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Crisis of the system of own resources of the European Union and proposals for the future

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Abstract

Crisis of the system of own resources of the European Union and proposals for the future

Achieving the objectives of the European Union requires an increasing number of ambitious policies that are limited principally by the financial instruments at the disposal of the European Union. In May 2006, as the result of an inter-institutional agreement, the Commission was invited to undertake a full, wide ranging budget review covering all aspects of EU spending and its resources and to submit a report on this subject during 2008 and 2009. The European Commission launched a vast consultation on the reform of the budget and organised a Conference on "Reforming the budget, changing Europe", on the 12th November 2008 in Brussels.

The review of the current system of own resources as a system of financing the budgetary instruments appears to be necessary in order to address the principal criticism made presently on the lack of transparency and simplicity of the system. Its financial autonomy is limited vis-à-vis the national Treasuries and there is a need to reform the current budgetary imbalance correction mechanism which led to tensions among Member States due to a narrow accounting approach.

In this article, we try to bring solutions to the crises of the system of own resources. The progress in the financial autonomy of the EU will depend on the new proposals to improve the current system of own resources. According to the nature and the weight of the elements of the system of own resources, the financial autonomy of the EU should be broader or more restricted in relation to that of the Member States. We plan to adopt measures, in the medium term which have an impact on the cause of the analysed problems offering a solution through a change in the structure of the current system in order to restore the principle of the EU financial autonomy. We propose the introduction of new own resources in the system which should replace the current VAT resource and a reduction in the GNI resource. To this end, we have completed a numeric evaluation of the potential formulas, based both on a general valuation and on another one with restrictions, thus, the more solid candidates to make up part of the new system in the short time, the more solid candidates are modulated VAT, a tax on the climate change and the EU corporation income tax.

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Introduction

Achieving the objectives of the European Union requires an increasing number of ambitious policies that are limited principally by the financial instruments at the disposal of the European Union. In May 2006, as the result of an inter-institutional agreement, the Commission was invited to undertake a full, wide ranging budget review covering all aspects of EU spending and its resources and to submit a report on this subject during 2008 and 2009. The European Commission recently launched a vast consultation on the reform of the budget and received 305 contributions reflecting a very broad range of opinions and approaches. Those contributions and the Conference on "Reforming the budget, changing Europe", organised by the Commission on the 12th November 2008 in Brussels constitute the starting point ensuring a positive review of the European budget including the best means of providing the resources necessary for the financing of the community policies.

The review of the current system of own resources, as the best option to finance the UE budget, appears already in article 9 of the 2007/436/EC Council Decision, as the necessary answer to the principal criticisms made currently on: 1) the lack of transparency and simplicity of the system, 2) its financial autonomy limited vis-à-vis the national Treasuries and 3) the need to reform the current budgetary imbalance correction mechanisms. In this article, we propose some solutions to the problems of the own resource system with a view to consolidating the financial autonomy of the EU.

1. Financial autonomy of the EU

The concept of financial autonomy is generally defined by the existence of own financial activity which, developed by the law, acquires an autonomous character. In the European case, autonomy comes from the transfers of competences, for instance implementation of common policies, and financial resources from Member States to the EU, thereby creating means of finance of its own, all underpinned by the European regulations. The European Communities have financial competences and resources within a supranational normative framework; consequently, the financial autonomy of the European Union exists. However, the level of autonomy is rather reduced if we compare it with that of each Member State (1.24% and 46% of the GNI respectively). The principle of equilibrium of the budgets means that budget revenue must equal budget expenditure, which extends the field of study of financial autonomy to these two approaches: expenditure and revenue. Concerning the first approach, the expenditure of the EU corresponds to the Community policies; the strength report between national and European expenditure is limited by the principles of subsidiary and proportionality which enable us to determine the value added of the expenditure of the EU. In recent years, the political agenda of the EU has included new political challenges which could have a determining influence in the orientation of the future budget of the EU (i.e "Environment, climate change"). However, Member States do not appear to be willing to yield other competences to the EU. Financial autonomy also is related to revenue, so it is defined by the capacity of collecting of the Communities with an own and non delegated normative capacity (Vega Mocoroa 1997). The simultaneous achievement of all those elements constitutes the most complete concept of financial autonomy one can think of. This comprehensive approach includes, on the one hand, the existence of capacity to conceive and finance the expenditure of the common policies and, on the other hand, the existence of the Community's own capacity to collect. The EU presents a singular element in relation to the other international organizations because it has the capacity to establish its own financial resources, in other words, revenues allocated irrevocably to the EU for financing its budget and accruing to it automatically without the need for any subsequent decision by the national authorities. The "own resource decision" approved in 1970 supposed an important change in the nature of the financing system¹ by the direct attribution of revenues to the supranational organism which guarantees the financial autonomy² of the EU.

If we consider that the best indicator to measure the degree of financial autonomy is the ratio between the EU budget and the EU GDP, the level of the financial autonomy development for the past 50 years of the European integration is positive although much lower than what MacDougall³ Report considers necessary to speak about a "Prefederal State" (2–2.5% of the GDP) or a "Federation of States" with a reduced public sector (the 5–7% of the GDP). With the current ceiling of the own resources system (1,24% RNB), and, therefore, of the commitment for expenditures, the capacity to develop the European policies and capacity of spending is much reduced.

Besides, it cannot be said that the financial autonomy has increased since the revenues not directly linked with the "own resource system" philosophy, that is to say, the complementary resource based on the GNI of each Member State, have become the central element of the structure and make it more and more difficult to establish a link between Community budget and taxpayers, since it is the less "visible" resource.

The system appears more like a system based on financial transfer of resources from the national budgets towards the EU budget calculated on a common statistical basis than an own and autonomous financing European system. In this situation, it proves necessary to study the possible reforms which would give the

¹ In the case of the European Union this involves activities in relation to Community policies.

² A Community system of own resources does not require any preliminary decision of the Member States on this subject (Vega Mocoroa 1996).

³ See MacDougall (1977) *Report of the study group of the role of Public Finance in European Integration*, Luxembourg: Office des publications officielles des Communautés Européennes.

system a greater financial autonomy level without increasing the tax burden of the taxpayers. One can also take into account that one of the principal successes of the EU own resources system is precisely the adequacy of the resources with certain Community policies; that is to say, the common customs tariff duties with the common commercial policy, the agricultural duties with the common agricultural policy – CAP, VAT with the internal market and, in the GNI case, with the economic and social cohesion policy, because these complementary resources – GNI – also aim to make the system more progressive and therefore contribute to the redistribution of the resources.

2. The current system of own resources

The own resources system was set down with the Decision of 21 April 1970, concerning the substitution of the financial contributions of the Member States for the system of the European Communities' own resources. Since then, the own resources system has developed by varying the number of the components, its structure, and by affecting Community financial autonomy. The own resources Decision of 1970 marked the beginning of a new period for the Community Public Finances which has been adapted to later reforms of the system promoted by later decisions on the European own resources⁴ system.

2.1. Evolution of the revenues

The own resources system has two kinds of resources: a) traditional own resources (TOR): the resources of agricultural origin, that is to say duties provided within the framework of the common organisation of the markets (old agricultural levies and contributions on sugar and isoglucose production) and the customs duties; b) the financial resources, that is to say, the VAT resource (a fixed-rate portion of VAT receipts) and the complementary resource on the GNI (a fixed-rate levy on GNI). The financial resources, however, are not affected significantly by the development of the Community policies, and they are not perceived by the European taxpayers as well as genuine Community "tax", hence its lack of visibility for the European taxpayer. These resources are collected by the Member States and made available to the Community by being credited to an "own resources" account opened by the Commission at each national Treasury or national Bank, they are deduced from national income and are subsequently transferred to the Community. Although these resources are collected in the Member States, the Court of Justice of the EC prohibited its inclusion in the national budgets. The VAT

⁴ Decision 70/243/ECSC EEC, Euratom; Decision 85/257/EEC, Euratom; Decision 88/376/EEC, Euratom; Council Decision 94/728/EC, Euratom; Decision 2000/597/EC, Euratom on the own resource system; Doce No. L 253 of 7 October 2000 and Council Decision 2007/436/EEC, Euratom on the own resource system; Doce No. L 163 of 7 June 2007.

