ROBUST BUDGETING IN INTERNATIONAL UNIONS

[a]ANDRII BOIAR, [b]IRYNA KYTSYUK, [c]KATERYNA DEDELYUK, [d]IRYNA SKOROKHOD, [e]VIKTORIA KUKHARYK, [f]NATALIIA ROMANIUK, [g]SERHII FEDONIUK

Lesya Ukrainka Volyn National University, 13 Voli Ave., 43025, Lutsk, Ukraine
email: [a]andrij.boyar@vnu.edu.ua, [b]kytsyuk.irina@vnu.edu.ua, [c]dedeljuk.kateryna@vnu.edu.ua, [d]iryna.skorohod@vnu.edu.ua, [e]kucharyk.viktoria@vnu.edu.ua, [f]romaniuk.natalia@vnu.edu.ua, [g]sergii.fedoniuk@vnu.edu.ua

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Abstract: As international economic integration advances the issue of budgeting in inter(supra)national unions becomes more and more important. To ensure stable, effective and efficient functioning of the union its budgetary system should be designed based on a number of rules. In the article we analyze budgetary structures of current international unions and combine the revealed rules into six basic principles. We describe and substantiate these principles. In addition, some theoretical tools that could be applied in scientific validation of a supranational budgetary model are proposed.

Keywords: supranational, budget, principle, rule, international union, fiscal.

1 Introduction

Successful operation of any international union[1] is not possible without adequate financial provisioning. This seems to be a sufficient reason to bring academic interest to the issue of supranational budgeting. However, since the theory of economic integration started to evolve this issue did not get enough attention. The issue of budgeting in international unions is not mentioned in any of the classical books in this field (see Tinbergen 1965, Balassa 1961, Viner 1950, Meade 1955).

Only in 1970-th budgeting in international organizations (including unions) started to be an object of academic research. A few attempts to apply existing methods and approaches of public budgeting theory and of the theory of public finance to certain international organizations were made. One group of scholars focused on search of optimal behavioristic model (method) of budgeting in international organizations (see, e. g., Hoole et al. 1976, 1979). A second group tried to explain and/or propose optimal structure of the European Union (EU) budgetary system based on postulates of the theory of fiscal federalism and principles of public sector economics, the theory of public finance and others (see, e. g., Čeponytė 2015; Begg et al. 2008; Figueira 2008; Mattila 2004; Persson et al. 1996; Tabellini 2003; Deugd et al. 2013; Gehring and Schneider 2018).

As a result of deepening regional economic integration and the emergence of pioneer economic unions methodological developments directly addressed to budgeting in international unions appeared (see, e. g., Alesina et al. 2005; Boiar 2015, 2014; Carruba 1997; Simon and Valasek 2017). However, not only impulses from practical sphere caused the rise of theoretical elaborations as for supranational finance. There is also cognitive interest in the issue, in the sense that supranational budgeting differs from budgeting at the national or subnational levels.

This argumentation led us to intention to contribute in this article to the theory of supranational finance and outline basic principles of budgeting in international unions. To do so we first analyze budgetary setups of current international unions (section II), then, based on this analysis, we generalize the revealed rules and patterns into six principles of supranational budgeting, where the principle of scientific validity is the key one (section III). Finally, we conclude (section IV).

[1] 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 Financial resources for economic integration

The most widespread form of international economic integration[2] in the modern world is a free trade area (FTA). Treaties establishing the majority of FTAs do not foresee the creation of separate budgets to finance the planned activities within the union. The activities are usually financed directly from national budgets of the member-states of a particular union in accordance with their commitments. Even the existence of central governing bodies does not mean that they operate its own budget. In the case of the North American Free Trade Agreement (NAFTA) (as of July 2020, the U.S.-Mexico-Canada Agreement (USMCA)) the parties (USA, Canada, and Mexico) agreed to establish territorial sections of the central NAFTA's authority (named Secretariat) in the capital of each member-state and finance each section's administrative expenditures from the national budget of the corresponding member-state (NAFTA 2019).

