacks satisfactory regulation of the carbon emissions market. The creation of the Brazilian Carbon Emissions Market (MBRE) is foreseen in the national law that established the National Policy on Climate Change (Law 12.187/09), in accordance with the Kyoto Protocol. The proposals on the subject intend to regulate the main aspects of this market, such as the legal nature, certification and accounting of carbon credits. Another relevant aspect is the possibility of creating a mandatory national program for offsetting Greenhouse Gas (GHG) emissions. There will also be an incentive to the MBRE by means of exemptions from PIS, Cofins and CSLL in the voluntary market transactions. Several questions, as well as the analysis of international experience, are fundamental for the establishment of solid bases for the efficient and appropriate regulation of this new market.

Keywords: Environment; Carbon Market; Taxation; Extrafiscality.

Short Bio:

Paulo Caliendo: graduated in Law from the Faculty of Law of the Federal University of Rio Grande do Sul - UFRGS (1992), Master in Law from the UFRGS (1996) and Doctorate in Law, in the area of Concentration of Tax Law, from the Pontifical Catholic University of São Paulo - PUCSP (2002), Sandwich Doctorate at Ludwig-Maximilians Universität in Munich (Germany) (2001), as well as Doctorate in Philosophy from the Pontifical Catholic University of Rio Grande do Sul - PUCRS (2021). He participated in the Program of Instruction for Lawyers at the Harvard Law School (2001). Arbitrator of Brazilian List of the Mercosur Controversy System. He is currently a permanent professor at the PUCRS. Author of the finalist work for the Jabuti Prize “Tax Law and Economic Analysis of Law” and of the work “Tax Law: three ways of thinking about taxation”.

Victória Maltchik Salles Jung (25 years old): Master’s student in Law at PUCRS (CAPES TAXA scholarship holder) and member of the Advanced Research Group in Tax Law - GTAX. She has knowledge in German, English and French, having been a volunteer translator at UC Berkeley and UNV Online Volunteering service in 2016. In the period 2020-2021, she was a PIBIC/CNPq Scientific Initiation Scholar. She published the book chapter “Brazil-Germany cooperation in the energy sector: from nuclear potential to photovoltaic capacity”. Currently, she awaits the publication of the book chapter “Tax incentives for photovoltaic energy: a comparative study between Brazil and Germany”.

HOUSING POLICY AND SUSTAINABLE URBAN GROWTH

Paulo Carvalho

Abstract: Urban sprawl is a phenomenon that negatively affects urban fabric and the environment. Housing is one of the most relevant driving forces of urban sprawl. Families have been increasingly looking for single-family houses in monofunctional developments located far from urban centers, especially in the US. This behavior contributes to the fragmentation of urban spaces and leads to more resource-intensive lifestyles. Urban fragmentation reduces population density, segregates communities, weakens mass transit policies and increases emissions that are detrimental to the environment. Moreover, the tendency towards single-family house developments has an effect on the supply of affordable dwellings. Urban policies can be devised to foster sustainable urban growth and control sprawl and its externalities. In this sense, housing policies can specifically promote multi-functional developments and mitigate the excessive occupation of land by single-family house developments. Property taxation is one of the instruments that drive housing policymaking. However, property taxes often ignore the negative impacts of urban sprawl and the expansion of single-family housing, especially the costs to the environment. This paper explores the idea that property taxes can help shape housing policies that promote sustainable urban growth. In other words, housing policies that encourage high-density developments that can help harness the environmental consequences of urban sprawl.

Keywords: urban sprawl, sustainable urban growth, sustainable urbanism, housing, single-family housing

Paulo Carvalho:

- Brazilian tax lawyer
- LL.M. in Taxation 08 at Georgetown University Law Center
- LL.M. in Environmental Law 22 at Vermont Law School
- PhD in Public Policy 27 (expected) at George Washington University

Analysis of energy taxation in the European Union and Spain
Teresa Puchol Tur

Topic: Energy taxation

Keywords: taxation, energy, European Union, environment, objectives

Abstract:

This communication aims to analyze the current taxation system of the European Union and Spain.

Energy taxation at a European level is regulated by Directive 2003/96/CE OF THE COUNCIL of October 27, 2003, which restructures the community regime for the taxation of energy products and electricity.

First, the general rules established in the directive will be analysed. After a general analysis of the directive, the main problems will be presented, for environmental effects that are observed in the Directive and different proposals for modification will be presented to achieve the environmental objectives that are intended to be achieved in the Union.

On the other hand, the taxation of energy in Spain, its problems and possible solutions from an environmental perspective will be studied. The taxation of energy in Spain is basically taxed through special taxes. Indeed, electrical energy is taxed through the special tax on electrical energy, and hydrocarbons (gasoline, diesel, gas, etc.) is taxed through the special tax on hydrocarbons. Although special taxes are its main tax, there are another series of taxes in Spain, both at the state, regional and local levels, which are levied on energy taxation. It is intended to expose in detail the different taxes that exist and propose different proposals to improve their taxation in order to protect the environment.

Short Bio:

Teresa Puchol Tur is 25 years old; she has a degree in Economics from the University of Valencia and has completed a Master in Business Law, Commercial, Labor and Tax Consulting, also at the University of Valencia. She has focused her study on corporate tax and environmental taxation. She is currently the beneficiary of a scholarship for the training of doctors and is doing a Doctorate in Law, Political Science and Criminology at the University of Valencia, where she has already started her study on taxation. She has different publications on environmental taxation and his work on The Future Spanish Tax on Non-reusable Plastics can be highlighted.

GCET23

Global Conference on Environmental Taxation

September 21-23, 2022, Parma, Italy

SHORT BIOGRAPHY

Andrea Purpura is currently a Postdoctoral Research Fellow in Tax Law at Università Cattolica del Sacro Cuore of Piacenza. He received a PhD in Economic, Business and Legal Sciences from Università degli Studi di Enna Kore.

He discussed a doctoral thesis entitled "*Creation of value, digital economies and taxation of new ability to pay indexes*".

He was visiting researcher at Max Planck Institute for Tax Law and Public Finance (Munich) and at the International Bureau for Fiscal Documentation (Amsterdam).

TITLE OF THE ABSTRACT – RESEARCH PROJECT

The title of the research project summarized in the abstract is as follows:
"Taxation and sustainability in the ESG context: what perspectives?"

ABSTRACT

The concept of "*sustainability*" declined in the tax field goes, today, beyond the traditional connection between the concept of protection and environmental health also identifying itself in the ability of a society to create value in the long term in relation to three, distinct, dimensions : "Environment" (*Environmental*), "Social" (*Social*) and "Government" (*Governance*).