⁵ CJEC judgement of 5/5/1077 in the case 110/76.

resource was considered by some authors as revenue camouflaged "off resource" (Strasser 1993). Nevertheless, concerning the VAT resource and the GDI resource, they are regarded as own resources because of their financial character since they are the only resources which serve mainly as a "revenue" to the Community and not to other aims as indicated by some authors (Reboud 1986; Molinier 1986; Vega Mocoroa 1991).

Traditional own resources: This involves two different components unified under the umbrella of traditional own resources from the Decision 2007/436/EC, Euratom (art 2,1,a).6 The first component is of agricultural origin, that is to say, the agricultural duties, originally called agricultural levies⁷ and other duties provided for within the framework of the common organization of the market in sugar. The development of this resource presents a decreasing tendency. While in 1971 they accounted for 49.9% of the total of own resources revenue, in 2009, its weight was reduced to 1.3%. This tendency finds its explanation in various causes, among them: the dependence of the agricultural resource vis-à-vis the world prices, the increasingly large stability of the agricultural market, and finally, the growth of agricultural production in the EU, all that lead to reduction in imports. The reforms of the CAP also contributed to reducing the share of the agricultural duties in the budget of the EU by the reduction of the storage and refund costs. Concerning the second component, the customs duties, it also presents a decreasing tendency passing from 40.7% in 1971 to 15.2% in 2009. The reduction in this revenue is due to the progressive fall of the customs duties in the Community, due to the accession of new Member States, to the preferential treatments decided between the Member States and the developing countries (ACP countries) and finally, to the compromises adopted in the WTO⁸ – "rounds".

The VAT own resource comes from the application of given rate to the VAT base, determined in a uniform manner for all Member States in accordance with Community standards. The VAT resource was integrated as an effective Community own resource in 1979, after the approval of the sixth VAT Directive on the harmonisation of the VAT base⁹. VAT revenues passed from 66% in 1986 to 16.3% in 2009, this reduction as a percentage in the VAT revenues reflects the reforms introduced by the own resources decisions, the aim of which was to combat the regressivity

⁶ These ones already made a part of this kind of own resources – TOR before the 2007 Decision but keeping its independency as two different components.

At present, there is no difference between the agricultural duties and the customs duties, because agricultural duties are nothing more than an import duties charged on agricultural products imported from non-member countries.

⁸ World Trade Organization.

⁹ We cannot refer to 6th Directive any longer, but from a historical point of view. The essential piece of EU VAT legislation since 1 January 2007 has been Directive 2006/112/EC (28/11/2008, OJ No. L347 of 11 December 2008). This VAT Directive is effectively a recast of the Sixth VAT Directive of 1977 as amended over the years. The recast brings together various provisions in a single piece of legislation. It provides a clearer overview of EU VAT legislation currently in force, so from now on, we must refer to Directive 2006/112/EC instead of to the Sixth Directive.

that this resource brought to the system. VAT is a tax on consumption, since the PMaC is decreasing, this tax is regressive, in other words it falls more heavily on the poor than on the rich, and the burden falls more heavily on the economic agents whose income is lower, and finally on the countries which contribute in a greater part, since they have a higher consumption in relation to the savings. We must not forget that there is a link between the VAT base and the consumption; for this reason the least prosperous countries present a VAT bases relatively high and they are consequently damaged. One could therefore observe the existence of disparities noted in the VAT/GNI base ratio among Member States. In order to solve this problem, these Decisions on the system of the European Communities' own resources were intended to cap the assessment base to be taken into account for the VAT resource, thus the current assessment base shall not exceed 50% for each Member State and at the same time, to lower the maximum call-in rate of VAT from 1.4% in 1995, to 0.30 in 2007. 10

The complementary resource based on the GNI. The Gross National Income – GNI – resource¹¹ results from the application of a set call rate, to be fixed within the framework of the budgetary procedure according to all other revenues, to the total amount of the EU GNI (the sum of all the Member States GNI) in accordance with the Community standards provided for in Directive 89/130/EEC, Euratom. The 4th resource was born in 1989 as a result of the reform of the Community financial system in 1988. The principal characteristic of this resource is that it is a variable and complementary resource which is to guarantee the budget balance between the income (revenue) and expenditure, by compensating for the balance which is not covered by the traditional own resources and the VAT revenues. It has become the key resource, not only because it finances the bulk of the budget, but it also determines the cap on the VAT base, how the cost of UK rebate is shared out, and the ceiling on total resources that the Community can receive. The GNI resource endows the system with progressiveness because it adapts the contributions of each State at their real wealth level, in other words at their GNI. This resource also gives stability to the budget and guarantees the growth of the latter in the margins established by the budgetary authority. The GNI resource had in 1989 a participation of 9.8% in the total of the own resources, and in 2009 has reached the 65.4% of the total budget revenue; thus, it passed from being the residual budget revenue to the principal one.

In summary, we can say that in the development of the own resources, the loss of importance of the traditional own resources is clear; those which by nature could

¹⁰ One must take account of the specific characters for Austria (0.225%), Germany (0.15%) and the Netherlands and Sweden (0.10%).

Since the financial year 2002, and in agreement with the Council Decision 2000/597, the SEK95 and the SEK79, the GNI have replaced the GNP as a reference of the complementary resource or 4th resource.

be regarded as genuine own resources have diminished, vis-à-vis the greater weights (importance/burden) of the other own resources (see Fig. 1).

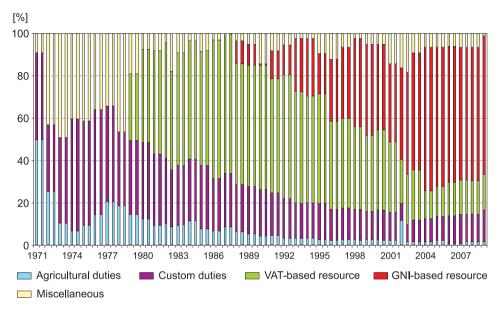


Fig. 1. Evolution of the budget revenues – the own resource system (1971–2009) Source: figure elaborated by the author, based on Official Data from the EC.

There are different minor income which belong directly to the Communities without previously passing through the Member States and which do not form part of the "own resource system". There are the revenues from the taxes, contributions and levies applied to personnel wages.¹²

2.2. Crisis of the system

Community financial autonomy is in crisis for different reasons, the weight of the Community finance system is not increasing to keep path to the desired levels corresponding to the degree of European integration process (see MacDougall Report). The current structure of the financing system also constitutes a weakness of the system because it moves away increasingly from the principle of financial autonomy. On the one hand, the true own resources related to the common policies and whose normative capacity belongs to the EU decrease significantly in the budget as a whole because the customs duties and the agricultural duties can

¹² In this category of income, one finds the tax on the officials' Community salary; under the terms of the art. 13 of the Protocol of 1965 on the privileges and the immunities of the European Communities, "the officials and other agents of the Communities" are free from national taxes on wages, and emoluments paid by the Community, on the other hand the Community officials would be subject to a payroll tax paid by the latter to the Community.

be modified only via multilateral negotiations within the WTO. To make matters worse, agricultural duties also depend on the world farm prices. On the other hand, there is the problem of the budgetary imbalances by country (budgetary net balances, net benefits or net contributions) and their mechanisms of corrections; this problem appeared for the first time in 1984 in the European Council of Fontainebleau in relation to the United Kingdom,¹³ and which currently affects five Member States (UK, Denmark, Austria, Sweden and the Netherlands).¹⁴ Nowhere in the EC constitutive treaties is it said that it is necessary to respect the balances by the individual Member States.

There are parts of the EU budget serving a clear solidarity goal, while others fund specific measures aiming to achieve specific objectives through EU agreed programs and all that within a community of solidarity, as it is the case of the EU. The central idea of the current system is precisely to avoid resorting to transfers by country with a system based on a relation of "the citizens – EU" through an own resource system of the EU, for this reason there is not only one definition of net budgetary position. 15 Budgetary net balances measured by the difference between contributions to and receipts from the EU budget, obviously fail to account fully for the benefits resulting from the EU membership and give a very limited view of them. Moreover, there is not only one method of budgetary balancing. This involves a purely accounting concept which does not take account of all the advantages derived from the Community budgetary policies which benefit all the European citizens independently of their nationality, this calculation appears also "misleading" regarding the national attribution of certain Community receipts (Vega Mocoroa 1997). 16 Finally, this problem also influences negatively upon the transparency and the visibility of the system.

