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Towards the theory of supranational finance

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Abstract: In view of the importance and high degree of self-sufficiency of the issue of budgeting in inter(supra)national unions, a theory of supranational finance is emerging as a distinct field of study within the theory of public finance. Supranational finance has significant distinctive attributes in comparison to financial provisions at the national or the subnational levels. After examining the overall concept of supranational finance, this article provides a review of the literature on methods and approaches that can be utilized during the process of research focused on financing within international unions. Subsequent to that, we offer some thoughts with regard to areas in which this field could be developed further in the future.

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1. Introduction

Satisfactory and sufficient financial provisioning is one of the main prerequisites for the successful operation of any international union.[1] This is an important reason for scholars to be interested in the issue. However, since the very beginning of the period when the theory of economic integration began to take shape, the area of supranational finance (involving the financial resources or budgets of international economic unions) has received less attention

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All the authors of the paper work at Lesya Ukrainka Eastern European National University and their research interests are closely related to the issues of finance. The main author, Andrii Boiar, has been working on the issues of supranational finance and budgeting in the EU for roughly 12 years. The list of his publications on the issue includes tens of peer-reviewed journal articles and books. His doctor of science dissertation is directly related to the issue of supranational finance. Tetiana Shmatkovska and Olena Staschuk specialize on the corporate finance issues however their research interests are much wider and cover macrofinace issues as well. This is confirmed by their publishing records. This is their first work in co-authorship.

PUBLIC INTEREST STATEMENT

Finance is a keystone of Economics. It is directly or indirectly reflected in all areas of this science. However, as the human society evolves, some yet unstudied aspects of financial and economic life arise. One of them is the issue of financial resources and budgeting in international unions. As the theory of economic integration began to take shape in early 1950s, the issue was completely overlooked. Some papers related to these issues appeared only in the twenty-first century and this gave us grounds today to announce the emergence of the new study – the theory of supranational finance. What makes the new study so different from the existing public finance theories? How does it fit in the system of modern science? What makes this theory self-sufficient? What are the most promising areas of interest for the study? What is the “perfect” budget for an international union? These are the main issues we discuss in the article basing our arguments on the relevant literature review.

from scholars than it merited. In the classical literature in this field, the issue is overlooked completely (see Balassa, 1961; Meade, 1955; Tinbergen, 1965; Viner, 1950).

It was not until the 1970s that budgeting in international organizations (including unions) began to be the object of academic research. A number of attempts were made to apply methods and approaches that existed in relation to public budgeting and public finance theory to certain international organizations. One group of scholars focused their attention on a search for the optimal behaviouristic model (or method) of budgeting in international organizations (see Hoole, Handley, & Ostrom, 1979; Hoole, Job, & Tucker, 1976). A second group sought to substantiate and/or to propose the optimal structure of the European Union (EU) budgetary system based on postulates of the theory of fiscal federalism and principles of public-sector economics and the theory of public finance (see, e. g., Begg, Sapir, & Eriksson, 2008; Figueira, 2008a, 2008b; Mattila, 2004; Persson, Roland, & Tabellini, 1996; Tabellini, 2003).

As a result of the increase in regional economic integration and the emergence of pioneering economic unions, methodological developments emerged which were directly focused on budgeting in international economic unions (Alesina, Ignazio, & Federico, 2005; Boiar, 2015, 2014; Carruba, 1997; Simon & Valasek, 2012). However, the upsurge of theoretical investigation relating to supranational financing was not due solely to inquiries originating in the practical sphere. There is also interest of a cognitive nature in the issue, in the sense that supranational budgeting differs from budgeting at the national or subnational levels.

Therefore, in this article, we pursue the objective to generalize the current developments as for budgeting in international unions and consequently outline a new field of study emerging within the public finance theory—the theory of supranational finance. In particular, we discuss the concept of supranational finance (Section 2), recognize the existing theories and disciplines relevant to budgeting of supranational finance based on the literature review (Section 3), and offer some thoughts with regard to areas in which this field could be developed further (Section 4). These issues have not been explored by the literature by now. However, the developments in this field can solve many problems that international unions face with and will enhance international economic integration.

