1. Introduction

1.1. Setting the Context for the research activity

The limits on states' power to use tax incentives to achieve green energy goals, both in Europe, the US, or elsewhere, are particularly important in an era when countries and their member states are confronting the challenges of climate change. As states designing policy instruments to reduce greenhouse gas emissions, they must grapple with the question of how to achieve their environmental goals without violating legal rules designed to protect internal markets.

The issue of competitiveness for trade purposes constantly arises at the global, national and sub-national levels, and the law addresses these issues in a variety of ways. International agreements, such as the trade regime administered by the WTO, set rules for competition among nations. Constitutions, treaties, and other governing laws define the structure of national governments and the allocation of powers among the national and subnational governments, including principles governing trade competition. At the same time, governments need to address environmental and energy challenges, using the powers that they have under their forms of government, including the power to tax. Environmental and energy issues intersect in a particularly strong and significant way in the arena of climate change given the need to reduce emissions from fossil fuels and shift to green energy practices. Yet trade and green energy objectives can conflict. Sometimes governmental policy instruments that promote green practices can skew market competition at the international, national or sub-national level. For example, they may intervene in the market by providing subsidies to encourage renewable energy and energy conservation or protect industries at risk during the transition to a greener economy.

The comparative analysis of different approaches can help countries to better understand their relative degree of freedom to send environmental signals through tax codes and how that degree of freedom affects their standing not only in national and global markets but also in meeting national and international climate change goals. It also allows evaluating the extent to which the EU's State aid rules limit that freedom. As Häberle points out, the comparative method of interpretation, so-called iuscomparatista, turns out to be the EU key as EU law is often a legal comparative exercise¹. To compare different answers to the same question or problem may not only bring about to a better understanding of the effects of each solution (the theoretical aspect), but may also help to improve each individual system (the de lege ferenda aspect) by introducing it to foreign solutions it might adopt².

This paper considers comparative law and specifically how different selected legal regimes reconcile competitiveness and environmental goals on energy taxation. It focuses in particular on how legal rules governing competition affect the ability to use environmentally related tax expenditures that could help reduce reliance on fossil fuels and reduce greenhouse gas emissions. It considers the issue from the legal perspective of how different governmental constitutions or compacts regulate competition and how those fundamental institutional agreements influence the use of energy-related tax expenditures. As the EU and the US share the principle that states within their unions should not unduly interfere with the internal market, we will focus on this comparative analysis taking into account that each country takes a different approach

See Introduction to comparative tax law, edited by Claudio Sacchetto and Marco Barassi, Rubbetinno Università, 7 (2008).

See Jörg Manfred Mössner, Why and how to compare tax law, Ibidem (supra note 1), 14 (2008).

to executing this principle through case-law. A brief reference to WTO is made due to its interference in sovereign tax powers. For contrast, we also consider the legal regimes in Brazil and China given the importance of their market and their relevant position on the word trade. As discussed below, Brazil and China do not have legal limitations on their internal markets comparable to those in the EU and US. Thus, they illustrate how some countries at least in theory may have greater legal latitude to design energy tax policies. They also serve as reminders that energy-related markets do not play on an internationally level tax playing field and that analysts of State aid policy should keep the larger comparative picture in mind.

By way of background, it is useful to consider the various governmental goals at issue and the role of environmental tax incentives, expenditures or reliefs before delving into the case studies below. In the framework of the European Union, there is a need to balance security of energy supply, sustainability and competitiveness³. However, for purposes of our analysis, there are three fundamental governmental policy goals that are relevant: (i) achieving robust trade economies that will enhance economic and social welfare; (ii) fueling the economy with sources of energy and levels of energy usage that are environmentally sustainable; and (iii) achieving a level of energy security that will promote national and international stability and growth.

As suggested above, policies that advance one may run counter to others: Governmental policy instruments that encourage shifts away from fossil fuels may interfere with the otherwise free market, particularly at times when governments are trying to encourage major structural changes, such as increased reliance on new types of energy for environmental or energy security purposes.

Tax policies can play a role in these interventions in various ways. A carbon tax, for example, can place a price on carbon dioxide emissions from fossil fuels in order to reduce reliance on fossil fuels. A tax on motor vehicle purchases or annual vehicle registrations based on their fuel economy can encourage consumers to consider fuel economy. However, tax expenditures also can play significant roles. By their very nature, they can provide financial relief to taxpayers by reducing the tax burden otherwise due through tax exemptions, tax deductions, tax credits or reduced tax rates. In doing so, they can serve different policy goals. For example, a lower carbon tax rate for an energy-intensive industry can offer tax relief during the transition from fossil fuels to low or nocarbon fuels in order to preserve the industry's competitive stance and protect the economy. A tax credit for a windfarm can serve climate change goals and increase domestic energy security. Tax expenditures can also sit in different places within tax regimes. They may be embedded in an environmental tax, such as a carbon tax, or they may offer special incentives within an unrelated tax regime, such as an income tax, sales tax, or property tax.