In this sense, the acronym "ESG" has recently begun to be used. The latter aims to identify the adoption of organizational tools suitable for monitoring, managing and directing the impact of the company both on the social community where the same work and on the surrounding environment.

In this context, the need to verify the coherence of the international tax framework has arisen within international fora (at the level of agreements between OECD countries as well as from the strictly strategic point of view attributable to the European Union) with an increasing attention paid to the tax implications related to

the ability of companies to position themselves as transparent and reliable interlocutors towards the organizations with which, in the exercise of their business activities, they come into contact. Assuming as a prerequisite of the research the circumstance for which in the relationship between taxation and sustainability the first one could play a key role becoming a tool through which orient company policies towards choices "ESG compliant", the purpose of this research project is to verify two distinct - but interconnected - profiles:

(i) *in primis*, whether fiscal leverage has been used, until now, considered as a potential incentive tool for potential stakeholders to adopt corporate policies consistent with the aims of environmental and social protection posed by ESG;

(ii) *in secundis*, evaluate possible lines of legislative intervention aimed at enhancing, where appropriate, the role of taxation as an incentive tool the use of policies inspired by ESG principles (and, at the same time, deterrent the deviation from them).

KEY WORDS

ESG; Environmental protection; Sustainable investments; green growth

GREEN TAXATION AS A VARIABLE INDUCING THE DEVELOPMENT OF THE ECOLOGICAL EXISTENTIAL MINIMUM

Roney Sandro Freire Corrêa

ABSTRACT

This article aims to address the issue of environmental taxation as an element inducing the development of the ecological existential minimum, from the theory of fundamental rights, covering the content of human dignity in accordance with environmental sustainability.

This minimum finds its limitation in freedom and budgetary costs, but projects the State to the duty to achieve the protection of the most vulnerable, both through human dignity and in the permanent rescue of citizenship, under penalty of deepening the deficit of environmental sustainability.

Specifically in the Brazilian case, it stands out for its perplexity. In 2021, according to data from the Brazilian Institute of Geography and Statistics (IBGE), there were more than 13 million people in extreme poverty and almost 52 million in poverty.

In this way, the acceleration of the entropy process of the economic system becomes an insult, condemning a large part of this population to the margins of human dignity, consequently evidencing itself in several environmental problems.

By giving an environmental dimension to the existential minimum, the main objective of this research is to verify if environmental taxation can be one of the contributions to promote this inclusion and guarantee a healthy environment. The central question is whether environmental taxation will be able to protect the existential ecological minimum?

The result of the research is to understand that the role of environmental taxation is a means of providing the existing relationship between sustainable development and the ecological existential minimum and in this way, it will successfully achieve its purpose, however, it will lack the necessary mechanisms to promote income redistribution, reserved merely for budgetary instruments.

The methodology used was the inductive method, made possible through bibliographic research techniques.

KEYWORDS: Environmental Taxation. Minimum Ecological Existential. Sustainability. Fundamental Rights.

SHORT BIO:

Member of the UFC Environmental Taxation Research Group of the Federal University of Ceará (2022). Graduated in Law and Business. Master's Degree in Financial Law and Tax Administration at Institute of Tax Studies in Madrid, Spain, Master's Degree in Law at the Faculty of Law in South Minas, Doctorate Student at the Federal University

Fluminense (UFF). Tax Auditor at the Special Secretary at Receita Federal. E-mail: freireroney@uff.id.com.br

Energy prices and distributional effects: the role of taxes and subsidies

Rossella Bardazzi (Università di Firenze), Francesca Gastaldi (Ufficio Parlamentare di Bilancio), Francesca Iafrate (Università di Firenze), Rosaria Vega Pansini (Ufficio Parlamentare di Bilancio), Maria Grazia Pazienza (Università di Firenze), Corrado Pollastri (Ufficio Parlamentare di Bilancio)

The fight against climate change and the strategy for energy transition that constitute the pivots of European and national government strategies necessarily affects households and the productive system. The effect of the policies have been compounded in recent months by sudden and substantial increases in international energy prices that have begun to affect utility bills and thus household disposable income: the price of gas for the average consumer has almost doubled from 74.56 cents per cubic meter in the first quarter of 2020 to 137.32 in January 2022. It is obvious that this price picture, if protracted, would put great pressure on vulnerable households and could exacerbate the problem of energy poverty, which is already very severe in Europe. To partially sterilize these effects, in line with the European Commission's position, the Italian government has implemented several policy instruments. In particular, interventions have been envisaged both through fiscal system, by reducing excises and quasi-taxes on energy products, and through direct subsidies, that is the strengthening of social bonuses and the activation of a one-time allowance of 200 euros. The paper, through the use of two microsimulation models (by the Parliamentary Budget Office and University of Florence) aims to analyse both the general distributional impact the inflationary outburst and the efficacy of the two policy interventions. Needless to say, a clear trade off emerged: reducing the effect on vulnerable consumers weakens the signal of environmental policy, so reducing the incentive to save energy and to shift towards greener consumption choices.

Keywords: household energy expenditure, distributional impact, energy taxes and subsidies

Short BIO

Maria Grazia Pazienza is currently associate professor of Public Finance, Department of Economics and Management of the University of Florence, Italy. Her research interests relate with corporate and environmental taxation, environmental related incentives and households and firms energy demand. She holds a Ph.D. in Economics, University of Siena, Italy

Rossella Miceli – Full Professor of Tax Law – Sapienza - Università di Roma

Abstract

The evolution of competition policy and the consolidation of a theoretical approach as set out by the social market economy has enhanced the new principles of European environmental policy.

This approach was confirmed in the Green Deal and in the Fit for 55% Communications that define an innovative line of sustainable growth, in which the use of tax leverage plays a central role.

In particular, the first objective of ecological transition will be the decarbonisation process as provided in the Fit for 55% plan.

Tax law will have also to contribute to this decarbonization project.

Many reforms will have to be implemented to achieve these important results.

In this scenario the discipline of fiscal state aid will be very important through will be an effort action by Member State and EU.

In the recent years state aid rules have become the principal instruments of positive and negative integration in the tax law.

So European, national and territorial fiscal policy are all destined to initiate a path of integration by differentiation, in which the discipline of fiscal State aids assumes the nature of both a general paradigm of tax law and as well as a privileged instrument of environmental development.