In terms of methodology, the article is most closely related to the literature in the fields of public-sector economics (Connolly & Munro, 1999; Stiglitz, 2000), public finance theory (Musgrave, 1959), taxation theory (Pigou, 1928), public expenditure theory (Samuelson, 1954–1955), and the theory of fiscal federalism (Musgrave, 1969; Oates, 1972).

2. Supranational budgeting as a phenomenon

Supranational finance has been the object of analysis of two wide disciplines—economics and political science. Public-sector economics and in particular its branches, such as public finance theory, fiscal federalism theory, and taxation theory, are most commonly used to explain the budgetary structure of international unions. Political science (including public administration) studies deal with issues such as political bargaining and decision-making techniques, the horizontal and vertical distribution of powers among authorities, and methods of budgeting. Thus, it can be seen that supranational finance theory is interdisciplinary in nature.

Supranational budget is an important financial tool for all international unions. Only in certain communities (such as free trade areas) at an initial stage of development are integration-related expenditures financed directly from the national budgets of member states.[2]

As international economic unions develop and advance to higher forms of integration, their systems of finance become more complicated. The most complicated supranational budgetary system up to the present time is the one which has been created in the EU. A certain degree of budgetary complexity may be observed in the Southern African Customs Union, the West African

Economic and Monetary Union, and the Economic and Monetary Community of Central Africa. Other integrated communities have relatively simple or rudimentary systems for the financing of their operations.

The revenues of international unions can be composed of direct transfers from the national budgets of member states; of the union's own resources; and/or of contributions from other international organizations or nonmember countries. Supranational budgets usually cover both administrative and program-related expenditures. However, these two types of expenditures[3] are financed from two separate funds in some international unions.

The budgetary systems of international unions differ significantly from those of national or subnational governments, which is a substantial argument for setting supranational finance apart as a separate branch of public finance theory. Some of the distinctive features of supranational finance are the following:

- its supra- or international nature, which means that the financial obligations of member states to the union are the subject of the union legislation which takes precedence over national legislation of the member states. Budgeting is a prerogative of supranational bodies. Special mechanisms are set up to govern the interaction between nations and institutions with respect to supranational budgeting, including such matters as decision-making rules and fiscal redistribution principles;
- in contrast to a federation, sovereign nations cannot commit to remain in the union. Because of this, contributions to supranational budget influence the de facto distribution of bargaining power with respect to the allocation of the budget—a linkage that generally leads to inefficient outcomes (Simon & Valasek, 2012);
- in addition to the customary functions of a national budget (redistribution of income, allocation of resources, and fiscal regulation), a supranational budget can serve to balance the interests of the union's member states, to enhance the political and financial stability of the union, and to generate added value to union as a whole;
- the efficiency of the fiscal redistribution from the supranational level is heavily dependent on such factors as the homogeneity of member states' per capita incomes, the preferences of their citizens, the overall magnitude of the budget, and the existing procedures of decision-making. (Simon & Valasek, 2012);
- the supranational budget is subordinate to the objectives and the institutional structure of a union which are inherently specific in nature; formulating or modifying supranational finance is usually carried out together with political and institutional transformations of the union;
- executive supranational budgetary authorities have no authority or at most very limited powers to carry out vertical interbudgetary transfers (between the supranational, national, and municipal levels);
- a unanimous pattern of decision-making in state-representing bodies with regard to key financial issues (such as the general framework of expenditures and the sources and mechanisms of revenue generation);
- the majority of supranational budgetary revenues and program expenditures in currently existing unions are generated and utilized via the administrative resources of member states, who are also responsible for the implementation of union policies which are within their jurisdictions;
- the establishment of special mechanisms of interinstitutional cooperation, control over the use of supranational budgetary funds, distribution of the fiscal competences between supranational and national authorities, etc.;
- the relatively small size of a supranational budget (up to 1% (in EU) of Gross National Income (GNI) compared to 40–60% of GNI redistribution in sovereign states).

Budgeting at the national and supranational levels naturally have much in common; in addition to the commonalities in the potential functions of national and supranational budgets, revenues and expenditures of both of them are closely related to the basic parameters of economic and social development of corresponding states. The basic elements and mechanisms of the budgetary process[4] also remain the same.