However, there are a few examples when governing institutions of a FTA are empowered to operate its own budget. For example, the Secretariat of the Central European Free Trade Agreement (CEFTA) has its own budget, which is funded by contributions from the CEFTA member-states (Boiar 2014).

One can notice a pattern that common supranational budget is usually formed in the FTA-s that are strategically oriented to advancing to higher forms of integration. This is proper to the South African Development Community (SADC) which besides a FTA has implemented a number of sectoral cooperation programs and has taken some efforts to establish a customs union, a common market and a monetary union. The budget of SADC covers primarily administrative expenditures. Some insignificant program expenditures are also financed from the supranational budget but most of the programs are funded directly from the national budgets of the member-states (SADC 2009).

The contributions of the SADC member-states to the common budget are calculated based upon their GDP. Nevertheless, SADC is significantly dependent on the external sources of funding. From the total SADC budget of USD 39.36 million in 2007/2008 fiscal year, 41.1 % were grants from international organizations and developed countries. The EU, the African Development Bank, the World Bank, the Forum for Agricultural Research in Africa, the Food and Agriculture Organization of the United Nations, Belgium, the United Kingdom, France, Switzerland were among the main donators to the SADC budget (SADC 2009).

The Common Market for Eastern and Southern Africa (COMESA) is also very ambitious in its integrational goals international union. The Secretariat and the COMESA Court are the permanent bodies of this organization and they have their own administrative budgets. Their estimates are calculated with respect to the differentiated member-states' contributions (established by the COMESA Council) and the amount of resources received from other sources (grants, donations, income of the COMESA institutions) (Boiar 2014). Program expenditures are directly related to the formation of the common market. They have to be covered by special duty called the Common Market Levy (see article 168 of the Agreement Establishing the COMESA (COMESA 1993)).

[2] The forms of economic integration according to B. Balassa (1961, p. 174) include a free-trade area, a customs union, a common market, an economic union and complete economic integration.
It should also be noted that it is hard to say apart the real form of integration for some international unions as they are one form by name, and in fact another. This is due to the differences between the goals set in the founding treaty and real achievements in the process of integration. For example, the European Free Trade Association (EFTA) is, in fact, a common market with the first signs of an economic union. The organization with the name "Common Market for Eastern and Southern Africa" has only managed to create a FTA and to implement a number of sectoral cooperation programs.

The Council of the organization sets the general legal framework for the budget process at COMESA, including approval of the annual budgets of institutions and programs. Also, the external audit of financial activities and penalties for non-execution by the member-states of their budgetary obligations to the organization are foreseen (see article 170 of the Agreement Establishing the COMESA (COMESA 1993)).

The Association of Southeast Asian Nations (ASEAN) is an international union with geopolitical and economic objectives. In terms of economic integration, ASEAN is a free trade area with the first signs of a common market. The administration of the ASEAN activities is carried out by the Secretariat, which has its own budget. It is funded by equal annual contributions from ASEAN member-states. Budgeting is based on rules and procedures that are in line with international standards and are approved by the Coordination Council. The budget of the organization is the subject of internal and external audit (see articles 29–30 of the Association of Southeast Asian Nations Charter (ASEAN 2007)).

The South Asian Association for Regional Cooperation (SAARC) is another union which is a free trade area from the standpoint of the forms of economic integration. The main achievements of SAARC are the creation of the South Asia Free Trade Area (SAFTA) and the establishment of the SAARC Development Fund, which finances socio-economic development and cooperation projects. SAFTA is seen as an intermediate step towards the creation of a customs union, a common market and an economic union.

The specific characteristic of budgeting in SAARC is that different institutions, projects and programs are funded through different schemes that are the subject of separate political decisions of the member-states. These are primarily direct contributions from the national budgets but their calculation does not have single rule and separate arrangements are applied to certain members (Boiar 2014).

The main source of funding for program expenditures is the SAARC Development Fund. The expenditures of the Fund are divided into three groups: the “social window” (education, health care, human resources etc.), “economic window” (trade, production, technology etc.) and the “infrastructure window” (energy, transport, environment etc.) (SAARC 2008). The basic method of financing is the allocation of grants to projects, selected on a competitive basis.