Keys words

Environmental Development – Social Market Economy - European Communications – The Framework of Fiscal State Aid – Relationship between Environmental Taxation and State Aid Rules

Curriculum vitae

Rossella Miceli is a full professor at the Faculty of Law at Sapienza “University of Rome”. She has been a member of the Rome Bar Association since 2002 and in the special register for the patronage in Cassation and in higher jurisdictions since 2016. She is a member of the direction and coordination group of Ph.D. in Private Autonomy, Business, Labour and Protection of Rights in the European and International Perspective, at the Sapienza, University of Rome, Faculty of Law. She is a member of the scientific and didactic committee, a teaching manager and permanent lecturer of the Master of II level in tax law "L. Einaudi" of Sapienza University of Rome (Faculty of Law). He has participated as a speaker in many conferences on tax matters. She is also a member of the Editorial Board of Rivista di diritto tributario, Tax news and International Tax Law Review. She is the author of four monographs and more than one hundred publications.

SOCIAL JUSTICE AND CARBON PRICING IN TIMES OF MULTIPLE CRISES

Sven Rudolph, Elena Aydos and Takeshi Kawakatsu

Abstract

The rapidly increasing fossil fuel (and carbon) prices caused by the Russian aggression against the Ukraine, the growing scarcity on the EU carbon market, the introduction of a national carbon market for transport and heating fuels in Germany with similar plans for the EU in the Fit-for-55 package have all accelerated the discussions on how to mitigate detrimental effects of carbon pricing on the poor. California, however, has almost ten years' experience of compensating low-income households and communities for higher carbon prices caused by the regional economy-wide cap-and-trade program (CalCaT). A long forgotten carbon market, the Australian Carbon Pricing Mechanism (CPM) repealed in 2014, had also adopted an advanced system for compensating low-income households for the cost increase caused by the CPM, with over 50 per cent of the revenues earmarked for this very purpose.

Against this background, first, we survey the literature on detrimental social effects of carbon pricing and possible remedies. Second, we evaluate the current design of the European Emissions Trading scheme (EU ETS), including the Fit-for-55 reforms, as well as the national German ETS for transport and heating fuels with a particular focus on revenue raising and spending features based on an innovative sustainability framework. And third, we discuss several options for compensating low-income households and communities by drawing on experiences gathered in the CalCaT and the CPM.

We mainly find that the EU Social Climate Fund as well as current compensation features in Germany are insufficient for protecting the poor from detrimental effects of increasing carbon end energy prices. While the CPM compensation program and CalCaT's combination of an equal per capita climate dividend plus targeted energy efficiency and renewable energy program supports for low-income households and communities offer a promising pathway for combining climate action and social policy.

Keywords

Carbon markets, social justice, regressiveness, EU ETS, German ETS

Short bio

Dr. **Sven Rudolph** is Associate Professor at Kyoto University's Hakubi Center / Graduate School for Global Environmental Studies, Japan. His current research is focused on social justice in carbon markets, the political economy of multi-level governed carbon pricing in Canada, and linking domestic carbon markets in the Pacific region.

Dr. **Elena Aydos** is a Senior Lecturer at the Newcastle Law School, the University of Newcastle, Australia. Her interdisciplinary research focuses on carbon pricing and the links between environmental and climate policy, justice, and the law.

Prof. **Takeshi Kawakatsu** is Professor for Public Finance at Kyoto Prefectural University, Japan. His research interest is in carbon pricing, with a recent geographic focus on North America, and its public finance and political economy implications.

GCET23 Abstract Proposal

Title: Mitigating Methane Emissions

Authors: Simon Black, Ian Parry, Nate Vernon, and Karlygash Zhunussova

Presenter: Simon Black (Ian Parry TBC)

Abstract:

Limiting global warming to 1.5 to 2°C above pre-industrial levels requires rapid cuts in greenhouse gases (GHGs), especially carbon dioxide (CO₂) but also methane (CH₄). Methane accounts for one fifth of global GHGs but has an outsized influence on near-term temperatures, so cutting CH₄ now can slow temperature rises and reduce climatic ‘tipping point’ risks. Over 100 countries representing about half of methane emissions have committed to cut methane emissions by 30 percent by 2030, necessitating policy action in fossil fuels, agricultural and waste sectors. This paper discusses strategies for achieving cuts in methane emissions at a country and global level, providing a quantitative assessment of the emissions, fiscal, and economic costs of equitable mitigation policies. Methane taxes appear desirable and feasible for most sectors, alongside reinforcing instruments like feebates. Targeted subsidies may be needed, especially on legacy emissions sources and in politically sensitive sectors like agriculture. A potential global agreement on minimum methane taxes could encourage broader participation and coverage.

Keywords: environmental taxation, climate mitigation, methane, carbon pricing, feebates

Bios of the co-authors:

Mr. Simon Black is an Economist at the IMF’s Fiscal Affairs Department where he specializes in carbon pricing, environmental taxation and climate mitigation. Before joining the IMF, he was a climate economist at the World Bank, a climate economist at the UK’s foreign ministry, and served as a UK negotiator to the UN’s climate body where he helped negotiate the Paris Agreement. He has also worked in financial sector advisory and economic diplomacy. He holds a Master’s degree in International Political Economy from the London School of Economics and a Master’s degree in International Development (MPA/ID) from Harvard University, where he was a Frank Knox Fellow.

Mr. Ian Parry is the Principal Environmental Fiscal Policy Expert in the Fiscal Affairs Department of the IMF. Prior to joining the IMF in 2010, Parry held the Allen V. Kneese Chair in Environmental Economics at Resources for the Future where he worked for 15 years. He has a PhD in economics from the University of Chicago in 1993. Parry’s current research focuses on country-level analysis of carbon taxes and other policies countries need to implement their mitigation objectives submitted for the 2015 Paris Agreement and the broader fiscal and economic impacts of those policies. He proposes a carbon price floor arrangement among large emitters to scale up global level mitigation. Parry also quantifies the broader environmental (e.g., local air pollution) costs of fossil fuel use at the country level and efficient levels of fuel prices needed to reflect supply and environmental costs. His work is published in academic journals, cross-country reports, and used in technical assistance and IMF bilateral surveillance reports.

Mr. Nate Vernon is a Projects Officer in the Fiscal Affairs Department of the IMF where he specializes in environmental and natural resource taxation. Before rejoining the IMF in 2020, he worked as a research assistant in FAD, and on social protection in Southern Africa as a manager at IDinsight. He holds a Master’s degree in Public Policy from Harvard University.