3. Disciplinary approaches for the study of supranational finance

Due to the interdisciplinary character of the theory of supranational finance, the methods and approaches associated with a variety of disciplines and narrower theories can be applied to explore or model the subject.

3.1. Public economics

Public-(sector) economics involves market failures and the need to provide social justice as sufficient reasons for governmental intervention in the economy (Connolly & Munro, 1999; Stiglitz, 2000). From these perspectives, fiscal interventions from the EU level, for example, are considered justified if they lead to a correction of the defects of the common market (such as the enhancement of workforce mobility and the elimination of scale-related trade barriers) or if they favor the achievement of social equality (in areas such as cohesion policy and economic and social convergence) (Figueira, 2008b).

The theory of taxation and the theory of public expenditure are two branches of public economics. The former focuses on fair principles of taxation and an optimal taxation structure. The benefit approach and the ability-to-pay approach are the dominant principles of taxation. According to the benefit, principle taxes should be formulated taking into account the public benefits that taxpayers receive which are provided by the government. Wicksel (1896), the developers of this principle (Musgrave and Peacock, 1994), were convinced that taxes should be in accord with the structure of budgetary expenditures. An attempt to apply a prototype of the benefit principle in modeling supranational budgetary revenues (for the EU) was recently undertaken by Boiar (2015).

Arthur Pigou advocated the application of the ability-to-pay principle in taxation (1928). According to it, budgetary revenue and expenditure should be treated separately and a taxpayer's ability to pay should be the main determinant of the structure of taxation. Tax payments could be considered to be uncompensated donations or offerings by taxpayers which enable governments to continue carrying out their functions.

Paul A. Samuelson was the first scholar to affirm that the theory of public expenditure is a separate discipline within the area of economics dealing with public finance. In 1954 and 1955, he published two short articles in "The Review of Economics and Statistics" giving general mathematical (Samuelson, 1954) and graphical (Samuelson, 1955) interpretation of optimal public budgetary expenditures from the perspective of the utility derived by society from the public good created by the central government.

Around three decades before the appearance of Samuelson's articles, Hugh Dalton published a book providing the scientific fundamentals for the optimal combination of taxes and public expenditures and their relationship from the perspective of welfare economics. According to him, the optimal disposition is attained when the marginal utilities of all the categories of public expenditure become equal and the same is proper to marginal disutilities produced by all the types of taxes which are imposed in a particular community (Dalton, 1923, p. 18). Another even more important insight presented by Dalton was the principle of maximum social advantage, which states that the public good generated by public finance is maximized at the point where the marginal utility of public expenditures becomes equal to the marginal disutility of taxation (Dalton, 1923, p. 9).

Numerous theoretical developments in the field of public finance led Richard Musgrave to state in the middle of the twentieth century that a new branch had emerged within the field of public economics—the theory of public finance. His book "The Theory of Public Finance: a Study in Public Economy" (1959) is considered seminal in these terms (Oats, 2005, p. 350). Today, the theory of public finance is defined as a discipline focused on the role of the government in the economy (Gruber, 2005, p. 2). There are three traditional fields of governmental fiscal interventions—the efficient allocation of resources, the distribution of income, and macroeconomic stabilization (production and employment) (Musgrave, 1959, p. 5).

Musgrave was the first to demonstrate the feasibility and to outline the principles of efficiently allocating fiscal competences across different levels of administration. For these theoretical developments he chose the term "fiscal federalism" and viewed it as being another distinct field of public finance. The theory of fiscal federalism deals with two principle issues: which taxes could be more efficiently administrated centrally, and which should be dealt with at the local level; and which levels of administering public expenditure for different policies are the most efficient.[5]

In the 1990s, the theory of fiscal federalism underwent certain modifications and even received a new name—the second-generation theory of fiscal federalism (Oats, 2005; Qian & Weingast, 1997) or the political economy of multilevel governance (Persson et al., 1996; Tabellini, 2003). A few additional criteria of centralization and decentralization were revealed, leading to results that sometimes were contradictory to the postulates of the "first generation" or the classical theory of fiscal federalism. The ex ante cost of decision-making is one of the criteria. It means that the cost connected with a decision made at local level can be significantly different (usually lower) from the cost based on decisions made at the central level and must be taken into account. This can be explained by the information accessibility or obtainability, complexity of the decision-making process, and/or other factors. The ex post cost of the decision is another additional criterion. It is related to compensations paid to those who are made worse off by the decision made, and which must be accounted for in large heterogeneous communities.[6]

