25 years of VAT! And tomorrow: A Green VAT?
The use of VAT as a climate tool[1]

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Summary

This article examines the extent to which VAT could be used as a tax incentive in the context of the fight against global warming. Since VAT is a general consumption tax that is already applied by a well-equipped and efficient administration, giving it the character of an incentive ecological tax makes it possible to easily reach all economic sectors that need to be reached without requiring new administrative resources. However, the contribution shows that using VAT in its current functioning, in particular by introducing rate differentiation to favor green products or penalize polluting products, is an approach which is moderately effective. In particular because of the way VAT operates, notably the right to deduct input tax, the incentive nature of VAT would be essentially limited to final consumers and would have no effect on a very large part of the economy. The article therefore proposes an alternative approach that would take advantage of the existence of VAT as a general consumption tax and the tax administration that applies it. The idea is to use VAT as a vector to levy a surcharge with an essentially ecological purpose. This "General Green Tax" would be levied in parallel to the VAT. It would consist of an additional rate levied on revenues subject to this tax, but which could not be deducted as input tax by companies subject to VAT. The GGT surcharge rates would obviously be different depending on the goods or services covered by the measure. The introduction of such a VAT-based ecological tax would require a new constitutional basis. But it would have many advantages that are outlined in the article, including the possibility of a phased implementation and the ability to reach all economic sectors with a simple mechanism that would build on an already existing administration.

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Table of contents

I. Introduction

1. Climate issues and ecological taxes

Global warming has become a fact of life that everyone, except for a few anosognosias, has become aware of. For many years, governments have been trying to introduce measures to contain this phenomenon and limit greenhouse gas emissions[3]. The Paris Agreement adopted in December 2015 and ratified by Switzerland on 16 June 2017 sets the goal of keeping global warming 2 degrees below pre-industrial levels. But the climate challenges are enormous and pressing. In Switzerland, the 2-degree warming threshold has already been reached[4] and the greenhouse gas reduction target for our country corresponds to 30% compared to 1990 levels by 2030.

In this context, the implementation of tools that use market forces to contribute to ecological objectives appears as an obvious solution. These include tax incentives[5]. Ecological taxes

[3] For a history of international agreements, see Federal Council Message on the total revision of the CO2 Act for the period after 2020 of 1.12.2017, FF 2018, 229 ff (CO2 Message), p. 236 ff.
[4] CO2 message, p. 246.
[5] For a classification of the various ecological taxes, see Oberson Xavier, Les taxes écologiques et le partage des compétences de leur mise en œuvre entre la Confédération et les cantons, Archives de droit fiscal (ASA) 60, 1992, p.

pursue several objectives. On the one hand, global warming generates very high costs that nobody is required to pay for. Environmental taxes are an effective way to integrate these costs into the price of the activities that generate them, i.e. to internalize these costs and ensure that the persons who generate the pollution pay the price for it[6]. They make certain polluting services or products more expensive and can thus change the behavior of economic actors[7] thus encourage greener purchases[8].

The CO2 Act, that has been adopted by the Swiss Parliament on September 25, 2020 is the main instrument of Swiss climate policy[9]. Various measures are mentioned, including the use of environmental taxes. In addition to the CO2 tax, a new tax on airline tickets has in particular been introduced[10]. This new ticket incentive tax is constructed as an indirect tax: air transport companies are subject to the tax[11], which is passed on to the passenger. The Federal Office for the Environment (FOEN) is responsible for collecting the airline ticket tax[12].

In the context of the climate emergency, however, all sectors will need to contribute to the efforts. While transport is one of the areas with high emissions, construction, industry, agriculture and food production are also part of the issue[13]. It is clear that only a comprehensive approach and large-scale behavioral change will make it possible to meet the challenges of global warming. Beyond the aviation sector, it is also necessary to favor electric propulsion over fossil fuel engines, locally produced fruits and vegetables over those produced on the other side of the world, etc.

2. *VAT as a climate tool?*

VAT is a general consumption tax that affects most economic sectors. It concerns both goods and services. Thanks to its three modes of collection[14], it can cover all forms of consumption on Swiss territory, whether clients acquire good or services from Swiss providers or import goods or purchase services from abroad.

The question of the use of VAT as a climate tool thus deserves to be raised. Can we add an incentive role to our VAT and give it the character of an ecological tax? As we will see below, this question has been discussed in the European Union (EU), but, to our knowledge, not

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225 ff (taxes écologiques), p. 228 ff , Oberson Xavier, Les fondements juridiques de la fiscalité écologique, in: Pillet/Oberson et al (eds), Réforme fiscale écologique - Fondements, applications, Basel/Geneva/Münich 2001, p. 13ss (fondements), p. 13ss and Daguet Sandra, Paying to pollute? La fiscalité écologique en Suisse, Lausanne 2014 (Paying), p. 38f.