Ms. Karlygash Zhunussova is a Projects Officer in the Fiscal Affairs Department of the IMF where she specializes in climate taxation and mitigation policies. Before joining the IMF, she worked on climate change issues in the World Bank (Macroeconomics, Trade, and Investment unit, and Climate Change Group). She also worked as a consultant to the government of Kazakhstan on various strategic initiatives. She holds a Master’s degree in Public Administration in International Development (MPA/ID) from Harvard University, where she was a Nurlan Kapparov Graduate Fellow.

The Carbon Laffer Curve, estimates from the EU ETS

Matteo Mazzarano^{a*}, Simone Borghesi^{a,b}

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- b) European University Institute, Florence School of Regulation – Climate, via Boccaccio 121, 50133 Firenze, Italy

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Abstract

The paper investigates the relationship between Fiscal Revenues from the European Union Emission Trading System and its auction prices quarterly. According to Commission's communications, the risen revenues should be used for climate mitigation and compensation policies for vulnerable households. Several funds to support revenue recycling have been established in the last three years to support this policy, diverting resources from the states. It is found that price increases are not met with proportionally greater resources. An empirical analysis is provided through the estimation of panel data to investigate the heterogeneity among EU states. The results show a curvilinear relation between auction revenues and prices, with a tipping point between 31.3 and 82.5 Euro per CO₂e. Models that target revenues in absolute terms present higher prices' tipping points than those that target revenues relative to population or GDP. Such variability is dependent on the negative relationship between revenues per capita and the percentage of the population below 60% of the median income in a country, i.e., the least amount of resources is available where it should be used for compensation policies. As an implication, earmarking revenues should be done ideally considering international transfers. The EU commission has established the Innovation and the Modernization fund to support international transfers with revenues earmarking towards objectives. However, revenues are detracted from national streams, which might temper with the relationship between poverty and revenues. The neutrality of funds establishment was tested against such relationship with success, indicating that centralization of revenues' earmarking is an effective policy strategy for distributional purposes.

JEL Codes: H21; H23; Q54

Keywords: Laffer Curve; Environmental Tax Revenues; Emissions Trading System; Distributional Effects; Climate Social Fund

Abbreviations: Emission Trading System (ETS), European Union (EU), CO₂ equivalents (CO₂e)

Short Bios

Matteo Mazzarano

Matteo Mazzarano is a full-time junior research fellow at the Department of Political and International Sciences. He holds a bachelor's degree in Political Science and European Studies from the University of Roma Tre (2015) and a master's degree in Resource Economics and Sustainable Development from the University of Bologna (2017). He obtained Philosophy Doctorate in "Circular Economy and its Socio-Economic Values" from the University of Ferrara (2021), obtaining the "Doctor Europeus" award. He

visited the Catholic University of Leuven as a lecturer (2021) and researcher (2019) and the Universität Bodenkultur of Vienna (2019) as a researcher. He was a postdoc at the Catholic University of the Sacred Heart (2020-2022) and affiliated with the Fondazione ENI Enrico Mattei (2020-2021). He is a member of the IAERE (Italian Association of Environmental and Resource Economists) and of the EAERE (European Association of Environmental and Resource Economics). He has published academic articles in journals such as *Resources Policy*, *Journal of Cleaner Production*, *Waste Management*. He reviewed academic articles in journals such as *Economia Politica* and *Cleaner Production*.

Simone Borghesi

Simone Borghesi is full Professor of Economic Policy at the University of Siena. After graduating in Economics at the University of Siena (1995), he obtained a Master in Economics at University College London (1996) and a Ph.D. in Economics at the European University Institute (2001). He worked for the International Monetary Fund (1998) and the ENI Enrico Mattei Foundation (1999). In 2012 he was invited to the United Nations at the Meeting on "Happiness and Well-Being: Defining A New Economic Paradigm". He was a visiting scholar at INRA, Grenoble (2013), at Cambridge University (2015) and at ETH Zurich (2016). He is currently President Elect of EAERE (European Association of Environmental and Resource Economists) and Secretary General of the Policy Outreach Committee of EAERE. From September 2017 he is Director of FSR Climate, the Robert Schuman Center's climate change research unit at the European University Institute. He is also member of CEPR-RPN (Center for Economic Policy and Research - Research and Policy Network), and of the Academic Advisory Council of the Center on Regulation and Markets of Brookings Institution (Washington D.C.). In the period 2018-19 he has been President of IAERE (European Association of Environmental and Resource Economists). He takes part in numerous national and international research projects on environmental issues, both as participant and as head of the research unit at the University of Siena. He has published three books and over 80 articles in international collections and journals, including *Ecological Economics*, *Ecological Modelling*, *Ecological Indicators*, *Economic Modelling*, *Economics of Innovation and New Technology*, *Energy Economics*, *Environmental and Resource Economics*, *Environmental Science and Policy*, *Journal of Cleaner Production*, *Journal of Economic Dynamics and Control*, *Journal of Economic Surveys*, *Journal of Evolutionary Economics*, *Journal of Socio-Economics*, *Research Policy*, *Scandinavian Journal of Economics*. His work deals mainly with globalization, economic growth and sustainability of development, with particular regard to environmental issues.

Short Biography

Thuli Mokgele is a PhD candidate at the University of South Africa (UNISA) under the supervision of Dr Roshelle Ramfol. Her research focuses on the role of fiscal policy in funding the energy transition in Africa. It examines environmental fiscal policies which could be implemented by petroleum producing and petroleum consuming countries to maintain revenue collected from the petroleum sector during and post the energy transition and possibly fund the exploration and investment into viable, scalable low-carbon energy sources in the continent.

Prior to joining the University of South Africa, Thuli worked as a Senior Lecturer in Taxation and holds a Masters in International Tax from the University of Johannesburg (South Africa).

The area of research is focused on understanding to what extent tax legislation in the petroleum industry can be a useful tool to raise revenue during the energy transition, and to what extent that collected revenue could be used by governments to invest into viable low carbon energy projects. Her focus is on developing countries within the African continent including petroleum producing and petroleum consuming countries.

Maria Rosana Rocha da Silva (32 years old)

Bachelor of Laws from the Faculty of Fortaleza – FAFOR; Specializing in Public Law at Faculdade Legale Educacional; Master's student in Law at the Federal University of Ceará – UFC; Attorney; Postgraduate Intern at the Attorney General's Office of the State of Ceará.