The activities of some FTAs are administered and funded within the framework of international organizations of a wider format. This, in particular, concerns the Greater Arab Free Trade Area (GAFTA), a project of the Social and Economic Council of the League of Arab States. The budget of the League of Arab States is financed by differentiated contributions from the national budgets of the member states.

A customs union is another rather widespread form of economic integration. The financial provisions of all customs unions identified by us are carried out from special centralized budgets. However, the structure and mechanisms of arranging the revenue and expenditure parts vary significantly among the unions. Thus, in the Southern African Customs Union (SACU), the main source of revenue for the common budget is the so-called Common Revenue Pool. It consists of all the customs and excise duties collected on the territory of the customs union during a fiscal year. However, only a small part of them is directed at financing the activities of the union itself (subject of decision of the SACU institutions). The major share of the Common Revenue Pool is redistributed among member-states in a rather complicated manner (SACU 2019).

In 2012 38.2 % of the SACU expenditure were directed to finance the program “Corporate Services” (information and technical support to the SACU institutions), 22 % – to develop trade and customs infrastructure, 14,8 % – to harmonize policies and research (SACU 2012).

The financing system of the Economic Community of West African States (ECOWAS) is rather complicated. The reasons are that the ECOWAS governing bodies and agencies are funded according to different schemes, and both monetary unions that are developing within the organization have their own budgets.

The budgets of the institutions and most of the agencies are approved by the Community Council. The Commission performs the functions of budgetary management and internal financial audit in relation to the administrative expenditures of the ECOWAS institutions (see articles 69 and 75 of the Revised Treaty of the ECOWAS (ECOWAS 1993)). Development projects (investment, infrastructure, technical support, etc.) are funded through a special financial institution – the ECOWAS Bank for Investment and Development (EBID). Of all the institutions this body has the largest budget. The governing bodies of the organization have established a number of specialized agencies that serve as the ECOWAS sectoral policy coordinators. Most of them have their own budgets.

The expenditures of all ECOWAS institutions and some agencies are funded from a Community levy and other sources. This levy is established as a percentage of the total value of import duty derivable from goods imported into the Community from third countries (see articles 70 and 72 of the Revised Treaty of the ECOWAS (ECOWAS 1993)). In 2013 it was 0.5 %.

Another customs union was created within the Eurasian Economic Union (EEU). It has its annual budget which is financed by contributions from the member-states (EEU 2014). They are established as shares in the general budget in proportion to each member’s share in the total amount of the import duties collected at the external border (EEU 2019). The EEU budget covers primarily administrative expenditures. The financing schemes for the EEU cooperation programs are decided upon by the Supreme Eurasian Economic Council for each program separately. Usually, the responsibility for financing such program activities is put upon the national governments and carried out directly from budgets of the participating member-states.

The Andean Community (Spanish: Comunidad Andina, CAN) is a customs union where each governing institution has its own budget. The structures of the revenue and expenditure parts of these budgets are approved by the decision of the Commission (the main political body). All budgets are made up of direct contributions by member-states from their national budgets (see article 22 of the Official Codified Text of the Andean Subregional Integration Agreement (CAN 1969)). Expenditures of all bodies except the General Secretariat (the main executive body) are administrative. The sources for funding program expenditures of the Andean Community include non-administrative expenditures of the General Secretariat and special extra-budgetary funds, namely the Andean Development Corporation and the Latin American Reserve Fund.

Another international union which has created a customs union and is moving towards the establishment of a common market is the Southern Common Market (Spanish: MERCOSUR). Like in the case of the Andean Community each permanent MERCOSUR institution has its own budget. The administrative expenditures are funded equally by all member-states. The program expenditures (e.g., the Structural Convergence Fund, the Social Institute, etc.) are covered by the members depending on their level of participation in the corresponding programs. Direct transfers from national budgets are the main source of revenues for the budgets of supranational bodies. The Council of the Common Market (MERCOSUR highest authority) approves the budgets and other financial decisions (MERCOSUR 1994).