[6] The Entreprise for Society Center (E4S), Introducing an Airline Ticket Tax in Switzerland, Estimated effects on Demand, Policy Brief March 12th, 2020(https://www.e4s.center/wp-content/uploads/2020/03/E4S_PB_EN_v2.pdf; consulté le 28 juillet 2020) [Ticket Tax], p. 3.

[7] Oberson, Ecological Taxes, p. 226; Daguet, payer, p. 35s; Kosonen Katri/Nicodème Gaëtan, The Role of Fiscal Instruments in environmental policy, in: Critical Issues in Environmental Taxation, Volume VIII, Oxford University Press 2010, p.3ss (Role), p. 5.

[8] Kosonen/Nicodème, Role, p. 5.

[9] CO2 Message, p. 244.

[10] Art. 42ff CO2 Law

[11] Art. 43 CO2 Law.

[12] Art. 46 CO2 Law.

[13] For an overview of the sectors with the highest emissions in Switzerland, see CO2 Message, p. 246. See also Oosterhuis Frans/Schaafsma Marije, Value Added Tax as an environmental Policy Instrument? In: Critical Issues in Environmental Taxation, Volume VIII, Oxford University Press 2010, p. 395 ff. (Policy instrument), p. 400, which puts food at the forefront of climate impact sectors.

[14] Art. 1, para. 2 of the Swiss Law on VAT of June 12, 2009 (VAT Law).

yet in Switzerland. At a time when our VAT is celebrating its 25th anniversary and in the context of the current climate issues, it seems appropriate to address this subject and examine this possibility.

A first approach, which will be the subject of Chapter III below, could be to use VAT as such, as it currently operates, to give it the character of an environmental tax. Following the example of what has been envisaged in the EU, the introduction of distinct VAT rates, in particular to raise the price of polluting services, could thus give this tax an incentive character. The use of reduced rates to promote certain ecological products, or even leaving outside the scope certain operations, could also be envisioned. The objective would be the same each time: to steer consumption towards a more climate-responsible behavior by making certain services more expensive than others. However, we shall see that, because of the way it works, VAT is a tool that presents disadvantages as an incentive tax.

We shall then examine, in Chapter IV, whether VAT could not be used as a vehicle for levying a surcharge with an essentially ecological purpose. This surcharge, which we shall call *General Green Tax*, would not be part of the functioning of the current VAT, but would represent a separate tax operating as a pure tax incentive levied alongside and backed by VAT. Indeed, VAT is implemented by the Federal Tax Administration (FTA), a well-established and efficient administration with a very broad base of registered taxpayers representing a large majority of the country's economic actors. This administration would hence be well positioned to levy a tax separate from VAT on economic players, particularly businesses. Such a use of the FTA for the levying of taxes distinct from VAT would not be fundamentally new, since the FTA already assumes the levying of radio and television license fees from companies[15].

VAT is a tax that represents the Confederation's main resource[16]. The use of higher rates to penalize less environmentally friendly products would therefore necessarily also have a fiscal character. The same applies to a surcharge levied in addition to VAT. In the classical conception of ecological taxation, these funds can be used to reduce other taxes, e.g. taxes on earned income[17], to finance social insurance[18] or to meet urgent public needs. Part of this income could also be reinvested in measures to reduce the price of more environmentally friendly products, e.g. by reducing the cost of local production of Swiss fruits and vegetables, reducing the price of electric vehicles, etc. The issues related to the use of the funds collected through the introduction of an ecological VAT are not the subject of this contribution. In addition, the fact that certain transactions are penalized in comparison with others raises the question of the compatibility of these measures with European subsidy rules and WTO regulations, which are not dealt with here. Finally, this study does not examine the extent to which a price increase generated by a higher VAT rate or the levying of a surcharge is economically efficient. This question should be studied together with economists[19] and climate specialists.

[15] See Art. 70 ff. of the Federal Act on Radio and Television of 24 March 2006 (LRTV), which stipulates that the FTA is responsible for collecting the license fee from entities who are registered VAT tax payers (Art. 70a LRTV).
[16] In 2019, it brought in 22.5 billion, i.e. 30% of the Confederation's ordinary revenue.
[17] See in particular Kosonen/Nicodème, Role, p. 5.
[18] This could help to avoid the need to increase social charges and, as Kosonen/Nicodème, p. 5s, points out, could have a positive impact on employment.
[19] For an example of an impact assessment on the use of different VAT rates, see in particular Institute for Environmental Studies, The use of differential VAT rates to promote changes in consumption and innovation, Final report commissioned

II. General principles and functioning of VAT

1. General principles

Art. 130 of the Swiss Constitution (Cst.) gives the Swiss Federal State the power to levy VAT, which it does essentially on the basis of the VAT Law[20]. Like all taxes, VAT must comply with constitutional principles, particularly those governing taxation (Art. 127 (2) Cst.)[21]. VAT is also governed by Guiding Principles which are in particular recalled in art. 1, para. 3 VAT Law. They derive from the nature and characteristics of VAT as a general consumption tax[22] and seek to guide the legislator in drafting the law and the authorities it in its application[23]. In particular, the principle of neutrality[24] should be noted here, which aims to ensure that VAT does not distort relations between the various economic players. As far as possible, all goods and services should be taxed in the same way, irrespective of the subjective characteristics of the supplier and his position in the production chain. In order to ensure competitive neutrality, two typical VAT mechanisms are essential: on the one hand the deduction of input tax and on the other hand the possibility for the taxable person to transfer the tax to his customer. The principle of efficiency of collection aims at levying the tax according to the simplest possible rules and aims at reducing collection costs as much as possible. The principle of transferability recalls that VAT must be passed on to the consumer.