23rd Global Conference on Environmental Taxation (GCET23)

September 21-23, 2022

Parma, Italy—In Person and Remote

Call for Abstracts

The Challenge To REPowerEU

*Abstract by Theodoros G. Iliopoulos**

Keywords: energy transition; energy crisis; renewable energy sources; REPowerEU; Fit for 55 Package

Attaining an energy transition proves more challenging than expected. In 2019 the ‘Green Deal’ noted the need to revise the energy law that had just been formed after the ‘Clean Energy Package’ reform. In 2021 the ‘Fit for 55 Package’ called for a more thorough revision that would also take into account and address the various implications of the COVID-19 pandemic. In 2022, with the energy markets already disrupted since 2021, the despicable Russian invasion of Ukraine necessitated a rethink of the plans for a European energy transition as harshly as never before. Indeed, the Commission’s ‘REPowerEU’ Communication established an explicit link between the clean energy transition and Europe’s energy security, and announced that a more comprehensive and concrete plan will follow. Although producing more energy from renewable sources will reduce the dependency on imports, the heralded prioritisation of energy security (conceived as meaning both sufficiency and affordability) in practice is accompanied by a shift towards a more intensive or prolonged use of fossil fuels, as happened e.g. in Greece or Italy. At the same time, the lack of resources due to the recession and inflation, the energy supply crisis and the energy price crisis are challenging the supportive financing of renewable energy sources and the standard patterns for a corrective intervention in the energy markets. Within this framework, this contribution follows the actual developments and examines how the support policies for renewable energy sources co-exist with measures that favour the exceptional, urgent use of fossil fuels, and proposes recommendations on how support policies for renewables should develop. It also appraises the Commission’s remark that any derailment of the energy transition stemming from the use

*Theodoros G. Iliopoulos is a postdoctoral researcher in Energy and Environmental Law at Hasselt University.

of fossil fuels will be atoned for by an intensification of the efforts for developing clean energy technologies once the crisis is over.

Dr. Theodoros G. Iliopoulos, short cv note

Theodoros G. Iliopoulos is a postdoctoral researcher in energy and environmental law at Hasselt University, and a lawyer (Athens Bar Association). His research focuses on the promotion of renewable energy sources, with a special emphasis on the EU and the European energy transition. He has studied law at National and Kapodistrian University of Athens (LLB degree in 2014). He has an LLM in “EU Law” from National and Kapodistrian University of Athens (2015) and an LLM in “Law and Economics” from Utrecht University (“cum laude”, 2016). He completed his doctoral research on renewable energy law at Hasselt University, and under the supervision of prof. dr. Bernard Vanheusden, in October 2021. He has been honoured with several international research scholarships and awards, such as the GCET Award “Young Researcher” for 2020.

Title: Analysis of Illustrative Policy Options for a Scottish Aggregates Levy

Author: Tanzir Chowdhury

Abstract (300 words)

Background

The UK Aggregates Levy was introduced in 2002, to be applied on all sand, gravel and rock that has been extracted from the ground within UK, dredged from the UK waters, or imported into the UK.

The levy aimed to reduce the negative environmental impacts of quarrying while increasing the recycling rate of construction materials by reducing the extraction of primary aggregates.

Since the devolution of powers to Scotland for the Aggregates Levy, the Scottish Government wanted to establish the current role of the Aggregates Levy in Scotland, with a view to designing and implementing a Scottish specific Aggregates Levy. This study sought to develop illustrative future tax policy options for a Scottish Aggregates Levy and model their potential economic and environmental impacts.

Methods

Four policy options were developed varying the levy rate and changing other relevant policies (e.g. landfill tax for inert materials), and an options appraisal model was developed for comparing the impacts of these options. Impacts were estimated in terms of changes to: different types of aggregates flows, including import and export of different types of aggregates from Scotland; levy revenue; and various externality costs of aggregates extraction (e.g. disamenity costs, GHG impacts).

Findings

The analysis revealed that by 2030, adjusting the Scottish Aggregates Levy have the potential to reduce the consumption of primary aggregates in Scotland by over 0.5 million tonnes, to increase the recycling rate of construction and demolition waste to 95%, to generate £6.6 million additional levy

revenue, and to reduce the externality costs of primary aggregates extraction by £1.3 million.

However, it should be noted that some of the recycled aggregates are currently being utilised in low value uses of aggregates (e.g. pipe bedding or backfilling), and further incentives will be required to increase the substitution of primary aggregates with recycled aggregates.

Keywords: aggregates levy/tax, primary aggregates extraction, recycled aggregates, circular economy, policy options appraisal.

Author Bio:

Tanzir Chowdhury is a Principal Economist at Eunomia Research & Consulting Ltd., an environmental consultancy primarily based in the UK. He is very passionate about application of economic instruments and led many research projects related to environmental taxation and other economic instruments used in resource efficiency and environmental policies. Tanzir has a Postgraduate Diploma in Advanced Economics (PhD Coursework) from University College London and an MA in Economics from Delhi School of Economics, India.

The Provider-Receiver Principle: Positive Tax Possibility in Environmental Policy

Abstract: Since the Stockholm Conference of 1972, the world has become concerned with aspects of environmental degradation, since then this issue has been discussed in several other international events with global scope. One of the great questions to be faced, within this protective perspective to the environment, is the dilemma of economic development and environmental protection; hence, at the Rio conference in 1992, the concept of sustainable development emerged. Despite all this movement of environmental protection, what is perceived is that the degradation of the environment has only grown lately. As an example, a study carried out in April 2022 by the National Institute for Space Research shows that the level of deforestation in the Amazon forest reached its worst rate for this period in the last seven years, having passed the mark of more than 1 for the first time thousand km². In view of this scenario, it is necessary to think of solutions that dialogue directly with civil society and can, in fact, be effective. One possibility to face this problem lies in the construction of an environmental tax policy based on several parameters, among which the implementation and effectiveness of inducing principles of preventive protection, as is the case of the provider-receiver principle, according to which both individuals and legal entities that promote the preservation of the environment should receive benefits from the State, since they are dedicated to guaranteeing the fundamental right to an ecologically balanced environment. Thus, as a possible parameter for solving this problem, the present work will take as a starting point the analysis of law n° 14.119/2021, which established the national policy of payment for environmental services.

Keywords: Environment. Principles. Environmental Taxation. Provider-Receiver.