The Union of South American Nations (Spanish: UNASUR) is an intergovernmental organization created to unite the two South American customs unions (MERCOSUR and the Andean Community) and to form a single economic, socio-cultural space in the region. The body responsible for implementing the UNASUR policy is its General Secretariat. It operates the union’s budget, which consists of differentiated national contributions – the subject of decision by the Foreign Affairs Council. The member-states' economic capacity, shared responsibility and equity are the principles underlying the budget decision (see article 16 of the South American Union of Nations Constitutive Treaty (UNASUR 2008)). At present, UNASUR costs are predominantly administrative. However, over time, its budget is expected to serve as a resource for a number of scale sectoral programs.

Bank of the South should be a major financial instrument for stimulating economic development (infrastructure development, research and innovation, etc.). It was founded in 2009 by the member-states of UNASUR.

The Central American Integration System (Spanish: SICA) sets quite ambitious integration goals (in the long run – the creation of an economic and political union). However, today this international organization can only be called a customs union. The SICA central authorities have a single budget. Administrative and technical functions for the implementation of the budget are the responsibility of the General Secretariat.

The SICA budget is funded by equal contributions from member-states according to the Tegucigalpa Protocol (see article 32 of the Tegucigalpa Protocol of the Charter of the Organization of the Central American States (SICA 1991)). Program expenditures are funded by contributions differentiated with respect to each member's involvement in the corresponding program.

There are also several international unions that can claim to have created a Common Market of a relatively mature form. All these unions are financially independent, which is conditioned by the availability of separate budgets at their disposal. The first of these is the European Free Trade Association (EFTA). The EFTA policies determine the structure of the organization's budget expenditures. Thus, in 2017, out of 21.869 million Swiss francs of budget resources, 11.486 million were planned to develop cooperation with the EU, including within the framework of the European Economic Area (EEA), 5.037 million were directed to enhance trade with other countries of the world and 5.346 million covered internal needs, including administrative costs (EFTA 2019).

Contributions from the member-states to the general budget are calculated in proportion to each country's share in the total GDP of the EFTA members. As a significant part of the EFTA's spending is related to the EEA, Switzerland (the only member who is not a party in the EEA) receives a discount on its contribution. If a member-state is in arrears with the payment, interest on arrears of 10 % per annum shall be charged, payable by the member-state together with the next contribution to the association's budget (Boiar, 2014).

The East African Community (EAC) was founded in 2000 and by 2010 a customs union and a common market have been launched within its framework. The activities of the EAC bodies and institutions are funded from a single supranational budget. Financial rules and regulations are the legislative prerogative of the EAC Council. The Audit Commission performs an independent external audit of the Community accounts (see chapter 28 of the East African Community Treaty (EAC 1999)).

The annual EAC budget is funded by equal contributions by the partner-states and receipts from regional and international donations and any other sources as may be determined by the Council. The EAC self-accounting institutions can operate in accordance with their own financial provisions (see article 132 of the East African Community Treaty (EAC 1999)).

Six countries of GAFTA managed to deepen their integration to the level of a common market and in 1981 they founded a separate regional union called the Gulf Cooperation Council (GCC). GCC activities are financed from the common budget, which is managed by the General Secretariat of the organization. The budget is approved annually by the Supreme Council. GCC expenditures are predominantly administrative and funded by member-states equally (see article 18 of the Charter of the Cooperation Council for the Arab States of the Gulf (GCC 1981)).

The free movement of goods, services and factors of production was ensured by 12 member-states of the Caribbean Community (CARICOM). Despite the varying degrees of involvement of member-states in the process of integration within CARICOM, the organization has its own supranational budget. It is funded by contributions from all participants taking into account their economic capacity (GDP). The size of the common budget is insignificant as the expenditures are primarily administrative and not redistributive. The financial penalties are foreseen if some member-states fail to meet their budgetary commitments (see article 27 of the Revised Treaty of Chaguaramas Establishing the Caribbean Community Including the CARICOM Single Market and Economy (CARICOM 2001)).

There are also three international unions who managed to create a monetary union as a partial form of an economic union. The Organization of Eastern Caribbean States (OECS) is one of them. It has a single budget which covers both administrative costs and the program-related expenditures. The two main revenue sources for the OECS budget are the national contributions and donor aid. The latter revenue source plays very important role for the OECS (see Boiar 2014).