2. Object and functioning of VAT

VAT is a general consumption tax whose purpose is to tax the use of income by the final consumer[25]. It is levied at all stages of the value chain (it is referred as a multi-stage tax). The specific VAT mechanism must nevertheless ensure that the tax is only economically borne by the final consumer, without becoming a definitive burden on taxable businesses. VAT is paid to the FTA by the taxable person who can pass it on to its customers on the invoice. It therefore also affects transactions between businesses. A business' expenses and investments are thus burdened with VAT. When it is registered as a VAT taxpayer, this economic actor can however recover this VAT through the mechanism of input tax deduction. Otherwise, the input VAT invoiced by its suppliers represents a cost which either reduces its margin or is passed on in a hidden manner in the prices of the supplies to its customers. This is known as hidden tax. The recovery of input tax thus represents a central element of VAT.

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by European Commission, 25.06.2008 (Final report EU); Kosonen/Nicodème, Role, p. 13 refer to economic studies on the impact of different VAT rates.

[20] Federal law governing the value added tax of 12.06.2009 (VAT Law).

[21] On the question of constitutional principles and VAT, as well as on the question of the VAT Guiding Principles, see in particular Glauser Pierre-Marie, Les principes régissant la TVA : de l'utopie à la réalité ? Archives de droit fiscal (ASA) 84 (2015-2016), p. 97ss (Principles) and the references cited.

[22] Oberson Xavier, Les principes directeurs et constitutionnels régissant la taxe sur la valeur ajoutée, RDAF II 1997, p. 33 ff (Principes), p. 38; Mollard Pascal/Oberson Xavier/Tissot Benedetto Anne, Traité TVA, Bâle 2009 (Traité), p. 86.

[23] Mollard/Oberson/Tissot Benedetto, treatise, p. 86.

[24] For an overview of the various guiding principles, see Glauser, Principles, p. 102 ff. and the references cited.

[25] See art. 1, para. VAT Law.

The purpose of VAT is to tax consumption on Swiss territory[26]. Imported goods are taxed at the time of importation (import tax) and services acquired from foreign suppliers must be self-assessed by the Swiss consumer as soon as the foreign supplier is not registered as a Swiss VAT taxpayer (reverse charge mechanism). On the other hand, goods exported and services provided to customers outside the country are in principle not subject to VAT. The international competitiveness of Swiss suppliers is therefore not affected by the level of VAT rates[27].

III. Use of the current VAT as an environmental instrument?

1. Purposes of an ecological VAT

As a general consumption tax, the use of VAT as an incentive tool could have a much broader scope than targeted taxes such as, for example, the new CO2 tax on airline tickets. Moreover, it could be based on a mechanism already well known to economic actors and on an existing and well-equipped administration to levy it. The classic approach to give VAT the character of an ecological tax consists in using distinct rates to favor certain services over others, whether it be reduced rates for ecological products or higher rates for polluting products[28]. The effectiveness of a rate difference on consumer behavior depends strongly on the economic concept of elasticity, in particular the cross-elasticity of demand, which determines to what extent an increase in the price of a product of a certain category will lead to an increase in the consumption of alternative products in the same product category[29]. The interest is obviously to lead the consumer to switch from a polluting product to a green product; this can be best achieved by an increase in price through VAT for goods with a high elasticity. This naturally depends on the type of products concerned[30]. However, even when it concerns goods with low elasticity - such as energy or food - the impact of incentive VAT rates is likely to have a significant environmental effect[31]. Of course, the effect of rate differentiation should ideally apply to products with high elasticity. However, it is primarily up to economists and climate specialists to decide which products should begiven priority for "green" VAT rates.