Both the new and the classical theories of fiscal federalism are most commonly applied to the study of supranational budgets, and particularly the EU budget (Buti & Nava, 2003; Mattila, 2004; Persson et al., 1996). However, as was argued above, there are significant differences between budgeting at the level of the state (even a federal state) and supranational budgeting which are not envisaged within the theory of fiscal federalism. Consequently, the application of fiscal federalism postulates (as well as other theories focused on the national or state level) for investigating international union budgetary issues no doubt can be undertaken, but will not necessarily lead to satisfactory results.

3.2. Political science

Political science often explains the structure of a supranational budget in terms of the political configuration of an international union. Indeed, common policies, being derived from the union's objectives and the principal determinant of the union's institutional setup, can be a formal justification for the budget's structure (Begg, 1999). However, solely following this political approach can lead to an inefficient outcome. This is due to the fact that the purposes of the common policies are often lost sight of by member states while they are attempting, with respect to each policy, to obtain what they consider to be their fair share.

"One tool for one goal" or the Tinbergen rule can be considered as a continuation of the political approach. According to this rule, at least one policy tool is needed to achieve a particular policy target. If applied to supranational budgeting, this approach would imply that the budget should pursue only one goal or be divided into parts which separately pursue specific goals. The Tinbergen rule is in compliance with Dalton's principle (see above) since it enables the tracking of marginal parameters for separate policies.

Public budgeting is a subfield of political science whose methods can be used to investigate supranational finance. It emerged as a branch of public administration at the beginning of the twentieth century after the publication of a number of papers on principles and methods of budgeting (Cleveland, 1915), the functions and structure of a budget (Willoughby, 1918), and the terminology and general theoretical developments connected with budgeting (Key, 1940; Lewis, 1952). Concepts developed by theoreticians of this field relating to budgets, budgetary revenue and expenditures, budgetary classification, processes, management, planning, and models of budgeting (incremental, zero-based, program, participatory budgeting, and new public management) are in most cases quite acceptable for supranational budgetary modeling as well.

3.3. Other theories and approaches

There are also some theoretical developments directly addressed or adjacent to supranational budgetary issues. Considering the limited opportunities for applying theories focused on state budgeting, Filipa Figueira suggested a special method for structuring the expenditures of an international union. In relation to the EU, she applied a multidisciplinary approach, which is a kind of compromise option among the four approaches of public economics, the theory of fiscal federalism, political science, and legal principles. To determine whether a policy can be eligible for financing from a supranational budget, an assessment test is suggested. The policy passes this test if it: (1) complies with the political objectives of the union (political criteria), (2) corrects market failures and ensures social justice or increases cost-effectiveness (public economics criteria), (3) creates economies of scale or internalizes externalities (fiscal federalism criteria), (4) respects the principles of subsidiarity and proportionality (legal criteria) (Figueira, 2008a).

There are two theories which have been devised to explain the structure of interbudgetary fiscal flows in an international union. National costs/benefits theory considers a supranational budget (particularly the EU's budget) as an outcome of an intergovernmental bargain with respect to the access of the union's member states to each other's markets (Carruba, 1997; Hix, 1999).

Advocates of the second theory based their assumptions on the reverse relationship revealed in the EU between the economic prosperity of member countries and their net fiscal balances within the EU budget. This means that supranational fiscal transfers can be considered as a function of economic wealth: in other words, the poorer the country is, the more it benefits from the supranational budget. This theory is referred to as the theory of economic needs (Mattila, 2004).

The theory of optimum currency areas states that establishment of a currency (monetary) union implies a restructuring of the supranational fiscal redistribution system. In order to provide monetary and fiscal stability, such a union must create a risk-sharing system such as an automatic fiscal transfer mechanism to redistribute money to areas or sectors which have been adversely affected by the increased labor and capital mobility and price convergence (Frankel & Rose, 1997; Mundell, 1961).