Financial provisions of the primary legislation of the OECS do not allow for budget imbalances and provide for the possibility of approving special budgets of the organization aimed at covering non-typical costs (see article 17 of the Treaty of Basseterre Establishing the Organisation of Eastern Caribbean States Economic Union (OECS 2010)).

The budget of the West African Economic and Monetary Union (WAEMU) is adopted by the WAEMU Council after submission by the Commission. Some temporary compensatory budgetary mechanisms can be introduced in favor of the member-states undergoing significant losses because of the harmonization of the customs and tax regulations (see articles 47, 53 and 58 of the Treaty of West African Economic and Monetary Union (WAEMU 1994)). Some WAEMU structures have their own budgets and financial autonomy. The Central Bank of West African States (BCEAO) is one of them.

The WAEMU budget is financed by own resources called the Community Solidarity Levy. It is constituted by the part of the common customs tariff and indirect taxes received by member-states. In 2013 WAEMU allocated 64.6 % of budget resources to administrative expenditures of the Union's institutions, 27.8 % – to finance the projects of the Regional Integration Support Fund (FAIR) and the rest – to cover needs of the Regional Fund for Agricultural Development (FRDA) (WAEMU 2019).

Unique in the practice of supranational budgeting is the principle of financial solidarity introduced in WAEMU. It states that, when discussing budgetary issues, member-states cannot be guided by the argument of equivalence between the amount of funds they bring to the common budget and the benefits they receive from membership in the Union (see article 49 of the Treaty of West African Economic and Monetary Union (WAEMU 1994)).

There is another Monetary Union in Africa – the Central African Economic and Monetary Community (CEMAC). The CEMAC's supranational budget system is very similar to the WAEMU's one. Prior to the fiscal year the CEMAC Council approves the annual budget of the organization which includes the budgets of the CEMAC governing institutions and the bodies established by them. This, however, does not mean that all budgets are approved at the same time as a single legal act. For instance, the budgets for 2012 were approved by at least three legal acts. The first of them recorded the estimates of the CEMAC Council and Commission and the cost of the CEMAC Football Championship, the second one recorded the budget of the Community Development Fund (FODEC) and the third one – the budgets of the Parliament, the Court and a number of specialized agencies (CEMAC 2011). The FODEC resources are used in two ways: the compensations to member-states who suffer losses resulted by the creation of customs and monetary union and the financing of integration projects (CEMAC 2000).

Except for the solidarity principle, the revenue-generating mechanisms in CEMAC are very much similar to those of WAEMU (Boiar 2014). For non-fulfillment of their financial obligations' penalties can be imposed against member-states. The budget of the organization must be in balance.

The European Union is the only international union that has introduced all the intermediate forms of economic integration (including the economic union). Moreover, the EU stands today on the brink of full economic integration. Its budget system is the most sophisticated, functional and complex. In many international unions it is used as a model supranational budget system.

The size of the EU budget is the largest among all the existing unions both in relative and absolute terms. In payment appropriations it totals up to 145 billion euros in 2018 and is over 1 % of the EU GNI (European Commission, 2019). The mechanisms of supranational revenue-generation and expenditure allocation in the EU are rather complicated.

98 % of the revenues are comprised of 'own resources' that consist of three categories: GNI and VAT-based contributions from national budgets of member-states and 80 % of customs duties on imports from outside the EU. The rest 2 % are added by other sources of revenue. There are some specific rules and compensatory mechanisms established for individual member-states within the system of the EU own resources (correction for Great Britain, own resource general ceiling as percentage to GNI, discounts in budgetary contributions for Netherlands, Austria and some other states, etc.).

The EU expenditure is structured according to the objectives and political priorities of the Union. Only up to 7 % of annual budgets go to administration. Regional (cohesion) and agricultural policies hold the largest shares in the annual budgets (around 35 and 30 % correspondingly). However, almost all sectors of societal life are covered by the EU financed programs (except for defense, direct taxes and some social sectors). The fiscal intervention in the EU respects to large degree the postulates of the theories of fiscal federalism and public sector economics (see Boiar 2018) and the expenditure is allocated following the principles of conferral, subsidiarity and proportionality (see Article 5 of the Treaty on European Union (EU 2008)).