The present financing system has grown complex and opaque over the time in particular because of three elements. First, the calculation of VAT-based own resource has become complex because the amounts collected depend on statistical calculations. Second, various ad hoc corrections also tend to obscure the precise nature of the system and its effects. Third, the predominance of GNI resource reveals the national origin of the resource but masks the categories of taxpayers concerned.

¹³ European Council of Bulletin Fontainebleau EC No. 6, 1984. Proposal by integrating the Council conclusions OJ No. C 193. 21 July 1994, Decision OJ No. L 128 of 14 May 1985. The size of some of the imbalances by individual Member States have been at the center of political discussion, as it was the case of the UK at that time.

¹⁴ Council Decision of June 2009 on the system of the European Comunities' own resources (2007/436/EC, Euratom), OJ No. L 163, 23 June 2007.

¹⁵ Commission of the European Communities (1997), "budgetary Contributions, expenditure of the European Union, net budgetary positions and relative prosperity of the Member States". Ecofin 13-October 1997. The definition of the "operational balances" states the difference between all the amounts paid into the budget and all the amounts collected (received) from the budget other than administrative expenditure and other expenditures related to other EU institutions. The definition of the correction for the United Kingdom is used for its calculation.

¹⁶ Rotterdam and Antwerp effect.

Consequently, we can conclude that the problems of the own resources system lead the EU to incur a financial autonomy deficit, a missing transparency of the system for the European citizens, a loss of effectiveness in the resource allocation and finally, a great complexity of the system since its operation involves capping of the base of the VAT resource, statistical calculations moved away from the theoretical concept of this resource, and finally, the establishment of a mechanism of compensation for the negative budgetary imbalances that influence third resource calculation and transforms this resource in a GNI-based resource for some Member States.

2.3. Proposals vis-à-vis the crises of the system

The problems that we have just analysed lead to the crisis of the principle of financial autonomy which has inspired the financing system of the EU like an own resources system since 1970. The search for an optimum solution to these problems requires a reform of the current financing system. One can envisage several different solutions

Simplification of the system: financing system based exclusively on the GNI

The first approach is that the financing system of the European Union would depend only on the financial contributions of the Member States. This solution would suppose the simplification of the system, the own resource system would be built just in the GNI as resource instead of having a mixed system TOR, VAT and GNI. The system would align itself with the normal financing system of the other international organizations; the system would be coherent with the principle of equity and of simplicity because the correction mechanisms would be removed. But, on the other hand, it would leave those of financial autonomy because of not being any longer allocated irrevocably to the Union without the need for any subsequent decision by the national authorities, of transparency vis-à-vis the European citizen, because of the difficulty for the taxpayer to identify how much he pays to the EU and finally, of having the link to the Community policies because there will be no link between expenditure policies and financing ones. However, this solution does not solve in its causes the principal detected problems because the principal causes of the budgetary imbalances are on the expenditure side (Reigner-Heldmaier 1999).

Maintenance of the current financing improving the correction mechanism

The solution involves maintaining the current system in its structure and components and improving the system of correction of the budgetary imbalances of the Member States by means of the adoption of a generalized system of correction of the excessive negative budgetary imbalances. However, in order to solve the

problem of the imbalances, one should act on the cause or, in other words, it is necessary to build a "perecuation" system, equalization or compensation through subsidies (expenditure policies), granted to the States through a new instrument intended to obtain "overall" equity in terms of net balances; this proposal could come into practice within the framework of the standard mechanisms of compensatory transfers to reduce or eliminate the inequalities between States (Oates 1977) or of the kind of transfer of subsidy without counterpart (Mathews 1977).

A reformed financing system based on the own "tax" resources This solution maintains the current own resource system and proposes its improvement through a change in its current structure by reducing the weight of the own resources of financial character and increasing the proportion of direct resources with news taxes, part of taxes, or other resources being clearly levied on taxpayers. This approach will solve some of the current problems which are the opacity of the system, the lack of link between the European citizens and the EU as regards financing Europe and, finally, the budgetary imbalances. This structural change can be done through different proposals: either by incorporating new taxes with European character to the system, or by new resources on the basis of already existing national taxes; anyway the solution passes through restructuring the revenues of the current.

3. The tax principles for an optimal EU own resources system

To evaluate the best solution for a reformed financing system in the middle and the long term within the framework of the 3rd solution analysed before, we may first go over the principles or the criteria¹⁷ that a tax system has to assemble, then we have to establish an optimum structure for public financing and its specific characters in the European framework and finally, we will study the level of achievement of these criteria by the possible candidates to become own resources in the EU. This involves analysing the coherent set of organised elements which makes it possible for the EU to ensure the carrying out of a number of economic objectives determined in the Treaties through the establishment of several compulsory levies, it has to respect a series of principles of different nature: economic, ethical, operational and strategic. According to W. Gerloff (1926), the achievement of these criteria has to make it possible to judge the rationality of a tax system. The European system of own resources is a financing system *sui generis* in relation to the financing systems of the Member States. On the one hand, the maximum

¹⁷ Whichever term is used: principles, postulates, directives, rules or criteria, one deals with the precepts of the duty to be (field of what is normative), since they are formulated for the fulfillment of certain aims.

expenses ceiling determines one of the revenues and it is very reduced regarding other tax federalism formulas; on the other hand, there exists an important heterogeneity¹⁸ between the current elements of the system regarding its nature.

According to the most prestigious authors in the field of public finance, ¹⁹ the principles of the taxation policy are obtained from the objectives that taxes have to be useful in their social context. In accordance with the aims that taxation ought to contribute to, our main goal consists in checking which are the principles of taxation observed by the EU policy makers, and hence, applied to the Community "revenue" system. In this context, we will gather these principles in four categories of criteria²⁰ depending on the nature of the aims:

- 1) Ethics, in other words criteria of a moral or "ethical" nature, the aim is equity;
- 2) Budgetary, criteria whose aims are the budget stability and the economic growth;
- 3) Techniques, criteria of a technical nature with an operational aim, that is to ensure efficiency and effectiveness;
- 4) Strategic, criteria established ad hoc for the "European case", since its achievement guarantees the success of a concrete political strategy, in the case of the EU, the development of the European integration process and its objectives (Vega Mocoroa 2009).

The achievement of the principles or criteria of a moral nature has as an aim equity, and this equity is obtained through a fair distribution of the fiscal burden between the individuals or between the countries according to where the taxable person is. In this category, there is the principle of "fair contribution" that involves an alternative of the principle of vertical equity in the case of the States, because the contributions by State have to be done in relation to their economic wealth. The principle of horizontal equity aims to guarantee that taxes will have equal impact in economic terms on identical taxpayers, independently of

¹⁸ The TOR, whose assignment of income lies on the principle of territoriality, composed by the customs duties and the agricultural duties which are federal taxes and their geographical extent coincides with that which undergoes the fiscal burden (place of the transaction), Member States just collect them and that is why they perceive a small percentage to this end. Regarding the VAT resource, this involves a national tax, harmonised in the bases and slightly in the rates, but for which the tax responsibility (legislative power, competence and income) is national, although there is a share of the product (MacDougall 1977), when the income from the tax is distributed between several levels (national and Community). And finally, regarding the GNI resource which is calculated as a residual element, one cannot speak about a tax but of a national contribution, the tax authority of this resource is national and the taxpayers are the Member States and not the citizens; the transparency or "visibility" of the system is damaged vis-à-vis the European citizens.

¹⁹ A. Smith, A. Sandmo, E.R.A. Seligman, F. Neumark, L. Einaundi, M. Fasiani, J.E. Meade, J. Stamp or A. Wagner.

²⁰ The 2000 agenda took account of 9 criteria (2 primaries and 7 secondaries) and the European Commission in its last study on this subject (working papers No. 1/2004 of the taxation series papers) presents 8 criteria.

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where they are – and that individuals (taxpayers) however, have to be treated in different manner provided that among themselves there are differences of economic capacity to pay the taxes independently of where they are. Principle of vertical equity – this criterion has to be with the impact on income redistribution that a tax has. Finally, the principle of broadband taxpayers²¹ by which all persons with capacity of payment (income) will be affected by taxation.