2. Discussions in the European Union (EU)

At the European Council of March 2008, one of the conclusions of the EU Presidency stated the following: "The European Council also invites the Commission, in bringing forward its legislative proposals on VAT rates, due in the summer of 2008, and working with the Member States, to examine areas where economic instruments, including VAT rates, can have a role to play to increase the use of energy-efficient goods and energy-saving

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[26] The principle - unwritten in the VAT Law - of destination requires goods and services to be taxed in their country of consumption (Glauser, Principles, p. 107).
[27] Kosonen/Nicodème, Role, p. 7 note that incentive taxes can penalize international competitiveness, which should not be the case with the use of VAT as this tax is not levied by the country of the supplier in case of export.
[28] Insofar as the use of separate rates consists of increasing the relative price of some products compared to others, the two approaches are essentially the same. For the purposes of this analysis, we will refer mainly to reduced rates for environmental friendly products.
[29] Final report, p. 18; E4S,Ticket tax, p. 3ss, which examines the issue in thecontext of air ticket tax.
[30] Final report, p. 18 ff.
[31] Oosterhuis/Schaafsma, Policy instrument, p. 406.

materials"[32]. While this project has clearly not made much progress at an institutional level[33], it has in any case generated discussions in the literature[34]. In addition, several EU countries already apply reduced rates for certain environmentally friendly products[35].

The discussion in the EU highlights the advantages of using reduced VAT rates for environmental purposes. In addition to the direct impact on the environment through the mechanism of substitution of polluting products by green products[36], the difference in VAT rates could have an impact on innovation by encouraging producers of environmentally unfavorable goods to evolve their product to benefit from more favorable rates[37]. It also has a communication effect insofar as the VAT rate represents a signal that draws the consumer's attention to the environmental aspect of certain goods and services; moreover, economic actors can integrate this aspect into their marketing strategy[38]. Finally, as already mentioned above, the use of VAT as a climate tool has the advantage of being based on an already existing administration[39].

But the application of reduced VAT rates also has disadvantages. Beyond the general criticism of the regressive effect of VAT[40], the difficulty of differentiating between products that are to be favored, those that are to be penalized and mixed products is highlighted[41]. Moreover, some green products, for example in the food sector, are already taxed at reduced rates[42]. The rebound effect is also evoked in the context of a reduction in VAT: making certain green products cheaper could lead to an increase in their consumption, which would be negative from an ecological perspective[43]. Furthermore, the introduction of reduced VAT rates leads to a loss in tax revenues for the State. This in particular if the measure concerns products that the consumer was in any case intending to acquire (*free rider effect*)[44]. In addition, the introduction of separate rates creates administrative costs linked in particular to the complexity that it generates[45]. Finally, a rate reduction creates the

[32] European Council of 13/14.3.2008, Brussels, Presidency Conclusions, 20.05.2008, 7652/1/08 Rev 1, paragraph 27.

[33] Herbain Charlène, Should VAT be the next environmental Policy Tool? International VAT Monitor, 2020 (Vol. 31), Nr. 2, published online 14.01.2020 (Policy Tool), p. 2s.

[34] Final report, p. 3 ff; Herbain, Policy Tool, p. 2 which gives an overview of the work related to the review of reduced rates; Kosonen/Nicodème, Role, p. 12 ff which discusses reduced VAT rates and compares them with other direct tax measures; Oosterhuis/Schaafsma, Policy instrument, p. 395 and Ashworth Elisabeth / Cox Etienne, Using VAT as a Tool to Fight Climate Change? Daily Tax Report: International, April 14, 2020 (Tool), p. 1ss which looks at the climate impact of reduced VAT rates; Widmann Werner, Kann die Umsatzsteuer einen Beitrag zum ökologischen Umbau des deutschen Steuerrechts leisten?Umsatzsteuer-Rundschau 1996, p. 146 (Umbau), p. 146ss (rather sceptical); Keil Thomas, Mehrwertsteuersystem und ökologische Steuerreform - Versuch einer konzeptionellen Verbindung, Umsatzsteuer-Rundschau 1996, p. 247 (Steuerreform) which refers to an "Allphasen- Ökosteuer" which would charge the final consumer for all energy; the idea is to provide for a VAT surcharge for each company according to its energy consumption which would be added to the VAT rate charged to customers; this surcharge is in addition to the normal VAT rate and could thus be deducted as input tax.

[35] For an overview, see Herbain, Policy Tool, p. 2.

[36] See above 1; Final report, p. 11; Oosterhuis/Schaafsma, Policy instrument, p. 406. Oosterhuis/Schaafsma, Policy Instrument, p. 407 conclude, for example, that an increase in VAT rates in relation to food could have a positive impact on the climate.

[37] Final report, p. 21, which notes that this effect depends on the type and elasticity of the product concerned.

[38] Final report, p. 19f; Oosterhuis/ Schaafsma, Policy Instrument,p. 403.

[39] Final report, p. 12.

[40] See in particular Widmann, Umbau, p. 146. This critic, which is also controversial in doctrine, concerns the fact that VAT does not take sufficient account of contributive capacity; this argument could be strengthened by the use of higher rates on some products than on others.

[41] Final report, p. 16.

[42] Oosterhuis/ Schaafsma, Policy Instrument, p. 399.

[43] Final Report EU, p. 21; Oosterhuis/ Schaafsma, Policy Instrument, p. 403.

[44] Final Report EU, p.23f; Oosterhuis/ Schaafsma, Policy Instrument, p. 401.

