JOURNAL
OF EUROPEAN ECONOMY
Vol. 15 (№ 4). December 2016
Publication of Ternopil National Economic University

Financial and Banking Services Market

Andrii BOIAR

INTER-STATE BUDGETARY DIFFUSION IN SUPRANATIONAL UNION

Abstract

The article proposes new category that can be employed to describe fiscal interactions among member-states of supra(inter)national union – inter-state budgetary diffusion. We present basic conceptual features and spheres of occurrence of this phenomenon. The reasonability of application of this category when dealing with supranational budgetary systems is discussed as well as some parametrical (index) characteristics are suggested, in particular an integral index of inter-state budgetary diffusion in an international union and a degree of mega-regional budgetary diffusion of a union's member state. Some possible ways of application and interpretation of these indicators with respect to the European Union are proposed. The S-like curve is revealed to be the most likely demonstration of the typical trend for the inter-state budgetary diffusion process.

Key words:

International union, budget, diffusion, supranational, member state.

Boiar Andrii, Dr. of Economics, Assist. Prof., Lesya Ukrainka Eastern European National University, Lutsk, Ukraine.

JEL: F55, E62, G28.

Introduction

The globalization process significantly transforms general scientific vision and research approaches in various fields of science including economics. One of the indicators for this is «globalization» of the investigation object which at macro level shifts from single countries to their international unions, world regulatory institutions and global market infrastructure. Therefore analysis of various aspects of these «globalized» objects and derivation of their parametrical characteristics becomes more and more important.

Methodologically our investigation is based upon works in the field of general finance and public finance theory (Wildavsky and Caiden, 1997; Dalton, 1923; Musgrave, 1959; Pigou, 1928; Stiglitz, 2000 etc.), optimization of behavioristic budgeting methods in international organizations (Hoole, Handley and Ostrom, 1979), economic and political and organizational aspects of budgeting in supranational (international) unions (Alesina, Ignazio and Federico, 2005; Boiar, 2014; Carruba, 1997; Simon and Valasek, 2012). The article by J. Simon and J. Valasek is the most outstanding among the listed papers. The authors estimate the efficiency of fiscal redistribution in a supranational union under various exogenous and endogenous conditions. In particular they consider such determinants as unstructured political bargaining, methods of voting, level of personal income of citizens, heterogeneity of preferences and budget size.

In this article we intend to substantiate and validate a new international financial category – *inter-state budgetary diffusion*. It can be applied with respect to investigation of supranational budgetary systems proper for contemporary international unions. We also propose some parametrical (index) characteristics for this category and describe some possible ways of their utilization.

Conceptualization of the inter-state budgetary diffusion

Naturally the structure of public finance transforms along with development of globalization and international integration processes. Inter-budgetary relations shift from subnational to inter- and supranational levels and as a result their organizational and institutional framework becomes more complex. In these terms countries try to secure their financial and economic interests by various accessible means and in case of their membership in a particular international union budgetary system of this inion becomes one of the key platforms for such contest. The phenomenon of inter-state budgetary diffusion emerges[1].

As a process inter-state budgetary diffusion can be defined as mutual penetration of elements and application of common tools for regulation of national and supranational budgetary systems caused by search for fiscal means for enhancing efficiency of regulation of social and economic processes. Inter-state budgetary diffusion is one of the main features reflecting transfer of budgetary relations from macro-regional to mega-regional level. Consequently budgetary systems (budgets) of international union and of its member states are functional components of inter-state budgetary diffusion. National financial and economic interests of member states, institutional and legislative framework of supranational budgetary process and objectives of international union are the main determinants of inter-state budgetary diffusion (Boiar, 2014, p. 66).

In actual environment inter-state budgetary diffusion is characterized by a number of features. First, it can be revealed in partial transfer of fiscal authorities from national to supranational level and in new functions that national budgetary authorities obtain. In particular, supranational bodies responsible for coordination and control over transfer of some types of national taxes (usually import and excise duties) to the budget of the international union and carrying out respective financial audit are established. At the same time traditional functions of national budgetary authorities are supplemented by responsibilities to generate and transfer to the international union's budget corresponding assigned resources (customs bodies – customs duties, tax authorities – indirect taxes, ministries of finance – direct national contributions etc.). National bodies can also be authorized to fight financial fraud, organize and control implementation of the union's policy programs within their national jurisdictions and following subsidiarity principle.