In order to reach the cover necessary to cope with the public expenditure and not to endanger economic stability by guaranteeing a volume of income sufficient for expenditure, we have the criteria of nature economic and budgetary, the achievement of which guarantees the net budgetary balance, the sufficiency criterion, which guarantees that the income from the taxes has to be sufficient to cover the established expenditure level, and the stability criterion, which guarantees that the income from the taxes brings more or less stable income over.

There is a third group of criteria that we have named "techniques" because of their "operational" nature and whose aim is to ensure the "efficiency" as the capacity to achieve a specific objective – effectiveness – with the minimum of committed means (resources). According to the character of the objective to be obtained, one can distinguish different kinds of efficiency:

- 1) regarding operational effectiveness the criterion is the low operating cost; this principle involves the minimisation of the administration costs, taxes have to be simple to manage and involve low administrative and compliance costs in relation to their yield.
- 2) regarding technical effectiveness, the principle of practicability says that taxes have to be practicable for the taxpayers and for the tax administrations.²²
- 3) regarding economic effectiveness, this will be fulfilled when the taxes of the European system in study meet the criterion of contribution to the efficient allocation of resources, it involves contributing through taxes to bring about good the economic behavior of the economic agents and by encouraging the development of the internal market.
- 4) finally, tax effectiveness as is the achievement of the criterion of the visibility of the fiscal burden which guarantees that rights and duties are established in a clear way, so that the taxpayer could question the administration on the best use of resources.

Finally, there are the "strategic" criteria with a political objective, since their achievement has as an aim of guaranteeing the success of a concrete political strategy, in the case of the EU. "Allow the development of the European integration process and the fulfillment of its aims" (Vega Mocoroa 2009). We refer to:

²¹ See F. Neumark (1974).

²² J. Stamp (1923) defined the term "practicability" in *The Fundamental Principles of Taxation in the Light of Modern Developments*, London.

1) the principle of links of the tax with the Community policies, this criterion stays in all the decisions on own resources system as a condition to increase the elements of the system (art. 2, 2 Decision 7/6/2007); 2) the principle of harmonisation in the bases and in the rates, this involves a principle in relation to an objective of the EU: the tax harmonisation within the framework of the internal market and its implementation in the EU; finally, 3) the criterion of local arbitraireness, that is when a tax revenue is due to arbitrary distribution of income among different territories, in other words when the tax is levied at local level, i.e. it results arbitrary in its taxable base and then in its collection, so it is made difficult to allocate the tax compliance to a certain country and the best solution is to allocate its revenue to a supranational Treasury.

The rationality of an optimum tax system is based on a resource combination of different nature, thus in this section we have presented the criteria that have to be used to carry out an assessment of possible EU taxes in general and of a new own resource for the EU in particular. At this stage, we have to point out that besides all these criteria, the final decision will have to take into account a new factor that we will denote as feasibility period, that is, to study the temporal moment in which this new candidate will be implemented with all the guarantees necessary to implement all the other criteria studied above.

4. Towards a new own resource system: the future of the system

In the short term the solution to the problems comes from Decision 2007/436/EC of 23 June 2007 on own resources. However, the European Commission works to present to the Member States a genuine medium-term solution, through a change in the structure of the system. This solution would consist in maintaining the current system with a reduction of the weight of the GNI resource and in introducing one or several new own resources either by means of the establishment of new European tax of a supranational nature or by transferring part of an already existing national tax. To this end we will analyse the possible formulas according to the presented criteria, in order to be able to compare them using the levels of criteria achieved by each one.

4.1. Elements: new candidates

European personal income tax. There are three possibilities to apply such a tax:

- 1) to establish a European per capita income tax on all the citizens throughout the EU,
 - 2) to set a surcharge on the EU Member States personal income tax and,

3) to create a separate European personal income tax different from the national tax. This last one is the possibility that we will consider for the evaluation of the criteria (Cattoir 2004).

Sanctions for not complying with the stability and growth pact (EMU). The sanctions for the non-accomplishment of the criterion relating to excessive public deficit, would be presented as a dissuasive measure, for the countries which are in this situation consisting of a series of financial fines (Vega Mocoroa 2005) collected to the budget of the EU if within two years the country under consideration does not take the necessary measures to correct its deficit.²³

Tax on financial transactions. This would concern taxing financial transactions on the Stock Exchange markets in the EU. This proposal may be seen as a potential door to the Tobin Tax (i.e a currency transaction tax).

Transfer of Seigniorage Revenue from the Central Banks to the EU budget. We refer to the monetary incomes²⁴ which arise from the monopoly of the European Central Bank as note issuer constituting legal tender and compulsory reserves of the commercial banks.

Excise tax on tobacco and alcohol. It would consist in assigning part of the yield of tobacco and alcohol excise duties to the EU level (supranational administration). The EU would levy a minimum rate on an harmonised tax base and the Member States would be free to levy additional rates or not on top of this base; the EU duties would be raised by National Tax Administrations and then transferred to the EU.

Tax on communications. This involves raising taxes on the communication services (e.g. road transport, air transport and telecommunication in all its forms). Sea and rail transport would not be included because of their environmentally friendly nature (Begg et al. 1997). Harmonising air travel and vehicle tax in the Member States is another approach of communication tax but it is not a very efficient instrument of the vehicle to reduce pollution, since it is better to tax the use of a car or plane than the registration or a per capita tax on travellers. Another possible tax on communication is that on telephone lines or internet connections, which would be paid by consumers, but that could constitute, to some extent, a barrier to the Internal Market. This last one is the possibility that we will consider for the evaluation of the criteria.

Tax on climate change. This candidate involves two new proposals. As aviation contributes to climate change through the emission of greenhouse gas carbon dioxide ($\rm CO_2$) and of nitrogen oxides ($\rm NO_x$), the first proposal would be based on an aviation emission charge or tax justified by its harmful effects on the ozone layer and

²³ European Council of Dublin, 13–14 DIC 1996.

²⁴ In article 32 of the Statute of the European System of Central Banks (ESCB) monetary income is defined as "the income accruing to the national Central Banks in the performance of the ESCB's monetary policy function", in practice it is equal to the annual income derived from the assets held against the notes in circulation and deposit liabilities to credit institutions.

the climate change. The principal elements of this tax on the climate change must be defined beforehand as proposed in details by Wit and Dings (2002). The second proposal appears as a strong candidate because a considerable number of contributions to the public consultation launched by the Commission within the Conference "Reforming the budget, changing Europe" (Brussels, 12 November 2008) put the emphasis on the mobilisation of the whole or of a part of the income generated by the exchanges of emission rights through emission trading scheme²⁵ to the EU budget as if it were a kind of the tax on CO₂ or carbon dioxide emissions.

Tax on energy/carbon taxes. Since 1992, the EU Commission has been putting forward the idea of establishing a tax on the $\rm CO_2$ emissions and on energy that would be close to an environmental tax. Currently, when one speaks about the tax on energy, this involves a sales tax on various energy resources as mineral oils, natural gas, electricity and coal, which falls within the framework of the Directive approved in 2003 and in which one establishes the harmonised base and the minimum types of charge (de Lecea et al. 1999; Vega Mocoroa 1998). These taxes rates on energy sources would be proportional to the negative effects on the environment that their use or transformation could cause, that is why an energy tax has more chances to become an own resource. In 1992, the idea was launched to create a European tax on $\rm CO_2$, but then the Council of Essen of 1995 stated that the introduction of a new harmonised tax on $\rm CO_2$ in the Community was not necessary, even though some European countries or regional administrations already use it (e.g. Spain that has some environmental regional taxes such as tax on the air pollution, tax on global pollution).

European corporate income tax. This formula has two possibilities. The first one is the transfer to the EU of a part of the national corporation taxes which, at present, are not harmonised either in their bases or rates, and the second one is to set a new European tax throughout the EU: the EUCIT (European Union corporate income tax) that will be compulsorily imposed on all companies making business in the EU or just on those that exceed a volume of given business (multinational or European companies). However, there is a problem to solve beforehand: we have to establish a consolidated common base. Something on which the EU is already working (Aujean 2005).