[45] Final report, p. 25; Herbain, Policy Tool, p. 3; Widmann, Umbau, p. 147.

risk that the supplier will not pass on the rate reduction to its client and will take advantage of it to increase its margin[46].

3. Inadequacy of VAT as a general incentive tool

3.1 The obstacle of VAT neutrality and of the VAT functioning

The few authors in Switzerland who have discussed the use of VAT in an ecological context reject it as a climatic tool because of the principle of neutrality[47]. Indeed, there is a fundamental contradiction between the incentive nature of an ecological tax and the neutrality on competition of the same tax which, by definition, penalizes some actors in relation to others. VALLENDER and JACOBS therefore reject the idea of VAT with an ecological purpose, including the use of reduced rates[48].

Beyond the question of neutrality, the use of VAT as an ecological incentive tool comes up against a fundamental problem, in our opinion, which lies in the very functioning of this tax. As mentioned above[49], VAT only burdens the final consumer. Companies subject to VAT do not in principle bear the tax burden thanks to the mechanism of input tax deduction and the transfer of the tax to their customers. Needless to say, questioning or limiting the right to deduct input tax seems difficult to envisage, as this would question the very functioning of VAT. Thus, whatever the way in which the rates are adapted to pursue an ecological incentive, the measure only applies to final consumers and remains without any effect on businesses. The introduction of a green VAT therefore only concerns the last stage of the value chain and completely leaves aside all the other economic actors which, of course, must also contribute to solving the climate issue[50]. The introduction of a green VAT would therefore represent a mechanism which would place the environmental effort exclusively on the final consumers while ignoring the other economic actors.

A few examples will illustrate this point. Imagine a lower VAT rate for the purchase of electric cars than for fuel cars. A company acquiring a new vehicle can deduct the input VAT on the purchase of the vehicle and therefore remains completely unaffected by the difference in rates, unlike a private individual who cannot reclaim the VAT. Thus, the tax incentive has no effect on businesses, which will have no fiscal interest in favoring electric vehicles. Only entities which, because of the nature of their exempted turnover (banking, insurance, hospitals, etc.) or the fact that they receive subsidies (culture, public education, etc.) are not entitled - or have a limited right - to deduct input tax, would be affected by the difference in rates. Hence, only certain economic sectors would be penalized compared to others, which would raise delicate constitutional questions regarding equal treatment and discrimination between competitors, in particular. This is all the more so as it would not necessarily be the

[46] Oosterhuis/ Schaafsma, Policy Instrument, p. 400f; Herbain, Policy Tool, p. 4 (and references cited). See, however, also Final report EU, p. 17, which shows that in general an increase in the rate is reflected in the price of the services concerned.
[47] Vallender K., Jacobs R., Ecological Tax Reform, Haupt (IFF 92), Berne 2000, p. 171.
[48] Vallender/Jacobs, p. 171.
[49] See above 2.
[50] This aspect has only been mentioned very rarely in the literature we have consulted in the European context; however, it should be noted that Oosterhuis/Schaaafsma, Policy Instrument, p. 399 also highlights the fact that the reduction in VAT rates would only have an effect on goods acquired by final consumers or entities that do not have a right to deduct input tax.

areas most directly concerned that would be affected, since sectors like food, industry, vehicle sales, energy etc. have generally a full right to deduct input tax.

The mechanism of VAT and its focus on the final consumer also implies that the effect of the introduction of green VAT rates would have a quite different effect depending on the stage of the production chain in which transactions take place. Indeed, a decision may have a negative climatic impact upstream in the production chain and result in an environmentally neutral product at the consumer level. Imagine that VAT applies a lower rate for strawberries produced locally in Switzerland than for those imported from Palombia. A Swiss restaurant buys strawberries to make sorbets on his restaurant 's menu. The local consumption of sorbet is in itself climate neutral and therefore this type of service should not be penalized. It is the purchase of Palombian strawberries that should be reduced in favor of locally produced strawberries. Since the restaurant can recover VAT, regardless of the VAT rate applied to the purchase of the strawberries it uses to make the sorbet, it will have no incentive to choose one category of strawberries over another. As for the sorbet consumed by the customer, the VAT rate charged to the consumer will be the same whether the service consumed includes strawberries produced locally or in Palombia. This example shows that VAT cannot function as an environmental incentive as soon as the operation takes place before the last stage of the value chain, i.e. the final non-business consumption stage.

3.2 Other concerns

The disadvantages of the use of reduced VAT rates for environmental purposes highlighted in the context of the EU necessarily also apply to Swiss VAT[51]. A particular concern is the problem of the increased complexity of applying different types of rates and the administrative costs that this generates. Reintroducing different rates in VAT would run against the simplification efforts that led to the law currently in force. It should be recalled in this respect that a fundamental reform of the VAT Law was initiated in 2005[52] with the aim of simplifying VAT in order to reduce the costs it generates for businesses[53]. It is obvious that the introduction of additional reduced rates would not go in the direction of VAT simplification.