3 Principles of budgeting in international unions

The empirical analysis carried out in this paper gives grounds for arguing that there is a direct relationship between the scope of power of supranational union authorities and the volume of resources concentrated in the union budget. In particular significant budgets are inherent in more mature unions whose governing bodies have wide powers.

The size of an international union budget can have a significant impact on the progress of supranational budget process. If there are objective reasons that lead to the growth of the budget size, the politicization of the budget process usually increases (budgetary negotiations become more sophisticated, member-states tend to use the net balance approach in assessing their benefits from participation in the union). For its part, an increase in the politicization of the budget process may lead to destabilization of the budget system and the international union as a whole. One of the ways to mitigate such a situation may be introducing mechanisms for limiting the growth of budgetary revenues (expenditures) or adopting other innovations aimed at increasing the acceptability of the financing system of the international union's activities by all its members.

On the other hand, the small financial needs of an international union create a situation where member-states do not show the principle approving the budget-financial mechanisms of the organization, especially regarding the structure and rules of formation of the revenue part of the budget. However, as the integration deepens and the need to increase the union's budget appears correspondingly some difficulties in reforming the budget system of the union may occur as some members who are in winning situation from current budgetary setup will block the reform decisions.

It is also noticed that if there are significant differences between the member-states in the levels of economic development, it is difficult for them to reach a mutual agreement on the structure of revenue and expenditure parts of the common budget (Viner 1950, p. 78).

In addition to these general observations, we can single out a few principles that, if followed, would create preconditions for the effective functioning of a supranational budget system. Firstly, it is the principle of subordination of the budget system to the goals of a particular international union. The goals, for its part, should be clearly formulated in the union founding treaties based on economic reasonability and political will of the member-states. Politicization of the budget process may lead to significant deviations in the structure of budget expenditure of the union from the declared goals (this is partly observed even in the EU).

Similarly, politicization of the integration process may lead to the emergence of a gap between the scientific theory (primarily the theory of fiscal federalism and the theory the public sector economics) and the goals of an international union. From the point of these theories both sectoral and horizontal policies should be financed from supranational level if this creates better opportunities to internalize externalities and economies of scale, maintains the minimum scale of necessary financing or helps to eliminate negative effects of policies attributed to the powers of the central bodies of the union. If not – the efficiency (in terms of the cost/benefit ratio) of the fiscal policy of the union will suffer.

In case when distribution of powers between national and supranational levels of authority doesn't respect the scientific theory the principle of subsidiary should be followed. From budget-financial point of view this principle manifests itself in the delegation of responsibility for the particular policy fiscal regulation to that level of authority where it yields the best effect.

Scientifically grounded should be not only the goals and objectives of an international union, but also the structure of its revenues and expenditures. Therefore, scientific validity can be considered as the principle of a supranational budget process not only in the context of the first principle, but also separately.

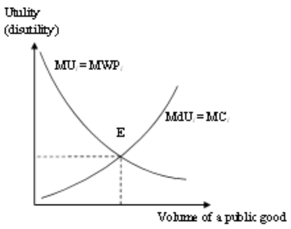
Hence, the second principle of supranational budgeting should be the principle of scientific validity. Theories and methods applicable for the supranational budget simulation are discussed and systemized in Boiar et al. (2018). Here we would like to develop some thoughts as for how the optimal ratio between taxes and expenditures could be established in an international union. As a start point, we use the Principle of Maximum Social Advantage described by H. Dalton in 1923. In his work the scholar considers budget expenditure as a means of creating a public good, and taxes – as a cost (fee) of society for this good.

The main idea behind the Dalton's principle is that the provision of the public good by the government should be carried out (and paid by society in the form of taxes) as long as the marginal utility of this good (which, according to the rule of decreasing returns, decreases with the increase in the volume of the provided good and is graphically a down sloping curve) becomes equal to the marginal disutility with the payment of taxes by society (which, on its part, increases as taxes grow and is an upsloping curve). An optimal solution for society is the point of intersection of the two curves.