A "modulated" VAT. This formula involves replacing the current VAT resource by a part of effective national VAT through a "surtax" on the national VAT, i.e. that VAT would have two levels or rates: national and European. For this reason, we speak about modulated VAT without increasing the fiscal burden on the taxpayer as a necessary condition; that will lead to reducing the national tax burden in the same proportion as it will increase the European one. The last studies on this subject (Cattoir 2004) envisage the possibility of establishing two different rates (1.5% and 3%) within the European framework to combat the regressivity of VAT. This option

²⁵ Through trading, Member States have established a mechanism that will raise 28–61 billion from 2013 onwards from European businesses – "Environmental Carbon Emissions", Mark Lewis, and Deutsche Bank. 23/7/2007.

would require to change the VAT current resource, which is calculated statistically and represents a percentage on the harmonised VAT base, by a genuine European VAT. However, before the establishment of the new VAT resource, it is necessary to solve some preliminary questions which would create problems to the new tax. The current "zero" rates, the exemptions for small firms or the special schemes with impact on the VAT receipts. VAT on imports has been considered as another possible formula but it would cause technical problems for the deduction. Our evaluation will be focused on the modulated VAT

4.2. Comparative analysis and results

The study of the degree of achievement of the criteria in each potential formula analysed beforehand enables us to draw up a comparative table between them, which will enable us to evaluate them and to obtain a vision of the future own resources system with new elements.

In the analysis of Table 1 we can already perceive four candidates for a future own resource elements because they present better results than the other. They are:

- 1) a tax on climate change,
- 2) a tax on energy or a carbon tax,
- 3) a modulated VAT and,
- 4) a European tax on companies.

A resource based on energy consumption and conceived as a "EU tax" on energy products, for example a tax of $X \in \text{on barrel of oil for road transport}$ would be a source of stable and sufficient financing and would create a direct obligation with the citizens. The proceedings of selling emissions trading permits, as the EU has now decided to auction permit (Le Cacheux 2008), deserve a deeper study by its legal implication vis-à-vis the national environmental policies and resources. The income of a harmonised European corporation tax would also be a good own resource, since it would contribute to the appropriate achievement of the internal market because a common tax base will reduce compliance costs of the tax and, at the same time, will increase the competitiveness of the affected companies with a more effective assignment of the economic resources. However, the most positive balance for a future change comes from the option for "VAT modulated" on the basis of national VAT. The harmonisation of the taxable amount under VAT is put forward enough and constitutes a stable and sufficient source of income. A VAT resource would return the financing of the EU to a extraordinarily visible EU tax for the citizens.

²⁶ While the income of VAT goes to the EU, the deduction of the tax could be carried out either by the EU or the national States; in both cases the final volume brought by this VAT would be rather reduced and, moreover, it is feared that the WTO would not look upon it favorably. VAT on imports could be confused with "a new" customs duty, even though it is an independent tax.

Table 1. Comparative analysis of the level of achievement of the criteria by candidate

	Economics Budgetary	mics stary	Mak	Ethics Make a success of Equity	ics ss of E	quity	En	Techi isure eff	Techniques Ensure efficiency and effectiveness	-6	Strategic (tactical) Consistency with Political assessments	Strategic (tactical) nsistency with Poli assessments	cal)
CANDIDATES Possible EU "taxes"	Sufficiency	Stability	Fair contribution	Horizontal equity	Vertical equity	Broadband taxpayers	Low operating cost	Practicability	Efficient allocation of resources	ytilidisiV	Links to the common policies of the EU	Harmonized base	Regional Arbitrariness
Personal income tax	A	A	Α	M	A	A	M	В	M	A	В	В	В
Sanctions for not complying to the Stability and Growth Pact	В	В	В	А	A	В	A	A	A	M	A	M	В
Tax on financial transactions	В	В	\mathbb{Z}	M	A	\mathbb{Z}	Ą	Σ	M	В	В	M	\boxtimes
"Seigniorage" (monetary income) revenue of the ECB	В	Z	×	А	M	M	A	M	M	В	A	A	M
Excise duties	M	Α	В	A	В	M	A	Α	M	M	A	A	M
Communications taxation	В	×	\boxtimes	A	M	Σ	Σ	Σ	В	Σ	В	Σ	\boxtimes
"Climate change" taxation (emission trading permit auctions)	×	Z	×	А	M	M	A	A	A	M	A	A	M
Energy taxation	M	A	M	A	M	M	Α	A	Α	M	Α	M	M
EU corporate income tax	M	M	M	А	M	M	M	M	Α	M	А	M	M
Modulated VAT	А	A	M	A	M	A	A	A	M	A	A	A	M

Source: Elaborated by the author based on EC Taxation Papers, Working Paper No. 1/2004 and DOC. COM (2004) 505 final. The criterion is respected at: A - high level; M - middle level; B - low level.

Besides that, it would have an evolutionary character and a positive effect on the harmonisation of the VAT (zero rates, special schemes and exemptions from the base) and from an administrative point of view, it would not present insurmountable difficulties.

A financing system such as the one as previously described has to be assessed in relation to the level of achievement of all the criteria or canon of taxation policy (de Lecea et al. 1999). Nevertheless, the creation of a new own resource will depend not only on the results of the analysis of the achievement of the principles considered essential in relation to other principles considered as secondary, but also on the political opportunities of the choices made or, in other words, on political factors beyond scientific criteria.

In this section dedicated to going over the score, we are going to evaluate the potential formulas or candidates studied in the criteria mentioned above, like a problem of election of candidate, in which we are going to maximize the subject score assigned, link to some restrictions given by some minimal conditions that every candidate has to verify each candidate in the considered criteria.

We will now consider a numeric evaluation of Table 1, in order to evaluate the better option for the new structure of the system. For this, we convert the rates A, M, B into numeric values going from 1 to 3, in the following way: A = 3, M = 2 and B = 1 and we denote by x_i the criteria in place i in the table 2, by x^j the candidate in place j and by x_i^j the valuation assigned to the j-candidate for the i-criteria, i.e.

$x_i = Criteria$	x ^j = Candidates
$x_1 = \text{Sufficiency}$	x^1 = personal income tax
x_2 = Stability	x^2 = sanctions for not complying to the Stability and Growth Pact
x_3 = Fair contribution	x^3 = Tax on financial transactions
x_4 = Horizontal equity	x^4 = Seigniorage (monetary income) revenue of ECB
x_5 = Vertical equity	x^5 = Excise duties
x_6 = Broadband taxpayers	x^6 = Communications taxations
x_7 = Low operating cost	x^7 = Climate change "taxation" (emission trading permit auctions)
x_8 = Practicability	x^8 = Energy taxation
x_9 = Efficient allocation of resources	x^9 = EU corporate income tax
x_{10} = Visibility	x^{10} = Modulated VAT
x_{11} = Links to the common policies of the EU	
x_{12} = Harmonized base	
x_{13} = Regional arbitrariness	

Table 2. Comparative analysis of achievement of the criteria by candidate valuation function