4. Intermediate conclusion

The use of VAT, in its current functioning as a general consumption tax, to influence the ecological behavior of economic actors and contribute to the fight against global warming appears to be a moderately effective tool. The differentiation of tax rates can certainly have a positive effect in ecological terms by influencing consumer behavior towards a greener trend; moreover, VAT has the advantage of affecting all economic sectors and being levied by a well-established administration. However, because of the VAT mechanism, which is impregnated with the principle of neutrality, the incentive character only concerns final consumers who do not act in the context of an entrepreneurial activity and companies that do not have a full right to recover input tax. The introduction of green VAT therefore concerns only part of economic operations, i.e. those affecting the final stage of the production chain.

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[51] See above 2.

[52] On the history of the LTVA, see in particular Glauser Pierre-Marie, 25 years of VAT: Retrospective and prospective - In particular the challenges of digitalisation for Swiss VAT, Expert Focus 5/2020, p. 337ss (Retrospective).

[53] Message from the Federal Council on the simplification of VAT of 25 June 2008, FF 2008, 6777 (Simplification message), p. 6300.

All operations in earlier stages would thus escape this ecological measure. Such an ecological reform would therefore be very limited in scope and would leave out a very large part of the economy. On the other hand, it would be accompanied by the shortcomings highlighted in the discussions at the European level, in particular it would reintroduce a level of complexity that the last 25 years of Swiss VAT history have sought to reduce.

IV. VAT as a vehicle for levying a general ecological surcharge

1. Functioning of a General Green Tax surcharge (GGT)

Nevertheless, measures to combat global warming need to be put in place and tax incentives are part of them. The new airline ticket tax recently introduced with the new CO2 Law is an example[54] . Needless to say, we can only support such measures. But why focus only on the aviation sector? Why not also intervene in sectors with a high climatic impact, such as construction, industry, food production, etc.[55]? Indeed, only a global approach will enable to respond effectively to climate issues! And isn't it a waste of administrative resources to introduce new indirect taxes, the collection of which is entrusted to administrations that are not equipped for this task and will have to invest considerable resources to set up an effective collection tool?

In this context, one approach could be to take advantage of the existence of VAT as a general consumption tax and of the administration applying it (FTA) to levy a new environmental tax. VAT would thus function as a vehicle for levying this new incentive tax with an essentially ecological purpose. This *General Green Tax*, or GGT, would apply in parallel to VAT on supplies, whether goods or services, which would be identified as having to be penalized for climate reasons. Depending on the characteristics of the product concerned, for example in relation to its emission rate, its carbon footprint or energy consumption or any other criteria to be developed in collaboration with economists and climate specialists, a GGT rate supplement would be added to the ordinary VAT rate. Obviously, the rate of the surcharge could be different depending on the products concerned. Which goods and services would be subject to the GGT and which rate to apply would be determined primarily on the basis of economical and climatic criteria. In particular, it would be necessary to target the most environmentally unfavorable products and those offering substitute products.

This GGT would apply to the turnover that falls within the scope of VAT for all transactions subject to VAT and located on Swiss territory. The basis of calculation would be the same as for VAT[56]. It would also be levied on imported goods and on services acquired from abroad. On the other hand, the GGT would not be due in the case of export of goods or transactions located abroad. In other words, the GGT would be levied as a rate surcharge on the turnover realized by businesses subject to VAT, in the same way and according to the same rules as ordinary VAT. It would also be passed on to the customer but, as it is a separate tax from ordinary VAT, it would have to be invoiced separately. Furthermore, and

[54] See above I and in particular note 10.
[55] See above I and in particular note 13.
[56] Or the one defined in art. 24 VAT Law.

this would be the main difference with the VAT rate reductions discussed in the EU[57], this GGT would not be deductible as input tax, neither by final consumers nor by businesses registered as VAT taxpayers. The fact that businesses would not be able to recover the GGT would imply that the incentive effect would occur at all stages of the value chain and not only at the final stage. The climate effort would thus concern all economic actors.

Let's come back to the example of the restaurant that buys strawberries to sell sorbet. The restaurant buys strawberries for 100 (excluding VAT) and sells sorbet to its customers for 200 (excluding VAT). Let's assume a GGT of 2% for the Palombian strawberries; locally produced strawberries, like the restaurant service, are climate neutral and therefore not subject to the GGT. The sorbet made with local strawberries is sold to the customer at a price of 215.4[58]; the restaurant does not bear any tax burden, since the VAT on the purchase of the strawberries (2.5)[59] is fully deductible as input tax. The restaurant's margin is therefore 100[60]. However, if Palombian strawberries are purchased, they are invoiced to the restaurant with the 2% GGT surcharge. As the restaurant cannot recover this tax as input tax, it can either reduce its margin from 100 to 98 or increase the price of its sorbet by 2 to keep the same margin of 100. In this case, the price of the sorbet rises to 217.5[61] . Its sorbet is thus more expensive than that of its competitor who makes it with Swiss strawberries, due to the GGT which is passed on in its price and to which VAT is added[62]. Whatever the restaurant's reaction, the GGT should encourage it to choose locally produced strawberries rather than Palombian strawberries.