This paper considers a range of energy-related tax expenditures that are or could be designed to reduce reliance on fossil fuels⁴. As indicated above, the ultimate question is how the EU and WTO rules and constitutional regimes governing competition in the case study countries affect the use of these tax measures on the energy sector. How do global trade agreements and different countries' legal compacts reconcile the desire to maintain open markets and the need to employ policy instruments to protect the environment, to reduce greenhouse gas emissions and to achieve other important targets for the energy sector as energy efficiency?

³ See Pasquale Pistone and Iñaki Bilbao, The role of tax incentives on the energy sector under Climate Change's challenges, Documentos de Trabajo. Serie Política de la Competencia No. 49/2015, 25 (2015).

⁴ They do not, however, address the issue of the repeal of existing tax expenditures that subsidize the production of fossil fuels. They focus on measures that are environmentally positive or are embedded in environmentally positive taxes.

The paper starts by discussing how the EU treaty, through its State aid rules, protects the internal market while also advancing the broader common public interest. This is the point of departure to be compared with other regimes. It then considers the WTO's rules balance the interests of market competitiveness and environmental goals served by tax instruments. At the national level, other parts of the paper analyze how the legal mainly governance regimes in the United States - but also Brazil and China - allocate the power to regulate trade between national and sub-national governments and how those compacts affect the ability to use green energy-related tax expenditures. The analysis finally compares these approaches with the EU's State aid rules, with the ultimate aim of determining the relative degree of freedom or constraint under different forms of government in different countries. This comparative assessment can help countries to evaluate how existing legal regimes affect their relative ability to both compete in international and national markets and achieve energy and climate change goals.

1.2. Tax power's allocation and legal authority to control the internal market. A factual precognition to be considered

At a first approximation, the EU does not tax, spend, implement or coerce, and, in many areas it does not hold a legal monopoly of public authority. In the EU, Member States keep their tax powers and even in areas of the EU's greatest fiscal activity (the common agricultural policy, structural funding and development aid), most public findings remain national.⁵

Taxation is typically an area in which the EU has few exclusive powers, mainly expressed in the Union Treaties in order to harmonize tax regulations, although many powers of taxation straddle the areas of shared competences between the European Union and the Member States.⁶ Some multilateral agreements cover trade and investment in particular sectors and impose obligations concerning taxation in the sectors covered.⁷ In contrast, Article 4 of the Treaty on European Union (TEU) enumerates the shared competences between the European Union and the Member States, several of which are also relevant to the major objectives of the Union: internal market, economic, social and territorial cohesion, environment, transport, trans-European networks and energy. The competition rules which are, of course, the core of this internal market, are the exclusive domain of the Union. In addition, the Union already has extensive legislation in place with respect to the internal market. Therefore, there is no doubt that the centre of gravity of the legislative power with respect to the internal market lies with the Union but tax power's allocation lies with the States.

The energy taxation regime in the EU is foreseen in Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity.⁸ This legal instrument sets minimum rates of taxation applicable to energy products when used as motor or heating fuels and to electricity. In this sense, Member States are prohibited from applying lower levels of taxation than those foreseen in the Directive. The Energy Taxation Directive is closely related to the State aids regime, since it includes exemptions and authorises Member States to grant tax incentives.9

 $Moravcsik, Andrew, Reassessing \ legitimacy in the \ European \ Union. \ JCMS: Journal \ of common \ market \ studies, vol. \ 40, no. \ 4, 603-624 \ (2002).$

See Frans Vanistendael, Federalism and the Euro Crisis, 3 World Tax Journal 10, 408-409 (2011).

Hugh J. Ault and Jacques Sasseville, Taxation and Non-Discrimination: A reconsideration, World Trade Journal 22, 120 (2010).

Council Directive 2003/96/EC of 27 October 2003, restructuring the Community framework for the taxation of energy products and electricity (OJ L 283, 31.10.2003). The Proposal for a Council Directive amending Directive 2003/96/EC (COM (2011) 169/3) was given up (OJ C 80/17, 7.3.2015).

For further information about this topic see Marta Villar Ezcurra, EU State Aid and Energy Policies as an Instrument of Environmental Protection: Current Stage and New Trends. European State Aid Law Quarterly (4), 611-620 (2014) and Marta Villar Ezcurra, State Aids and Energy Taxes: Towards a Coherent Reference Framework. Intertax 41 (6-7), 340-350 (2013).