Criteria Principles of taxation = x_i	Economics Budgetary	Economics Budgetary	Mal	ke a succ	Ethics Make a success of equity	uity	Ensure e	<u>Techniques</u> Ensure efficiency and effectiveness	iques and effect	iveness	Strat Consi Politic	Strategic (tactical) Consistency with UE Political assessments	cal) th UE nents	Valuation
Candidates Possible EU "taxes" = x^{\prime}	x_1	x_2	x^3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}	x_{11}	x_{12}	x_{13}	$\sum_{i=1}^{13} x_i' = 27$
$x^1 = $ Personal income tax	$x_1^1 = 3$	$x_2^1 = 3$	$x_3^1 = 3$	$x_4^l = 3$	$x_5^1 = 2$	$x_6^1 = 3$	$x_7^1 = 2$	$x_8^1 = 1$	$x_9^1 = 2$	$x_{13}^{l} = 3$	$x_{11}^1 = 1$	$x_{12}^l = 1$	$x_{13}^1 = 1$	$\sum_{i=1}^{13} x_i^1 = 27$
x^2 = Sanctions for not complying to the Stability and Growth Pact	$x_1^2 = 1$	$x_2^2 = 1$	$x_3^2 = 1$	$x_4^2 = 1$	$x_5^2 = 3$	$x_6^2 = 1$	$x_7^2 = 3$	$x_8^2 = 2$	$x_9^2 = 3$	$x_{10}^2 = 2$	$x_{11}^2 = 3$	$x_{12}^2 = 2$	$x_{13}^2 = 1$	$\sum_{i=1}^{13} x_i^2 = 26$
$x^3 = \text{Tax on financial}$ transactions	$x_1^3 = 1$	$x_2^3 = 1$	$x_3^3 = 2$	$x_4^3 = 2$	$x_5^3 = 3$	$x_6^3 = 2$	$x_7^3 = 3$	$x_8^3 = 3$	$x_9^3 = 2$	$x_{10}^3 = 1$	$x_{11}^3 = 1$	$x_{12}^3 = 2$	$x_{13}^3 = 2$	$\sum_{i=1}^{13} x_i^3 = 24$
x^4 = Seigniorage (monetary income) revenue of ECB	$x_1^4 = 1$	$x_2^4 = 2$	$x_3^4 = 2$	$x_4^4 = 2$	$x_5^4 = 2$	$x_6^4 = 2$	$x_7^4 = 3$	$x_8^4 = 2$	$x_9^4 = 2$	$x_{10}^4 = 1$	$x_{11}^4 = 3$	$x_{12}^4 = 3$	$x_{13}^4 = 2$	$\sum_{i=1}^{13} x_i^4 = 28$
x^5 = Excise duties	$x_1^5 = 2$	$x_2^5 = 3$	$x_3^5 = 1$	$x_4^5 = 1$	$x_5^5 = 1$	$x_6^5 = 2$	$x_7^5 = 3$	$x_8^5 = 3$	$x_9^5 = 2$	$x_{10}^5 = 2$	$x_{11}^5 = 3$	$x_{12}^5 = 3$	$x_{13}^5 = 2$	$\sum_{i=1}^{13} x_i^5 = 30$
x^6 = Communications taxations	$x_1^6 = 1$	$x_2^6 = 2$	$x_3^6 = 2$	$x_4^6 = 2$	$x_5^6 = 2$	$x_6^6 = 2$	$x_7^6 = 2$	$x_8^6 = 2$	$x_9^6 = 1$	$x_{10}^6 = 2$	$x_{11}^6 = 1$	$x_{12}^6 = 2$	$x_{13}^6 = 2$	$\sum_{i=1}^{13} x_i^6 = 24$
 x⁷ = Climate change "taxation" (emision trading permit auctions) 	$x_1^7 = 2$	$x_2^7 = 2$	$x_3^7 = 2$	$x_4^7 = 2$	$x_5^7 = 2$	$x_6^7 = 2$	$x_7^7 = 3$	$x_8^7 = 3$	$x_9^7 = 3$	$x_{10}^7 = 2$	$x_{11}^7 = 3$	$x_{12}^7 = 3$	$x_{13}^7 = 2$	$\sum_{i=1}^{13} x_i^7 = 32$
$x^8 = $ Energy taxation	$x_1^8 = 2$	$x_2^8 = 3$	$x_3^8 = 2$	$x_4^8 = 2$	$x_5^8 = 2$	$x_6^8 = 2$	$x_7^8 = 3$	$x_8^8 = 3$	$x_9^8 = 3$	$x_{10}^8 = 2$	$x_{11}^8 = 3$	$x_{12}^8 = 2$	$x_{13}^8 = 2$	$\sum_{i=1}^{13} x_i^8 = 32$
$x^9 = EU$ corporate income tax	$x_{1}^{9} = 2$	$x_2^9 = 2$	$x_3^9 = 2$	$x_4^9 = 2$	$x_5^9 = 2$	$x_6^9 = 2$	$x_7^9 = 2$	$x_8^9 = 2$	$x_9^9 = 3$	$x_{10}^9 = 2$	$x_{11}^9 = 3$	$x_{12}^9 = 2$	$x_{13}^9 = 2$	$\sum_{i=1}^{13} x_i^9 = 29$
$x^{10} = Modulated VAT$	$x_1^{10} = 3$	$x_2^{10} = 3$	$x_3^{10} = 2$	$x_4^{10} = 3$	$x_5^{10} = 2$	$x_6^{10} = 3$	$x_7^{10} = 3$	$x_8^{10} = 3$	$x_9^{10} = 2$	$x_{10}^{10} = 3$	$x_{11}^{10} = 3$	$x_{12}^{10} = 3$	$x_{13}^{10} = 2$	$\sum_{i=1}^{13} x_i^{10} = 35$
1-1-E-1-1-E-1-1-D	41.	00000	1 on Table 1	-										

Source: Table elaborated by the author based on Table 1.

With this notation and the numeric values attributed to the previous rates A, M, B,²⁷ the evaluation result is given in Table 2 for every candidate and criteria. Also, if we consider the valuation function already defined by the sum of all the different partial marks (in all of the possible criteria), we will obtain a global value for each candidate (see Table 2, last column) and the best results will get the maximum grades. Hence, the general valuation will result from the valuation function defined in this way and its numeric result stated in Table 2.

The ranking of candidates (Table 3), is ordered from the best to the worst result. However, it would be too simple to conclude that the best result must be the new candidate to the own resources system or even that we will consider just those whose

result would be $\sum_{i=1}^{15} x_i \ge 26$ as an optimum first approach. We have to keep in mind that in our model we are valuating 13 different criteria without ponderations among them and, what is more important, without taking into account the fact that there are four main categories of criteria.

Table 3. Ranking of candidates (without restrictions)

Candidates	Valuation
$x^{10} = \text{Modulated VAT}$	$\sum_{i=1}^{13} x_i^{10} = 35$
x^7 = Climate change "taxation" (emission trading permit auctions)	$\sum_{i=1}^{13} x_i^7 = 32$
x^8 = Energy taxation	$\sum_{i=1}^{13} x_i^8 = 32$
x^5 = Excise duties	$\sum_{i=1}^{13} x_i^5 = 30$
$x^9 = EU$ corporate income tax	$\sum_{i=1}^{13} x_i^9 = 29$
x^4 = Seigniorage (monetary income) revenue of ECB	$\sum_{i=1}^{13} x_i^4 = 28$
x^1 = Personal income tax	$\sum_{i=1}^{13} x_i^1 = 27$
x^2 = Sanctions for not complying to the Stability and Growth Pact	$\sum_{i=1}^{13} x_i^2 = 26$
x^3 = Tax on financial transactions	$\sum_{i=1}^{13} x_i^3 = 24$
x^6 = Communications taxations	$\sum_{i=1}^{13} x_i^6 = 24$

Source: Table elaborated by the author based on Tables 1 and 2.

²⁷ The criterion is respected at: A – high level, M – middle level and B – low level.

To complete the results we have obtained through a general valuation but in a more accurate way. We are going to assign partial conditions or restrictions by main categories (see Table 4).

If we assume also the same conditions as above by blocks, that is, that the best candidate posseses the maximum value and even with a restriction by blocks, that is, only to be considered in our study are those whose valuation is above the value medium for the numbers of criteria in its block.

2	6	10	13
$\sum x_i^j \geq 4$	$\sum x_i^j \geq 8$	$\sum x_i^j \geq 8$	$\sum x_i^j \ge 6$
$\overline{i=1}$	i=3	i=7	i=11

Hence the partial valuation results by blocks of criteria are:

Table 4. Results with restrictions

Candidates	Economics budgetary balance	Ethics equity	Techniques efficiency	Strategic political assessments
x^1 = Personal income tax	$\sum_{i=1}^{2} x_i^1 = 6$	$\sum_{i=3}^{6} x_i^{1} = 10$	$\sum_{i=7}^{10} x_i^{1} = 8$	$\sum_{i=11}^{13} x_i^1 = 3$
x^2 = Sanctions for not complying to the stability and growth pact	$\sum_{i=1}^{2} x_i^2 = 2$	$\sum_{i=3}^{6} x_i^2 = 8$	$\sum_{i=7}^{10} x_i^2 = 11$	$\sum_{i=11}^{13} x_i^2 = 6$
x^3 = Tax on financial transactions	$\sum_{i=1}^{2} x_i^3 = 2$	$\sum_{i=3}^{6} x_i^3 = 9$	$\sum_{i=7}^{10} x_i^3 = 8$	$\sum_{i=11}^{13} x_i^3 = 5$
x ⁴ = Seigniorage (monetary income) revenue of ECB	$\sum_{i=1}^{2} x_i^4 = 3$	$\sum_{i=3}^{6} x_i^4 = 9$	$\sum_{i=7}^{10} x_i^4 = 9$	$\sum_{i=11}^{13} x_i^4 = 8$
x^5 = Excise duties	$\sum_{i=1}^{2} x_i^5 = 5$	$\sum_{i=3}^{6} x_i^5 = 7$	$\sum_{i=7}^{10} x_i^5 = 10$	$\sum_{i=11}^{13} x_i^5 = 8$
x^6 = Communications taxations	$\sum_{i=1}^{2} x_i^6 = 4$	$\sum_{i=3}^{6} x_i^6 = 9$	$\sum_{i=7}^{10} x_i^6 = 7$	$\sum_{i=11}^{13} x_i^6 = 5$
x^7 = Climate change "taxation" (emission trading permit auctions)	$\sum_{i=1}^{2} x_i^7 = 4$	$\sum_{i=3}^{6} x_i^7 = 9$	$\sum_{i=7}^{10} x_i^7 = 11$	$\sum_{i=11}^{13} x_i^7 = 8$
x^8 = Energy taxation	$\sum_{i=1}^{2} x_i^8 = 5$	$\sum_{i=3}^{6} x_i^8 = 9$	$\sum_{i=7}^{10} x_i^8 = 11$	$\sum_{i=11}^{13} x_i^8 = 7$
$x^9 = EU$ corporate income tax	$\sum_{i=1}^{2} x_i^9 = 4$	$\sum_{i=3}^{6} x_i^9 = 9$	$\sum_{i=7}^{10} x_i^9 = 9$	$\sum_{i=11}^{13} x_i^9 = 7$
x^{10} = Modulated VAT	$\sum_{i=1}^{2} x_i^{10} = 6$	$\sum_{i=3}^{6} x_i^{10} = 10$	$\sum_{i=7}^{10} x_i^{11} = 11$	$\sum_{i=11}^{13} x_i^{10} = 8$

Restriction not fulfilled.

Source: Table elaborated by the author based on Tables 1 and 2 (including the restrictions mentioned in the text).

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The results in Table 4 lead to a more reduced ranking of candidates, in this case:

Table 5. Ranking of candidates (with restrictions)

x^{10} = Modulated VAT
x^8 = Energy taxation
x^7 = Climate change "taxation" (emission trading permit auctions)
x^9 = EU corporate income tax

However, there is still one more criteria to study, before the final choice, that is being the feasibility of the candidate in the time period in study to propose the solutions.

We may define and valuate this new variable in the following way: feasibility for the implementation in the EU as we have already defined it in Chapter 4, with three options in the time schedule (short term - in 3 years, middle term - in 6 years, long term in more than 6 years).

Table 6. Valuation of "feasibility"

Candidates	Short	Middle	Long
x^1 = personal income tax			x
x^2 = sanctions for not complying to the Stability and Growth Pact	X	X	x
x^3 = Tax on financial transactions		X	X
x^4 = Seigniorage (monetary income) revenue of ECB		X	x
x^5 = Excise duties	X	X	X
x^6 = Communications taxations		X	x
x^7 = Climate change "taxation" (emission trading permit auctions)		X	X
x^8 = Energy taxation		X	x
x^9 = EU corporate income tax		X	X
x^{10} = Modulated VAT	X	X	X

Values: x – certainly yes, blank – probably not.

Source: Table elaborated by the author based on Tables 1 and 2 (feasibility = practicability).

After all this evaluations and restrictions, there are just two candidates ready to take part in the new system in 2014, those are VAT and climate change, but now "the EU choice" will depend on political factors beyond scientific evaluation. Nevertheless, from the pure theory of the principles of taxation, modulated VAT has an advantage in a global examination as well as in all the blocks that the politicians should not forget.

4.3. The future of the own resources system and its schedule

The future of the own resources system in the medium term requires the adoption of measures which influence the cause of the problems analysed in this work and thus, a change in the structure of the current system. It deals with introducing one or several new own resources to exclude the principal disadvantages of the current system, i.e. the lack of direct obligations with the EU citizens, the crushing dependence of the transfers of the national Treasuries, and the unjustified complexity of the system. A "modulated VAT" proves to be the most reasonable candidate for a new own resource, followed by the energy tax, then the tax on the climate change and, finally, by the European corporation tax (see Table 5). The resource based on the GNI would continue to play an important role, but would represent a smaller part of the total volume of the own resources system than it does in the current system. This new approach for the 4th resource would match better with what is the main characteristic of a complementary resource, that is, to be residual or additional.

Finally, if we try to figure out new proposals for the long run, they will have to be in relation to the political priorities of European integration and to the development of the tax federalism in the EU. The own resources system, as an instrument of a dynamic integration process in the time, has to have a vocation to develop itself time after time, that is the reason why we try to draw the elements of one respectful system with the financial autonomy, more complex than the current one in their structure and elements, and that will aim to improve the relation between the European taxpayer and the EU.

5. How to improve the EU financial system

So far, we are going to conceive a system of own resources improved for the future so that it will result closer to a significant financing system as much by the volume of resources as by their components. In this context, we will follow the general theory of the taxation. From a technical approach, an optimal tax system has to assemble plurality of taxes, and this variety has to integrate direct and indirect taxes, since it is the only way to reach a fair and effective legal order in the Community. The income will be levied in two ways (direct and indirect), which will guarantee a more suitable collection of revenues from the point of view of tax equity; the indirect taxes will compensate for the possible tax avoidance from the direct taxation.

The own resources system in its current composition already assembles a plurality of taxes (direct and indirect), however, the structure can be improved according to the number of resources which make up part of the system and their nature. The inclusion of several new candidates to the own resources system would be

used to improve the equity, certainty, convenience and efficiency canons of taxation (Smith 1776).

A supranational financing system must be made up of a variety of elements which belong to a variety of tax categories that we have named: own resources, shared-taxes, transfer revenue, and compensation revenue. In the case of the financing system of the EU, classification would be:

- a) own resources. At present in this category we find the Traditional Own Resources (TOR) but in the future this category of revenue could be extended to a new European tax, such as tax on climate change, if its regulation falls within the EU's responsibility;
- b) shared-taxes (it means that the competence is shared between the EU and the Member States in so far as collecting, compliance or legal capacity, in other words, we can talk also about tax sharing). In this category one can include some of the possible formulas analysed, as in the case of "modulated VAT", tax on energy, excise duties or corporation tax if it takes up the national tax in its calculation:
- c) revenues which form part of those of the Member States and which are thereafter transferred to the EU. Currently one can include in this category the GNI resource as a part of the total income of the Member States;
- d) compensation revenue of the budgetary imbalances, as a generalised correction mechanism.

Concerning this new plan of structure for the system and the categories of elements already explained, we have to accept that the limits to the financial autonomy of the EU will be set by the development of the fiscal federalism in the EU, the political advances of the European integration process and the transfer of competences to the EU from the Member States. The future European financing system should assemble a broader variety of own resources which will be the result of a combination of several taxes indirect and direct.²⁸ We can conclude that the limits to the improvement of the system are of different nature: political, economic and operational.

Conclusions

The financial autonomy of the European Union vis-à-vis its Member States is really a characteristic which has been developed parallel to the consolidation of

²⁸ The tax harmonization process in its origins aimed to solve the tax problems relating to free movement of goods (i.e. the indirect taxation) and it is only from 1988 that freedom of movement and the taxes which affected them become a real aim too. As regards direct taxation, the advances in tax coordination are more recent in time than those of the indirect taxation; we do not speak of direct taxes harmonization but coordination and this is maybe one of the reasons why these taxes do not make up part of the system of the own resources yet.

the process of European integration. The 1970 establishment of a financing system built on a system of own resources was the cornerstone of European financial autonomy. The study of the own resources system and its components enabled us to outline the development of EU financial autonomy, the current crises of the system and its future. The study of the weaknesses of the current system led us to conceive a range of possible solutions to combat the reduction in financial autonomy. As a summary, we can conclude that the prospects of EU financial autonomy will depend on the new proposals for the current own resources system. The limits to financial autonomy are stated in articles 268 and 269 of the TEC such as they result from articles 257, 258 and 259 of the Lisbon Treaty, 29 which inserts a new chapter entitled "The own resources of the EU"; system based on several components. According to the nature and the weight of these elements in the system as a whole, the financial autonomy of the EU will be broader or more restricted in relation to that of the Member States. In a mid-term study plan, it is necessary to adopt measures which influence the cause of the analysed problems and to seek solutions to them through a change in the structure of the current system. It will deal with introducing a/some new own resource which will replace the current VAT resource and also produce a decrease of the GNI resource. After having done a numeric evaluation of the potential formulas, based both on a general valuation and on another one with restrictions, the most solid candidates to take part in the new system in 2014, are VAT and climate change, but "the EU choice" will depend on political factors beyond the scientific valuation, nevertheless from the point of view of the pure theory of the principles of taxation, modulated VAT has an advantage in a global examination as well as in all the blocks of criteria that the politicians should not forget. In the long-term study plan, proposals would be made in relation to the political priorities of European integration and to the development of tax federalism theory in the EU. Hence, the increase in the level of financial autonomy of the EU has to be made through a greater competence transfer from the Member States to the EU, and consequently, an increase of the financial autonomy levels pointed out by MacDougall in the 1970s. Finally, the system has to be larger both in the elements and in its categories as we have proposed in this article.