Applying the GGT to transactions located in Switzerland, as well as to imported goods or services acquired from abroad, makes it possible to submit all transactions on Swiss territory to the incentive tax, without discriminating Swiss players in comparison with those abroad. Similarly, the fact that the GGT is not levied on transactions located abroad or exported reduces the risk of penalizing the international competitiveness of Swiss companies[63].

2. *Constitutionality of the GGT*

The introduction of a new incentive tax levied alongside VAT would probably require a new constitutional basis. As OBERSON[64] points out, the introduction of incentive taxes by the Confederation requires a constitutional amendment, at least if they have a fiscal character in parallel with their incentive character. It seems doubtful whether it would be possible to rely solely on Art. 73 Cst. (sustainable development) and Art. 74 Cst. (environmental protection) to introduce a new tax such as the GGT, which would undeniably have a fiscal character. The Constitution should thus be amended to add a new article to be inserted in Chapter 3 (financial regime). For example, one could imagine a new article 130bis Cst entitled "Environmental Surcharge" which could have the following wording

[57] See above 1 and 2.
[58] 200 + 7.7% VAT = 215.4; the calculations in this example are based on VAT charged in addition to the price and not included in the price.
[59] VAT on the purchase of food products is levied at the rate of 2.5% (Art. 25, para. 2, ch. 2 VAT Law).
[60] Sale of the sorbet: 200 - purchase of the strawberries: 100.
[61] 202 + 7.7% VAT = 217.5.
[62] Insofar as the GGT would be part of the costs of the restaurant, the inclusion in the price of the sorbet implies that this amount of GGT would be subject to ordinary VAT in connection with the sale of the service (art. 24 VAT Law).
[63] However, see below 4.
[64] Oberson, taxes écologiques, pp. 236s and 239.

"The Confederation shall levy a surcharge on the supply of goods and services that are harmful to the environment.

The surcharge is levied on transactions that fall within the scope of value added tax, whether they are transactions carried out on Swiss territory, imports or acquisition tax.

Transactions subject to the surcharge and the rate of tax is determined by legislation. In particular, it is based on the amount of CO2 generated by the supply. The existence of substitute products to be preferred must also be taken into account».

Obviously, there would be some tension between this new tax and the principles governing the taxation of Art. 127, para. 2 Cst. However, these principles apply only "... to the extent that the nature of the tax allows it ... ". Moreover, the GGT would be fully in line with the constitutional mandate of Art. 73 and 74 Cst. in terms of sustainable development and environmental protection. A balancing of constitutional interests would therefore, in our view, justify the introduction of the new Art. 130bis Cst.

3. Compliance with the VAT guidelines and its functionning

Insofar as the GGT would be conceived as a surcharge, levied alongside VAT on certain supplies, the mechanism and functioning of ordinary VAT is not affected. Ordinary VAT remains within the framework of the Guiding Principles, as today. In particular, the neutrality of VAT on competition remains unchanged from the current situation.

On the other hand, it goes without saying that the GGT does not comply with the principle of neutrality. On the contrary, and this is the purpose of an incentive tax, it aims to discriminate certain services compared to others[65].

4. Advantages and disadvantages of the GGT surcharge

There are real advantages to using VAT as a vehicle for levying an environmental surcharge such as the one described here:

- The system allows the implementation of an environmental tax system that can easily be used to target many areas concerned by the climatic issue and avoids the implementation of specific taxes targeting various sectors.
- In contrast to the use of ordinary VAT, the GGT surcharge does not only affect the non-business final consumption stage but creates an incentive for all economic actors operating at all stages of the value chain.
- By setting GGT surcharge rates specific to certain products, the system can be optimally implemented to take into account the degree of climatic harmfulness of the products concerned and climatic parameters on the one hand and economic aspects on the other hand. In particular, the surcharge can be easily adapted to the elasticity of the goods or services concerned[66].

[65] Daguet, Pay, p. 35.
[66] Keil, Steuerreform, p. 249 points out, among other things, that most environmental taxes are aimed exclusively at products with low elasticity, such as energy.

- The approach examined here does not involve a reduction in VAT rates. There is therefore no risk that economic operators will not pass on the measure to their customers. It also avoids most of the criticisms made against a reduction of the VAT rate, in particular the risk of a rebound effect[67].
- The use of the GGT surcharge also gives a clear and strong signal to businesses and consumers about the climate impact of their purchasing decisions[68].
- The solution can be implemented in stages, by introducing the surcharge on the products that one wishes to target as a priority and by adapting the range of goods and services concerned at the pace chosen by the legislator. Once the mechanism has been adopted, it is in fact easy to change the products subject to the surcharge, without the need to adopt a new system or even a new law.
- The system is based on the existing VAT mechanism, but without any impact on its functioning. The collection of the GGT surcharge is carried out by an already existing administration, which knows the taxpayers and is equipped to ensure the proper collection of such a tax.
- From a legislative point of view, the system certainly requires the adoption of a new constitutional basis, which would of course require a major political debate. Once adopted, the legal framework would be simple to put in place and to implement.
- The GGT surcharge would generate significant financial resources for the Confederation which could be used, among other things, to promote or even subsidies more environmentally friendly alternative products.
- Finally, the risk of penalizing the international competitiveness of Swiss companies is reduced since, thanks to the fact that the GGT surcharge is based on the VAT mechanism, it is focused on transactions taking place on Swiss territory. Exports are exempt and imports are taxed[69].