Simon and Valasek estimate the impact of various factors on the efficiency of fiscal redistribution in supranational unions, where decision-making is based upon unstructured bargaining, member states behave rationally, and participation is voluntary. They conclude that even under such circumstances, efficiency of budget contributions and allocations can be achieved in unions with relatively small budgets and whose member states are homogenous in terms of their preferences and their per capita income. The efficiency can be increased by the introduction of exogenous decision-making rules, involving the structuring of bargaining, or the creation of a coalition of members who prefer projects with high spillovers in terms of the public good. The efficiency of supranational fiscal redistribution requires the allocation of available resources to the technologies which produce the highest return. Ideally, the marginal returns of all union projects should be equalized and funds raised where it is least costly (Simon & Valasek, 2012).

Boiar (2015) suggests a model of optimal contributions by members to the budget of an international union. A key element of the latter is the suggestion to make the budgetary payments of members proportionate to their willingness to pay. In another paper, he outlines three types of revenue-generating schemes for international unions: contributions, direct taxes, or a combination of two (Boiar, 2014).

A comparative analysis of the budgeting methods practiced in international organizations was provided in a few articles several decades ago (Hoole et al., 1979, 1976).

In addition to the studies of the expenditure side of the EU budget (see above), a series of papers was devoted to a critical analysis of EU budgetary revenues (Begg et al., 2008; Cipriani, 2007; Heinemann, Mohl, & Osterloh, 2008; Le Cacheux, 2010). The criteria used in these works to assess the EU revenue sources can be applied in connection with the budgets of other international unions.

4. Objectives and thematic sectors of the theory

As is the case with other theories, the theory of supranational finance involves several different objectives. Ideally, its main goal should be to create a model of a supranational budget that meets the following criteria: (1) provides financing which is sustainable and is sufficient for the needs of union activities and policies; (2) makes it possible to minimize political contradictions between institutions and members of the union with respect to budgetary issues, and if they do occur, makes it possible to solve them successfully; (3) sustains a balance between revenue and expenditure; and (4) ensures economically efficient fiscal redistribution within the union.

The principle thematic sectors of supranational finance, which can be (or have already partially been) objects of particular research interest, include (but are not limited to):

- the distribution of fiscal powers among supranational and national authorities;
- the composition and structure of budgetary revenue;
- the structure of supranational budgetary expenditures;
- the balance between budgetary revenue and expenditures;
- the redistribution of budgetary resources among member states;
- administrative procedures and mechanisms of supranational financing (methods of elaboration and execution of the budget, mechanisms of budgetary discipline and interinstitutional cooperation, current and ex-post control over the execution of the budget, and budgetary planning).

The first thematic sector—the distribution of fiscal powers among supranational and national authorities—can rather exhaustively be addressed by the theory of fiscal federalism in its first and second generations. As sufficient arguments to transfer fiscal powers to the supranational level, one can consider: (1) the better opportunity to internalize externalities (to adopt positive or negative consequences of societal activities of some public or private entities for third parties); (2) the economies of scale; and (3) the necessity to maintain the minimum scale of financing. On the other hand, fiscal decentralization can create better opportunity to avoid some unwanted internalities and the situation when the regional taxpayers (or the member states in the case of an international union) finance the action that they are not interested in. In the areas where member states interests significantly differ (are heterogeneous), the preference should be given to the national (or even subnational) distribution of public goods, rather than to their unified supply from the central supranational level. Additionally, the cost of a decision must be taken into account. However, in practice, decision-makers can meet with the problem when some political or institutional traditions and patterns dominate over the scientific reasoning, leading, thus, to an inefficient result with respect to the distribution of fiscal powers among supranational and national authorities.

When we talk about the composition and structure of supranational budgetary revenue, two issues are of key importance: what the general contribution of each member state is and what the sources of revenue are. The benefit approach and the ability-to-pay approach proposed within the theory of taxation can rather fully address the first question. However, one can argue that the willingness-to-pay approach could be a combining approximation for both and yield better political and financial sustainability in the case of an international union. Direct payments (contributions) from national budgets, supranational taxes, or the mix of both are the most common sources of revenue for international unions. When a decision-maker favors supranational taxes, the principles of the theory of fiscal federalism should be followed. Theoretical developments directed to address the issue of each member's contribution (including methods how to determine willingness-to-pay of a nation) seem to be more on the research agenda today as it is a much more sensitive issue in practical terms.