GUIDING PRINCIPLES TO GREEN A SPANISH TAX REFORM

Marta Villar and Xavier Labandeira

Abstract

The ‘White Paper for the Spanish Tax Reform’ presented to the Ministry of Finance on March 2022 has proposed, among other proposals, nineteen environmental taxation measures to improve the current design of the tax system in Spain. This paper presents and explains the guidelines and key principles for implementing a green taxation reform in Spain as set by the white book, but in the context of the financial crisis due to the COVID-19 and the Ukrainian war. The final purpose is to provide the key messages to justify the use of taxation and its role to contribute to the ambitious mid-term Spanish environmental commitments. Nowadays, the most pressing environmental objectives should be integrated in the energy and climate change EU agenda under the so-called ‘*Fit for 55*’ legislative package proposed by the European Commission in July 2021. Spain needs to promote electrification, to improve circular economy actions, to boost sustainable transports and better uses of natural resources (e.g., water). To that aim regulatory taxes should be taken into consideration as a crucial tool to further a sustainable economic recovery.

Keywords

Green taxes, Circular Economy, Tax Reform, Spain, European Union.

Bios

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23rd Global Conference on Environmental Taxation (GCET23)

The Role of EU Taxation for a More Sustainable Fashion Industry

The paper examines the role EU taxation plays in support of a transition towards more sustainable production models in the fashion industry.

Clothes and clothing are an essential part of people's everyday life and they are recognized and protected by several international human rights instruments, including the International Covenant on Economic, Social and Cultural Rights (art. 11(1)), and the Universal Declaration of Human Rights (art. 25(1)). In the European Union, clothing is also associated with the right to life as protected by Article 2(1) of the Charter of Fundamental Rights.

The manufacturing of clothing and apparel, fundamentally treated as disposable goods subject to the ebbs and flows of fashion trends, doubled from 2000 to 2014: while the current global fashion industry production chain carries with it huge economic implications, it has also been shown to have an extremely problematic negative environmental impact, characterized by an elevated consumption of water and is recognized as one of the most polluting industrial sectors.

Against this background, the president of the UN Economic and Social Council stated at the 2019 Sustainable Fashion Summit that the transformation of the fashion industry into a sustainable industry is a key for achieving the goals of the Agenda 2030.

In the EU, Directive 2018/851 on waste requires EU Member states to take measures to both reduce waste and prevent the production of waste, in line with the Agenda 2030. Prevention is recognized as the most efficient way to improve resource efficiency and to reduce the environmental impact of waste: additionally, the Directive mandates the use of fiscal measures to promote industrial use of products and materials that can be reused or recycled.

An analysis of current circular business models demonstrates that traditional practices related to mending, repairing, sharing, second-hand use and donation can be employed to curb waste production and help transition the fashion industry to a more sustainable system. The use of recycled fibers as a raw material could also potentially reduce the reliance on high-impact materials and contain the use of pollutants.

A number of different tax measures have been proposed, for example by environmental organizations, NGOs, and public authorities, that suggest either new taxes on virgin raw materials or reduced VAT rates for second-hand clothes and repair services to support circularity. In March 2022, the EU Commission published its "EU Strategy for Sustainable and Circular

Textiles” that encourages Member states to adopt favorable taxation measures for the reuse and repair sector.

Currently, a comprehensive and clear EU approach to the problem is missing but, because of its economic and social weight and of its negative environmental impact, a coherent approach to a greener fashion industry is a critical part of any sustainable development strategy meant to achieve the goals of the Agenda 2030. The paper intends to support the critical conversation on the role of taxation in this reconversion process through an examination of the EU position as it may emerge from the “EU Strategy for Sustainable and Circular Textiles” document in the light of the EU Charter.

Keywords

EU tax law, EU VAT, sustainability, circular economy, waste, fashion industry, recycling fibers.

**Understanding sectoral effective carbon rates in LAC vs OECD:
data, estimates and directions of reform***

Hildegart Ahumada (Di Tella University)

Santos Espina Mairal (FIEL)

Fernando Navajas (FIEL and University of Buenos Aires)[#]

Alejandro Rasteletti (Inter American Development Bank)

Abstract

We extend the measurement of effective carbon rates adapting the OECD methodology (OECD, 2019, 2021) to 20 countries in Latin America and the Caribbean and in 2018, starting from energy balances and revising comprehensively the level and structure of excises and carbon taxes across countries and accounting for specificities in the emission structure (eg biofuels) and the existence of energy subsidies, all that quite differ from OECD patterns. This allows us to build up a sample of 66 countries with 7 sectors observed in 2018 and document stylized facts about the sectoral and aggregate level and structure of carbon pricing. Such facts show a biased structure of taxation towards road transport (which has a genesis, decades ago, different from the sole objectives of carbon taxation) and a direction of tax reform towards other sectors particularly electricity generation, industry and households. This motivates a two-stage econometric modelling strategy where we first account for differences in effective carbon rates (ECR) in the transport sector across countries using a set of explanatory variables that cover different structural, economic and institutional dimensions. In the second stage we estimate the gap between each sector and the transport road sector. The model estimate for a given country can be seen as a synthetic indicator of sectoral taxation in order to suggest a direction of reform from a given observed status quo.

Keywords: Carbon pricing, effective carbon rates, energy taxation

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**Understanding sectoral effective carbon rates in LAC vs OECD:
data, estimates and directions of reform**

Authors short bio

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Chair Professor of economics at the University of Buenos Aires and Chief Economist at the Fundacion de Investigaciones Economica Latinoamericanas (FIEL). He is also Vice President (2019-22) of the National Academy of Economic Science of Argentina; Former President (2016-18) of the Argentine Association of Political Economy and Directive Board Member of the University Torcuato Di Tella, Argentina. Previously he was senior economist at UN ECLAC and Chief of Cabinet of Advisors at the Ministry of the Economy in Argentina. Holds a Ph.D. in Economics from the University of Oxford, UK and a BSc from the University of La Plata, Argentina and has published papers and chapters on many areas of macro and

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microeconomics mainly focused on Latin America. His most recent contributions focus on several dimensions of energy policy and economics. In 2004 he was awarded the Repsol-YPF Prize to Applied Economic Research in Energy, Natural Resources and the Environment. He is a founding member of the Latin American Association of Energy Economists and member of the International Association of Energy Economists. Has published in *Economics of Disasters and Climate Change*, *Public Finance*, *El Trimestre Económico*, *Journal of Development Economics*, *Economics Letters*, *Energy Economics* and *The Energy Journal* among others.

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A GLOBAL CLIMATE WEALTH TAX TO FUND A WORLDWIDE, JUST TRANSITION

Vanessa Fetter

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As income inequality grows worldwide, so too does carbon inequality. As the effects of climate change continue to intensify and affect those that contributed the least, shrinking the wealth gap will reduce inequality, reduce carbon consumption, and raise funds to address climate change. This paper will delve into the possibility of an internationally coordinated climate wealth tax, potentially facilitated by the OECD, to fund a just transition globally. A global wealth tax will provide the strongest protection against wealthy individuals leaving countries for tax purposes, creating a wealth leakage.