Second, inter-state budgetary diffusion leads to the mixture of structures of revenue and expenditure parts of national and supranational budgets. Part of national revenues now becomes sources of revenue for international union (rather widespread is such practice with respect to import and excise duties (EU, CUBKR, SACU, CEMAC, ECOWAS, COMESA, WAEMU). On the other hand part of supranational expenditures is executed on decentralized basis, which means directly through national systems of fiscal redistribution.

Third, harmonization and unification of accounting and financial statistical standards are also the reflection of inter-state budgetary diffusion. Common

[1] Following widely used in Economics application of term «diffusion» with respect to innovations. Diffusion of innovations is defined as a process of structured penetration of innovation into socioeconomic system with time (Rogers, 2003).

methods to calculate macroeconomic indicators are usually established for the purpose to have single-rule system of supranational budgetary revenues generation or expenditure distribution. In the EU, for instance, calculation of Gross National Income (GNI) parameter is harmonized because national annual payments to the EU budget as well as distributed expenditures aimed at common agricultural and regional policies are primarily linked to it.

Fourth, political obligations taken by member states within founding treaties or secondary legislation of a particular international union usually have significant impact upon the structure of their national budgetary systems. For example, common policy of harmonization of indirect taxes limits member states' ability to use indirect taxes as fiscal and/or budgetary policy instrument. Complementarity principle in the EU policies directly impacts the structure of expenditures of national and regional/local budgets of the EU states. Stability and growth criteria approved for the Eurozone member states among others include national budget deficit and national debt parameters.

Fifth, the inter-state budgetary diffusion in an international union can be observed in formal and informal mechanisms of lobbying national interests through the budgetary decision-making structures of the union itself and of the other member states of the union. On the other hand union-wide associations representing various population or business groups can increase their influence upon national decision-making bodies of the member states (Boiar, 2014, p. 68).

Main spheres of the inter-state budgetary diffusion include (but are not limited to) the revenue-generating system of a union, principles of budgetary expenditure structuring, allocation of budgetary burden among the member states, organizational (institutional) framework, mechanisms of sound and efficient financial management, fighting financial fraud and corruption, flexibility and transparency of budgeting procedures etc.

Index parameters of the inter-state budgetary diffusion

To detect some quantitative parameters of the inter-state budgetary diffusion two indicators can be calculated: *an integral index of the inter-state budgetary diffusion in an international union* (*IBD*) and *a degree of mega-regional budgetary diffusion of a union's member state* (*DBD*). To determine the first indicator we offer the following formula:

$$IBD = \frac{RS_i}{RT_i}, \qquad (1)$$

where RS_i – an amount of budgetary revenues generated from internal sources at mega-regional (supranational) level during the financial year *i*;

RT_i– an amount of budgetary revenues generated from internal sources at all levels (supranational, national (federal) and local budgets) during the financial year *i*.

Hence, an integral index of the inter-state budgetary diffusion is defined as a share of budgetary revenues transferred to supranational level in total amount of revenues of the budgets of all levels.

Theoretically the value of the IBD-index can be 1 (in case when all revenues are redistributed from supranational level) but practically it cannot be expected to reach its maximum possible value, since it would contradict both general public opinion and scientific theory (in particular the theory of fiscal federalism)[2]. All of the currently operating international unions have close to zero values of the IBD-index. It means that the inter-state budgetary diffusion as a phenomenon only begins its evolution.

The highest value of the integral index of the inter-state budgetary diffusion is proper for the European Union. It is close to 0.024 and can be interpreted as rather low. However, empirical evidence demonstrates that even such low degree of the inter-state budgetary diffusion is enough to secure rather effective functioning of the economic and monetary union within the EU, to carry out a number of other common policies and to balance the interests of the EU member states. The value of the IBD-index also indicates that 2.4% of general fiscal redistribution in the EU countries is executed via supranational level that is through the mediation of the EU budget.

The S-like curve gives the best demonstration of the typical trend for the inter-state budgetary diffusion process. It is naturally to expect that as a particular international union evolves and integration enhances the degree of mutual penetration of national and supranational budgetary systems increases with time. However, it is quite likely that this will happen not smoothly but by leaps and bounds and the leaps will be caused by transition of an international union from less to more intensive form of integration and respective increase of the IBD-index[3] (Fig. 1).