Other two questions arise regarding the structuring of supranational budgetary expenditures: what policy areas should be financed from supranational budget and to what extent. The public-sector economics, the public finance, and the fiscal federalism with its satellites are the theories that can be applied with respect to the first issue. Interdisciplinary approach proposed by Figueira (2008a, 2008b) can be positioned as the second best alternative, taking into account political and institutional arguments to the detriment of economic efficiency. The principle of equalization of marginal utilities generated by each category of budgetary expenditure developed by Dalton (1923) and Samuelson (1954) is the theoretical tool to address the second issue (the extent of expenditure). As it is hard to find out the marginal utilities in practice the methodology to determine optimal extent of expenditure should stay in the attention of scientific community.

The balance between budgetary revenue and expenditure is another hot issue in the theory of supranational finance. As the budget deficit at a reasonable level is rather admissible in national budgets, legislation of most international unions does not allow for imbalances in supranational budgets. Significant and permanent such imbalances can lead to dysfunctionality of communitarian programs and threaten the viability of the whole integration project. The issue is directly related to the question of general size (amount) of a supranational budget. Some ad-hoc mechanisms of how to avoid budget-deficit problems are worked out in the EU and some other international unions; however, they do not account for the principle of equalization of marginal utility of expenditure and marginal disutility of taxation (Dalton, 1923) and the principle of willingness-to-pay (Boiar, 2015). Therefore, the development of methods to estimate the latter parameters at supranational level seems to be the most on time.

When the redistribution of budgetary resources among member states of an international union is in focus, they usually mean the net balance between budgetary expenditures and contributions assigned to each union's member. Two determinants were revealed to be of key importance for the formation of net balances in the EU: the access of the union's member states to each other's markets (Carruba, 1997; Hix, 1999) and the nation's per capita income (Mattila, 2004). However, these rules do not seem to work for other international unions. As it can be derived from the conclusions made by Simon and Valasek (2012), the inefficient supranational redistribution appears as the political argumentation dominates over the economic one in the budgetary bargaining process. The theory of optimum currency areas (Mundell, 1961) can also justify certain redistribution of supranational budgetary resources in a monetary union (see above). In our view, future investigations within this thematic sector should be focused on the development of mechanisms that would help to avoid the net balance approach in supranational budgetary decision-making.

Administrative procedures and mechanisms of supranational financing can also be an issue for academic debate. Will incremental, performance, participatory, zero-based, or some other type of budgeting yield better result in the case of an international union? Are there any alternatives to centralized/decentralized methods of supranational budget execution? What are the most efficient mechanisms to strengthen supranational budgetary discipline? These are some of the questions on research agenda within this thematic sector.

Generally speaking, the "perfect" supranational budget, as we see it, is the budget where the categories of expenditure (and revenue if supranational taxes are introduced) are established based on the theory of fiscal federalism and public-sector economics; the scope of financing for each category of expenditure is determined based on the principle of equalization of marginal utilities generated by the expenditures; the willingness-to-pay of the member states of a union is taken into account when assigning budgetary commitments (contributions) to them and when establishing overall ceiling for the budget. In order to achieve the objectives listed at the beginning of this section, these rules seem to be guiding lights for budgetary decision-makers in an international union.

To summarize, we link these thematic sectors of supranational finance to the theoretical developments considered in the previous section. In addition to this, we divide them into two groups—theories and tools designed specifically for supranational budgeting (or special tools) and theories and tools originally designed for national and/or subnational budgeting but also applicable to supranational budgeting (or general tools) (Table 1).

As can be seen in Table 1, from a methodological standpoint, several areas of the theory of supranational finance are covered solely by tools developed for budgeting at national and/or subnational levels by series of theories and disciplines. This does not mean, of course, that these sectors of potential research are insufficient in terms of theoretical provisions. However, the specific issues for which few specialized tools have been devised merit a greater degree of academic attention, in our view.