In practice the value of utility (and, moreover, marginal utility) from the provision of public goods (as a result of implementation of policies) and disutility from the payment of taxes in most cases are difficult to determine. However, with respect to an international union this task does not seem unrealistic if we make some assumptions. First, let us assume that the marginal utility that each member-state of an international union receives from its participation in this union (MUi) is equal to the marginal willingness-to-pay to the common budget of the respective member-state (MWPi). The reason for this is the rather justified assumption that the integration utility is the main determinant of the willingness-to-pay and between them (and, accordingly, between the marginal utility and the marginal willingness-to-pay) there is a direct proportional dependence (see Boiar 2015).

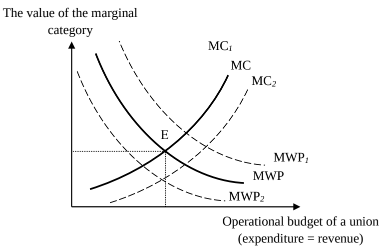
Similarly, it can be assumed that the member's contribution to the common budget is the sole or main source of dissatisfaction associated with the provision of a certain set of public goods from the supranational level, and the relationship between that dissatisfaction and the amount of the funds paid to the budget is directly proportional. Then the marginal disutility of this member-state (MdUi) can be equated to its marginal contribution (MCi) to the union budget. Since both the marginal willingness-to-pay and the marginal contribution to the budget can be expressed in monetary terms (that is, to be comparable), a set of data on them can be used to establish the optimal ratio (E point) between the amount of contributions paid by each of the member-states to the common budget and the amounts these countries receive of its funds (figure 1).

Figure 1. Adaptation of the Dalton's principle to the budget of an international union



The arithmetic mean value of the marginal willingness-to-pay and the marginal contributions to the common budget of all member-states will enable to establish the optimal, in terms of maximizing public welfare (utility), size of the supranational budget that should be directed towards the provision of the existing "range" of public goods from supranational level (figure 2).

Figure 2. Combinatorial model for optimizing the size of the budget parameter of an international union



With the change in the political priorities of an international union or other factors that determine the integration utility received by the member-states, the position and form (curvature) of the marginal willingness-to-pay line (MWP) will change. The structural characteristics of the budget revenues of an international union have a decisive influence on the position and form of the marginal contribution curve (MC).

The only obstacle that may arise when applying this methodology for optimizing the relationship between the budgetary revenue and expenditure in a particular international union is the lack of data on the member-states' willingness-to-pay[3]. However, with the establishment of the appropriate data collection mechanisms (for example, through the introduction of an additional question in annual surveys conducted in the member-states of a union[4]) these difficulties can be resolved.

It is also proposed to calculate the member-states' contributions to the union's budget proportionally to their willingness-to-pay (Boiar 2015). Combination of this approach with the adapted Dalton's principle would help to overcome a number of problems that exist within international unions, in particular within the EU, namely:

- to ensure the fairness of the supranational fiscal redistribution system;
- to maximize the economic efficiency of the system (if postulates of the theories of fiscal federalism, public sector economics and some others are followed as well);
- to ensure financial and political stability of the union;
- to remove from the agenda the issue of compensations to the member-states with a significant negative net balance in the union's budget.

From the point of view of efficiency, it is also advisable to reconsider the budgetary principle of unity that is applied in some international unions, in particular, in the EU. Financing each public good provided from supranational level via separate systems of the union members' contributions would allow following the Dalton's principle and keep the optimal balance of financing (see Figure 1). In the EU the policy groups could be singled out according to the categories (subcategories) of multiannual financial framework: single market and innovation; cohesion; natural resources (agriculture); environment protection; migration and border management; security and defense and external activities (European Commission 2018).

The third principle of an efficient supranational budgetary process is the principle of minimizing the dependence of the international union budget system on the internal and external political factors. First of all, it concerns the formation of the budgetary revenues as they provide the financial stability of the union. The experience of some organizations (EU, CEMAC, COMESA, SACU, etc.) demonstrates that it is possible to diminish the domestic political factor by introducing financial regulations enabling the union to generate its own resources without any additional decisions by its member-states.