From 1990 to 2015, the richest 1% of the world's population were three times more responsible for the total growth in greenhouse gas emissions compared to the poorest 50%. An internationally coordinated climate wealth tax could be used to curb the wealth inequality that directly correlates to higher greenhouse gas emissions. A wealth tax would not replace the need for a carbon tax. A wealth tax would simply provide another incentive targeting high-net worth individuals, who bear a greater responsibility for greenhouse gas emissions. This paper will explore the structure and implementation of an internationally coordinated climate wealth tax, as well as the potential revenue streams resulting from the collection of the tax. As part of the analysis, the paper will discuss progressive taxation and current or previous enacted wealth taxes to inform the structure of the proposed climate wealth tax.

BIO

Vanessa Fetter received her Bachelor's and Master's in accounting from Pennsylvania State University. She is a certified public accountant. Prior to law school, Vanessa worked in public and private accounting. She is interested in the intersection of environmental policy and taxation.

Keywords:

Climate wealth tax, environmental taxation, wealth inequality, carbon inequality

Convegno mondiale sulla tassazione ambientale, Parma, 21-23 settembre 2022

Abstract

The amendments of articles 9 and 41 of the Italian Constitution have turned the environmental protection and the environmental sustainability into constitutional values consequent to the ban of the economic initiative of environmental damage (according to the “*Do No Significant Harm*” principle (DNSH)); in other words, the environment from “good” and “subject” is now a “value”.

The funds of the National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza) allocated with loans and grants belong to a period of sustainable development (Mission 2 of the NRRP “*Green Revolution and Ecological Transition*”) assisted “at the term” that should be followed by a new phase in which there will be an environmental taxation dedicated to companies, investments and green-oriented properties through a new stable and predictable tax legislation, which considers sustainability in the discipline of income taxes, VAT, local taxes and excise duties.

However, in order to create an environmental tax law that leaves aside the “polluter pays” principle, Italy needs a taxonomy that allows to identify fundamental tax regulatory definitions that make environmental taxation a certain discipline; in this respect, the EU regulations on ESG sustainable finance (EU regulation 2020/852) can be recalled by the national tax legislator. It is necessary, in fact, to regulate the tax amortization of green-oriented investments, identify the revenues and the turnovers deriving from sustainable economic activities, apply specific tax rates on direct taxes (income tax on natural persons, IRPEF, and Italian tax on corporate income, IRES) and VAT and differentiate eco-sustainable properties and the production of green energy.

An immediate action should concern the gradual elimination of the environmentally harmful subsidies (SAD). Furthermore, a particular project could regard the establishment of Environmental-Economic Zones (ZEA) with a tax system specifically dedicated to the green companies that operate in the mentioned context.

Green-oriented activities – Sustainability – Italian Constitution – Taxation – Taxonomy

Valerio Ficari (Ph.D.) is Full Professor of Tax Law at the Management and Law Department of the Faculty of Economy of the University of Rome “Tor Vergata”; he is author of more than 200 articles and notes, has edited many collective works, is the author of several monographs and has directed many types of research of national relevance; environmental taxation is one of his current research topics.

INTEGRATING ECOSYSTEM SERVICES INTO DECISION-MAKING

Abstract Goal: The role of the integration of ecosystem services into decision-making is to protect biodiversity and to keep the services they provide to the society in good status. Using different tools and methods which could help set the value on public goods and services to calculate the benefit versus the costs and how this integration could help protect biodiversity and save the costs of pollution reduction, carbon sequestration, and human health. How this integration can work in practice and benefit the society and the economy. Trade-offs and pollution taxes to prevent negative consequences and to encourage polluters to act in the way which allows keeping the balance between the good status of ecosystem services and activities that effect the environment and biodiversity in the territory of action.

Investment into the means of protection or restriction of some actions (efficient resource use, consumption of goods and services, set standards or agreements, etc.) could be treated as replacement of set economics instruments (charges, taxes, etc.). How these instruments could be reconciled. The method used should confirm that the best alternative would be chosen to achieve the desired target at an appropriate price.

How ecosystem and service evaluation and integration into decision-making could affect biodiversity protection and through them the quality of public goods and services.

PURPOSE: The purpose of the paper is to find effective ways to protect biodiversity and to ensure the availability of social goods and services for all people, putting the appropriate responsibility on users which make the biggest direct or indirect impact on biodiversity status. The purpose is to balance measures (economic, financial instruments, administrative and quality standards to keep biodiversity in good status without damaging economic growth, provide examples how it will work in practice.

METHODS: Supporting the research of biodiversity and ecosystem service assessment provided by experts who assess public goods and services.

RESULTS: Results of study should show what approach is most suitable for decision-making involved in ecosystem service impact assessment on a larger scale.

CONCLUSION:

- Further steps towards the integration of ecosystem service costs into the price of goods and services.
- Looking for effective instruments which will help achieve the goals in most acceptable way. Broaden fiscal and other instruments' use in supporting the implementation of biodiversity protection taking into account pollution reduction measures, sustainable farming, balanced development protecting biodiversity, and ecosystems that benefit the society.

Short Bio of Ms. Virginija Kalesinskienė

I am working in the Ministry of Environment in Vilnius as advisor of Nature protection policy group. I joined the Nature protection policy group in March of this year (2022). My field of work is biodiversity protection, including ecosystem services, also GMO issues and application of liability to legal and natural persons for violations of legal requirements in nature protection area.

Prior to my work in the Nature protection policy group I worked for a long time in the European Union Investment and Economics department. My field of responsibility was the application of economic instruments to achieve environmental goals (charges on air and water pollution, taxes on the state resource use, EHS and etc.).

I used to be the member of OECD working group of JMTEE (joint meeting of tax and environment experts) when I worked in the European Union Investment and Economics department.

Key words: ecosystem services, biodiversity protection, pricing methods of public goods.

Fiscal challenges and new tax instruments for promoting circular economy

Moving towards circular economy is essential to achieve the resource efficiency-goals established at international and European level. Taking the principle of waste hierarchy as a basis, it's now mandatory to keep the resource consumption within planetary boundaries, reducing the consumption footprint and the European Union's dependence on the import of raw materials.

The challenges arising from the transition to a circular economy should be faced by a policy mix that integrates sustainability principles. In such a context, tax system remains a key lever by modifying the relative prices of goods and services to encourage circular options.

The implementation of taxes on harmful consumption attempts to correct specific market failure, but only affects taxpayers' behaviour at the end of the production chain.