Of course, the levying of a GGT surcharge would also raise some difficulties:
- It is necessary to determine which products are subject to the surcharge and the rate of the surcharge. However, this technical obstacle is mitigated by the fact that the introduction of the GGT can be introduced in stages, in an evolutionary manner and builds on the pre-existing VAT mechanism and administration, without jeopardizing its proper functioning.
- As mentioned above, the impact on the competitiveness of Swiss companies is reduced compared to other incentive mechanisms. Nevertheless, to the extent that the GGT paid to their supplier would not be recoverable, it would represent an additional cost on some of the purchases of business entities. This raises the question of the risk of *carbon leakage*[70] *;* this phenomenon refers to the fact that polluting companies might consider relocating and producing outside Switzerland. The environmental effect would then not be achieved, since the emissions would occur in this case anyway on the other side of the border. However, the mechanism discussed here does make it possible to reduce this risk as far as possible. On the one hand, this problem does not arise for cross-border transactions that would be subject to the GGT, since, as mentioned above, the fact that the surcharge is relying

[67] Seeabove 2; see also Kosonen/Nicodème, Role, p.14 and p.16 on the disadvantages of lowering VAT rates.
[68] In thesame vein: Keil, Steuerreform, p. 249, who points out this advantage for his Allphasen-Ökosteuer proposal.
[69] The export of polluting products would thus not be subject to the surcharge. It would be up to the countries importing these goods to put in place measures to discourage the acquisition of such products within their jurisdiction.
[70] Kosonen/Nicodème, Role, p. 8.

on VAT places Swiss players on an equal footing with their foreign competitors. As for the increase in the price of goods subject to the tax and acquired by Swiss companies, the risk of an increase in production costs can be reduced to the extent that companies have the possibility to switch to less polluting and therefore GGT tax-free investments and expenses. This must be considered when selecting the products subject to the GGT and their rates.

- Finally, as with any tax set independently of the personal situation of the taxpayer, one could raise the question of the regressive effect of the GGT surcharge[71]. But, here again, compared to other incentive taxes, the flexibility of the GGT makes it possible to respond partially to the criticism by working on the choice of goods and services concerned. In particular, prioritizing the choice of products with greener substitutes is one element that partly responds to the criticism. In addition, the revenue raised through this new tax would make it possible to take measures to reduce the price of substitute products, as in the examples used above, the price of Swiss strawberries compared to Palombian strawberries or electric cars compared to fuel-powered vehicles.

V. Conclusions

In the context of the climate emergency, the introduction of a green VAT is an idea that deserves the utmost attention, especially now that this tax is celebrating its quarter-century in Switzerland. Compared to the introduction of one-off and targeted taxes, such as the tax on airline tickets, the use of VAT as a tax incentive seems an interesting approach. The advantage of VAT is that it is a general consumption tax that affects all sectors of economic activity. Moreover, it is based on a system that is well known to economic players and is applied by a well-functioning and efficient administration.

The most obvious approach *a priori* would be to reduce VAT rates for certain green products - or increase rates for polluting goods or services - to encourage more environmentally responsible behavior. This approach, which has been discussed in the European Union, has several disadvantages, however. As far as it is part of the VAT mechanism itself, it only allows targeting transactions at the end of the value chain, i.e. between the business and the non-business final consumer. All other transactions between economic actors escape the incentive effect.

In order to benefit from the advantages offered by the use of VAT while avoiding the disadvantages linked to the way in which it operates, this contribution proposes the introduction of a surcharge levied alongside VAT. VAT would serve as a vehicle for a *General Green Tax* levied on certain goods and services at a rate to be determined. This GGT would be levied on the same basis of calculation as the turnover subject to VAT. However, unlike ordinary VAT, businesses could not deduct it as input tax. This new GGT would require a new constitutional basis, a proposed text of which is set out above. Once this constitutional amendment is adopted, the mechanism would be simple to implement from a legislative point of view.

[71] V. Daguet, payer, p. 46s.

Of course, it would then be necessary to define which products should be subject to the GGT surcharge and at what rate. Assessing the effectiveness of such an incentive tax requires an economic and environmental analysis. Such a proposal, in addition to generating a political debate, would open up a very interesting field of research that would bring together economists, climate specialists and lawyers.

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