In this context, it is important to make sure that the union member-states do not use their budgetary net-balance situation (a difference between the contribution to the common budget and appropriations received from it) as an argument in supranational budgetary decision-making process. Some current unions try to resolve this problem by introducing a legal ban on the use of such arguments (WAEMU) or by making rebates in favor of the states with significant negative net balance (EU). In our opinion both methods do not solve the problem. The first one prohibits expressing the motive rather than being driven by it, and the second one can be assessed only as an attempt to take the problem under control.

Another way to deal with the net-balance argumentation problem is to set the amounts of the member-states' budgetary contributions in proportion to their willingness-to- pay, which, for its part, as a category displays all the positive and negative effects (economic, social, ecological, security and others, not only the difference between direct budgetary contributions and appropriations) received by states from their participation in a particular integration project (see Boiar 2015).

[3] And, accordingly, their marginal willingness-to-pay, which is nothing more but the increase (decrease) of total willingness-to-pay with a per-unit change of public good (as expressed in budgetary expenditure) provided from supranational level.
[4] Our suggestion for the question would be like this: "Citizens and companies annually pay taxes to the state. What share of these taxes would you agree to direct to secure the activities of the international union in its current configuration?".

Equally important for stable functioning of a union is the reduction of foreign political dependence. It usually manifests itself in the fact that a large share of the union's budget revenues originates from outside the union (the donations or aid from other countries or international organizations, etc.). In some of the existing unions (SADC, WAEMU, etc.) this has become a serious problem.

The departure from this principle may lead to the failure of some member-states to fulfill their financial obligations to the supranational budget, under-funding of the declared programs and projects, the inadequacy between financial needs and capabilities, and a significant budget deficit.

The fourth principle is the principle (principles) of fairness, transparency and simplicity of the rules and procedures of generation and distribution of budgetary resources of an international union. Fairness is usually interpreted as a non-discriminatory treatment of all member-states and equal consideration of their national interests.

In a democracy the "rules of the game" in the field of public finance (albeit supranational) should be clear (fully documented by law), universal (common to all), transparent and at the same time rather simple for understanding by the general public. Significant deviations from these principles may lead to misunderstanding and/or disregard by the public (the taxpayer) of budgetary procedures and the supranational budget system. Ultimately, this lack of public support will jeopardize the integrity of the international union itself.

The fifth principle is the principle of complementarity. It means that if there are any supranational budget expenditures aimed at internal redistribution of factors of production, they should complement and not replace the relevant fiscal interventions of the member-states. Otherwise, the direct managers of the funds will have lack of motivation for their effective utilization and the common good problem will sharpen.

The sixth is the principle of proportionality. It should ensure the adequacy of supranational fiscal interventions to the objectives of an international union and to the capabilities of the beneficiaries to utilize the funds. Underfinancing of certain programs or projects may result in failure to achieve the desired results or their mismatch with the costs incurred as there were no sufficient funds to implement the final measures that determine the success of the whole project.

On the other hand, excessive funding can stimulate extravagance and financial fraud and can lead to inefficient use of funds due to the inability (technical, infrastructural, qualificational, etc.) of their immediate recipients to organize and ensure the required level of implementation of all necessary measures.

4 Conclusion

The experience of the existing international unions demonstrates that financial capability is one of the main preconditions for successful realization of any international integration project. There are general basic budgetary principles to be followed if the creation of a functional and effective international union is on agenda. They are a symbiotic combination of both the provisions of a number of scientific economic theories and the empirical evidence of the existing international unions (primarily the EU) and federal states.

According to these principles a supranational budget system should be subordinate to the goals of the international union in question, scientifically valid, independent of external and internal political factors, fair, transparent and simple. The efficiency of supranational fiscal policy can be maximized if the size and the structure of the union's budget (both revenue and expenditure) are determined in accordance with such scientific theories as the theory of fiscal federalism and the theories of public sector economics. Additionally, supranational appropriations should usually be complementary to the relevant national and/or subnational expenditure and be adequate (proportional) to the needs and capabilities of the beneficiaries.

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