The transition towards the circular economy should be also driven by suitable tax expenditure instruments, awarding incentives for economical actors that promote a positive environmental impact.

The paper aims to highlight the relevance of circular taxation, *id est* a wide-ranging overhaul of the fiscal system, in which even significant change in the main taxes, not traditionally defined as 'environmental', can support the circular-goals (e.g., reduced vat rate for circular activity or tax provision implementing "Pay-as-you-throw" schemes). At the same time, there is no doubt about the importance of monitoring the effectiveness of the tax measures used for regulatory purposes, in order to eliminate ineffective tax subsidies, ensuring a stable and evidence-based tax policy.

On this basis, the paper will analyse the tax measures introduced by the Italian legislator for the reduction of plastic waste and the implementation of the SUP Directive, in order to assess their compatibility with the principles of circular taxation.

Short bio

Viviana Salerno is Ph.D. candidate in joint Ph.D programs *Humanities and Technologies: an integrated research path*, Suor Orsola Benincasa University, Naples and *Ordenación Jurídica del Mercado*, University of Vigo. Her Ph.D. project focuses on the opportunities offered by the tax policy to support the circular economy.

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Carbon Pricing in the European Green Deal: The Challenge of Implementation

Theodoros Zachariadis

ABSTRACT

In July 2021, the European Commission published the “Fit-for-55” policy package, consisting of thirteen legislative proposals, including amendments to existing legislation, aiming to align EU policies with the binding target of the European Climate Law to reduce greenhouse gas emissions in 2030 by 55% compared to 1990. These were complemented by four additional proposals in December 2021 and additional proposals in May 2022 in the frame of Europe’s attempt to become independent of imported energy.

The proposals encompass interventions on climate, energy, land use, transport, and taxation policies in all sectors of European economies. They were accompanied by impact assessments, some of which addressed a combination of policies while others examined the impacts of a specific legislative change only. The policy package is consistent with the need to accelerate economy-wide decarbonization in order to implement the ambitious European Green Deal and align the EU strategy with the climate stabilization goal of the Paris agreement.

It is probably the first time in EU’s history that so many pieces of legislation are changing at the same time, and there is no unified impact assessment of the whole package; nor is there any country-specific impact assessment of all legislative changes. This may be justified because urgent action is needed: the climate emergency requires, as the IPCC has put it, implementation of policies at unprecedented scale and speed. On the other hand, the absence of a comprehensive impact assessment causes concerns to national Ministers but also senior government officials.

Such a wide-ranging intervention has engaged European governments in broad discussions since autumn 2021, in an attempt to understand the implications of the Commission’s proposals in each country’s economy. National Ministries of environment, energy, transport, and finance as well as shipping and aviation authorities are trying to assess the socio-economic effects of “Fit-for-55” and prioritize their national policies, while participating in intra-EU negotiations to decide the final provisions of each legislative text.

Since the “Fit-for-55” package involves ambitious targets in all policy fields and extends carbon pricing across almost all sectors of the economy, it is essential for governments to fully implement these policies so as to contribute to delivering the European Green Deal. However, constraints in financial and human resources as well as in technical and administrative capacity may hinder the successful realization of individual targets. Examples of such potential barriers are:

- Shortages in personnel to work on the widespread building renovations in order to deliver the annual energy savings required by the recast Energy Efficiency Directive and the recast Energy Performance of Buildings Directive.
- Constraints in materials, productive capacity and infrastructure that may hinder the deployment of electric vehicles and/or charging stations necessary to implement the Regulation to reduce CO₂ emissions from cars and vans, the revised Alternative Fuels Infrastructure Regulation, and the revised Effort Sharing Regulation.

- Uncertainty on the availability of sustainable and renewable fuels to realise the targets of the RefuelEU Aviation Regulation, the FuelEU Maritime Regulation, and the revised Renewable Energy Directive.
- Issues to be clarified on the actual application of the Carbon Border Adjustment Mechanism.

Apart from these barriers, national governments are faced with uncertainty about the potential scope and impact of the entire “Fit-for-55” package because it is necessary to combine several impact assessments in order to understand the extent of the socio-economic effects. For example, the aviation sector will be affected by at least four legislative proposals (the revision of the ETS Directive, the Energy Taxation Directive, the Renewable Energy Directive, and the RefuelEU Aviation Regulation) but the effect on fuel costs, air fares, aviation demand, and emissions is examined in individual Impact Assessments that offer a partial view of the broader impacts on the sector.

The picture becomes more complicated because the different legislative proposals are examined in different EU council configurations and correspondingly in different Committees of the European Parliament. To continue with the example of the aviation sector, the ETS Directive is discussed by Environment Ministers, the Renewable Energy Directive by Energy Ministers, the Energy Taxation Directive by the Economic and Financial Affairs Council, and the RefuelEU Aviation Regulation by Transport Ministers. Therefore, governments and parliamentarians need to intensify their cross-council and cross-committee discussions for harmonizing their policy approaches.

In this context, the paper discusses the challenges towards implementing these policy packages, with particular emphasis on those pieces of legislation that introduce or extend carbon pricing approaches such as the amendment of the Energy Tax Directive, the expansion of the EU Emissions Trading System to aviation and shipping and the tightening of its cap, the introduction of a new emissions trading system for fuels used in buildings and road transport, and the adoption of a Carbon Border Adjustment Mechanism.

Keywords: Climate policy; Emissions trading; Energy taxation; Policy implementation

Biographical note

Theodoros Zachariadis is a tenured Associate Professor at the Energy, Environment and Water Research Centre of the Cyprus Institute. In 2009-2020 he served as an Assistant and then Associate Professor of environmental policy and energy resource management at the Cyprus University of Technology. In 2015-2020 he was the Dean of the University's Faculty of Geotechnical Sciences and Environmental Management. He holds a Diploma and a Doctorate in Mechanical Engineering from the Aristotle University of Thessaloniki, Greece. He is a member of the Scientific Committee of the European Environment Agency, a Visiting Professor at Aarhus University, Denmark, a Manager at the United Nations Sustainable Development Solutions Network Europe and an associate editor of the international Journal "Energy Economics". He is also a member of the Leadership Council of SDSN Cyprus. He is the recipient of the 2009 Research Prize of the Republic of Cyprus and the 2019 Environmental Prize awarded by the President of the Republic of Cyprus. His research interests are on the techno-economic analysis of energy, environmental and transport policies, with a special interest in environmental taxation. He was the lead organizer of GCET20 that was held in Limassol, Cyprus, in September 2019.