Table 1. Theoretical developments as related to thematic sectors of the theory of supranational finance

#	A thematic sector	Special tools	General tools
1	Distribution of fiscal powers among supranational and national authorities	-	Theory of fiscal federalism (Musgrave, 1969; Oates, 1972; etc.), theories of institutionalism (Haas, 1975; Mitrany, 1976, etc.), principle of functional subsidiarity (Ederveen, Gelauf, & Pelkmans, 2006)
2	Composition and structure of budgetary revenue	Revenue-generating schemes for international union's budget (Boiar, 2014)	Taxation theory (Pigou, 1928, etc.), theory of fiscal federalism (Musgrave, 1969; Oates, 1972; etc.)
3	Structure of supranational budgetary expenditures	Interdisciplinary approach (Figueira, 2008a, 2008b)	Public-sector economics (Connolly, & Munro, 1999; Stiglitz, 2000, etc.), theory of public expenditure (Samuelson, 1954–1955), public finance theory (Musgrave, 1959, etc.), theory of fiscal federalism (Musgrave, 1969; Oates, 1972; etc.) principle of functional subsidiarity (Ederveen et al., 2006), Tinbergen rule (Tinbergen, 1965)
4	Balance between budgetary revenue and expenditure	Model of optimal contributions to a supranational budget (Boiar, 2015)	Public finance theory (Musgrave, 1959, etc.), principle of maximum social advantage (Dalton, 1923)
5	Redistribution of budgetary resources among member states	National cost/benefit theory (Carruba, 1997; Hix, 1999), theory of economic needs (Mattila, 2004), theory of efficient supranational fiscal redistribution (Simon & Valasek, 2012)	Theory of optimum currency areas (Mundell, 1961)
6	Administrative procedures and mechanisms of supranational financing	-	Theories of public budgeting (Cleveland, 1915; Key, 1940; Lewis, 1952; Willoughby, 1918 etc.)

5. Conclusions

The ever-increasing scientific and practical attention which is being devoted to supranational budgetary issues and the magnitude of the distinctive features connected with these issues relative to those involved with national and subnational budgeting provide a clear signal that a new branch has emerged within the theory of public finance—the theory of supranational finance. This new theory covers the wide scope of issues including the structure of supranational budgetary revenues and expenditures and the balance between them, the distribution of fiscal powers among supranational and national authorities, the distribution of budgetary liabilities and allocations among the union member states, the political and administrative process of the budget, etc.

The theory of supranational finance began its evolution with the development of a few theoretical models directly focused on the supranational level of budgeting. However, in methodological terms, it is related to a variety of studies ranging from public-sector economics and its subfields to political science and public administration. In this sense, the concept of the theory is interdisciplinary.

The theory of supranational finance should be focused on the validation of mechanisms and structures that provide sustainable, balanced, and adequate financing of the policies of international unions. It can also produce methodological developments that will ensure economically efficient fiscal redistribution within the unions and even minimize political contradictions between institutions and members of an international union. The history of economics demonstrates that the validation of economic processes by development in the area of theory occurs primarily on the basis of empirical observations. The view may be held that economic theory evolves progressively as the requirements connected with economic practice become evident; it usually advances to a level which corresponds satisfactorily to those practical needs, even if there is a certain time lag between the two. The continuing development of the theory of supranational finance will make it possible to decrease this apparent gap and to fill the theoretical vacuum which exists in connection with issues of supranational finance. The further enhancement of economic integration will continue to increase the demand for the formulation of the new theory.

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Notes

1. It must be noted that an international union in this study is regarded as a voluntary association of sovereign states that decide to centralize or coordinate certain policies and confer corresponding powers to central supranational bodies.
2. For example, activities of regional sections of the NAFTA Secretariat are financed by the member states where the sections are located.
3. For more details on the principles of financing in current international unions, see Boiar (2014).
4. Revenue and expenditure as the main components of a system, steps in budgetary procedure, institutes of budgetary discipline, management, auditing, classification, etc.
5. There is an abundance of literature on the theory of fiscal federalism. Among others, see Musgrave (1969), Oates (1972), Bird (1993), Ter-Minassian (1997).
6. There is plenty of literature that emphasizes the differences between the first and the second generations of the theory of fiscal federalism. See, among others, Ercolano (2014), Weingast (2006, 2009).

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