References

Albi, E., Paredes, R., Corona, E. (1997) "Corporate tax as possible fifth own community resource: How much harmonization is necessary?", study XIX/B1/9602 prepared for the Commission of the EC, DG XIX June.

Antón Antón A. y otros (2008) La coordinación del régimen de comercio de Derechos de émisión y los impuestos autonómicos sobre emisiones atmosféricas: ¿un supuesto de ayuda de estado ilegal no compatible Instituto de Estudios Fiscales, Documentos No. 16/2008.

²⁹ Once ratified by the Member States.

- AAVV (2004) Teoría de la imposición, Thomson Civitas.
- AAVV (2007) El mercado de Derechos a contaminar, Lex Nova.
- Barberan, R. (1994) La Hacienda Pública de la Unión Europea en Economía de la Unión Europea cap 3. Obra colectiva, Madrid: CIVITAS, 77–124.
- Begg, I. et al. (1997) "The own resources of the European Union: Analysis and possible developments", report prepared for the Directotare-General for Research of the European Union.
- Biehl, D. (1985) "A federalist budgetary policy strategy for the EU. Policy studies", *The Journal of the Policy Institute* 6, part 2.
- Biehl, D. (1990) Financing the ECC Budget, in R. Prud'hommee, ed., Public Finance with several levels of government. Foundation Journal Public Finance, The Hague. A federalist budgetary policy Strategy for the EU. Policy Studies. The Journal.
- Cacheux, J. le (2008) http://ec.europa.eu/budget/reform/library/conference/session6 lecacheux.pdf.
- Cattoir, P. (2004) Tax-based EU own resources: an assessment. Taxation Paper no 1 (April).
- Coget, G. (1994) "Les ressources propres communautaires", *Revue française de Finances Publiques* 45, Paris, 51–96.
- Comision De Las Comunidades Europeas (1992) El sistema de recursos propios, COM (92) 81 final. Bruselas, 12 March.
- Comision Europea (1995) Las finanzas públicas de la Unión Europea. Características, reglas y funcionamiento del sistema financiero europeo, Luxemburgo.
- Comision Europea (1996) Vademécum presupuestario, edición 1996, SEC (96) 1200-ES.
- Comision De Las Comunidades Europeas. Dirección General de Presupuestos (1989) Las finanzas públicas de la Comunidad Europea. El presupuesto Europeo tras la reforma de 1988.
- Commission Des Communautés Européennes. Direction Génerale Des Affaires Economiques Et Financieres (1993) Economie Européenne No 53, Monnaie stable Finances saines, Bruxelles.
- Commission Des Communautés Européennes (2004) Communication de la Comisión au Conseil et au Parlement européen Perspectives Financières 2007–2013, DOC COM (2004) 487 final, Bruxelles.
- Commission Des Communautés Européennes (2008) Communication de la Comisión "Réformer le budget, changer l'europe" document de consultation publique en vue du réexamen du budget 2008/2009, DOC. SEC (2007) 1188 final.
- Commission Des Communautés Européennes (2008) Rapport de consultation "Réformer le budget, changer l'Europe", Résumé succinct des contributions reçues Document de travail préparé par le Secrétariat général et la DG Budget DOC SEC (2008) 2739l.
- European Commission (1997) "Agenda 2000. For a stronger and wider Union", *Bulletin of the European Union*, Supplement 5/97.
- European Commission. Directorate-General. Taxation and Customs Union (2004) Taxation Papers. Tax bases UE own resources: An assessment, working paper No. 1/2004.
- European Commission (2004) "Building our common future. Policy challenges and budgetary means of the enlarged Union 2007–2013", DOC COM (2004) 101 final.
- European Commission (2004) "Financing the European Union" Comission report on the operation of the own resources system, COM (2004) 505 final.
- Flores, E. (1990) "1,2% de PNB pour le Budget de la Communauté: un pancher ou un plafond?", *Quaderns de Trebal de L'Institut Universitari d'estudis Europeus* No. 4.
- Fonseca Morillo, F. (1985) El presupuesto de las Comunidades Europeas: análisis Jurídico, Madrid, Instituto de Estudios Fiscales.
- Guy, I. et al. (1986) Les ressources financières de la Communauté Européenne, CEDECE Economica, Paris.
- Keen, M. (1995) "Objectives and criteria of the community's fith own resource", Study prepared for the Comision of the EC DG XIX final Report, December.

- Lecea, A. de, Regnier-Heldmaier, C., Jouret, A., Núñez, L., Discors, D., Yataganas, X. (1999) Commentaires J Megret, Le Droit de la CE et de l'UE 11, Les Finances de L'Union Européenne, Editions de l'ULB, Bruxelles.
- MacDougall, D. et al. (1977) Report of the study group of the role of Public Finance in European Integration, Luxembourg: Office des publications officielles des Communautés Européennes.
- Molinier, J. (1986) "Les resources propres dans les documents budgétaires et comptes nationaux en Les ressources financières de la CE", *Cedece Economica*, Paris.
- Musgrave, R.A. (1968) Teoría de la Hacienda Publica, Aguilar.
- Nuemark, F. (1974) Principios de la Imposición, Madrid: Instituto de Estudios Fiscales. Ministerio de Hacienda.
- Reboud, L. (1986) "Le bilan du système des resources propres dans les ressources financières de la Ce", *Cedece Economica*, Paris.
- Smith, A. (1776) Wealth of Nations, London.
- Stamp, J. (1923) The Fundamental Principles of Taxation in the Light of Modern Developments, London.
- Strasser, D. (1993) "La Hacienda de Europa", El Derecho presupuestario y financiero de las Comunidades Europeas, Instituto de Estudios Fiscales.
- Vega Mocoroa, I. (1997) "La financiación de la UE: Análisis de resultados y principales retos", en Financiación y Política presupuestaria de la UE, Obra colectiva coord por I. Vega Mocoroa, Lex nova
- Vega Mocoroa, I. (1998) "La financiación de las Comunidades Europeas y su Futuro" en La Integración Económica Europea: curso Básico, 2ª ed. Obra colectiva coord por I. Vega Mocoroa, Lex nova
- Vega Mocoroa, I. (2000) "Il sistema delle risorse proprie dell'Uniones Europea nello scenario Finanziario dell'Agenda 2000", *En Diritto e Pratica Tributaria* vol LXXI-n.4.CEDAM, Padova.
- Vega Mocoroa, I. (2005) "Autonomía financiera en la UE: propuestas para el sistema de recursos propios", En obra colectiva titulada Logros, iniciativas y retos institucionales y económicos: la UE del siglo XXI, coordinada por Isabel Vega Mocoroa.
- Vega Mocoroa, I. (2008) publicación electrónica: http://ec.europa.eu/budget/reform/library/contributions/us/20080615 US 43.pdf.
- Vega Mocoroa, I. (2009) "Limites pour améliorer l'autonomie financière de l'UE; l'avenir du système des ressources propres", Les annales de l'Université Valahia de Targoviste, section sciences économiques. XIV année-No. 28, 181–197.
- Constitutive Treaties, Lisbon Treaty. Decisions on the system of the communities' own resources: 70/243/EEC, Euratom; Council Decision 85/257/ EEC, Euratom; Council Decision 88/376/ EEC, Euratom; Council Decision 94/728/EC, Euratom; Council Decision 2000/597/EC, Euratom; Council Decision 2007/436/EC, Euratom; Council Directive 2003/87/EC, EP and Council Directive of 13 October 2003. 2003/96/ EC, EP and Council Directive 2008/101/ /EC, EP and Council Directive 2009/450/.