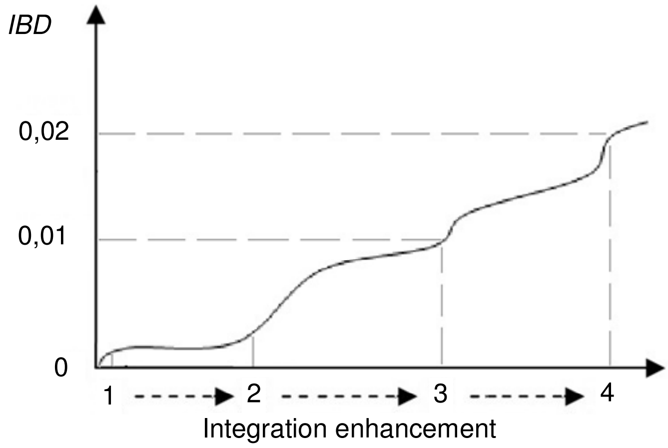
---

[2] Situation when all the budgetary revenues are redistributed from supranational level would mean depriving regions (member states) of any financial autonomy and full obliteration of efficiency principles when allocating powers among different levels of governance. Significant level of centralization of fiscal resources in an international union is possible when its member states are fully integrated (have created a regional unity). Even for the USA, where level of diffusion between federal and local budgets is rather high, the IBD-index is estimated to be only 0.42 (calculated by the author based on OECD statistical data (https://stats.oecd.org).

[3] Provided on vertical axis of Figure 1 transitional levels of the IBD-index are much approximated and quite hypothetical. Thus they are based on empirical data of current international unions.

Figure 1

Typical trend of the inter-state budgetary diffusion



Notes: 1 – Free Trade Area; 2 – Customs Union; 3 – Common Market; 4 – Economic Union.

Free trade area and customs union can be established by means of administrative and regulatory measures that do not utilize sufficient budgetary resources. The goals to create common market and economic union must be accompanied by closer coordination and unification of national policies, supranational institutionalization of this processes and, consequently, by increase of financial resources available for these purposes. This will naturally accelerate the inter-state budgetary diffusion and bring it to higher levels.

The second indicator – *the degree of mega-regional budgetary diffusion* (*DBD*) for each member state of a particular international union in a particular financial year can be calculated by formula:

$$DBD_{t\,i} = \frac{\left(\frac{P_{ti}}{R_{ti}} + \frac{A_{ti}}{E_{ti}}\right)}{2}\ , \qquad (2)$$

where P_{ti} stands for general amount of payments of member state *i* to the budget of an international union in financial year *t;*

R_{ti} – national budgetary revenues (budgets of both national and subnational levels) of member state *i* in financial year *t;*

A_{ti} – the amount of international union's expenditure spent within the territory of member state *i* in financial year *t;*

E_{ti} – budgetary expenditures of member state *i* in financial year *t.*

Fractional ratios in the nominator reflect, correspondingly, the share of revenues directed to supranational budget in total national revenues of a country and the share of expenditures from supranational budget spent within the territory of the country in total budgetary expenditures of the country. Average value of both ratios constitutes the degree of budgetary diffusion of the country in a particular international union.

Calculated in this way indicators allow comparing the degrees of diffusion of budgetary systems of each of the member states with the budgetary system of an international union. Theoretically the value of the degree of budgetary diffusion can vary within wide range. However, practically it is not likely to exceed 1 since it would mean significant centralization of fiscal powers at supranational level and would lead to inefficiency from the point of view of the theory of fiscal federalism.

The degrees of mega-regional budgetary diffusion for the EU countries are rather low (on average – 0.04). However their values significantly vary with the variation coefficient of 61.8%. The largest values of the indicator with its value of 0.08 and above are proper for the Baltic States. It means that more than 8% of financial operations carried out through sub-national budgets of these states are connected with the EU budget. Bulgaria, Poland, the Slovak Republic, Portugal, Romania and Hungary are also the countries with rather high degrees of mega-regional budgetary diffusion (Table 1).

Table 1

Degrees of budgetary diffusion of the EU member states*

Member State	Degree of diffusion
Belgium	0.0305
Bulgaria	0.0753
Czech Republic	0.0463
Denmark	0.0149
Germany	0.0161
Estonia	0.0822
Ireland	0.0271
Greece	0.0411
Spain	0.0286
France	0.0157

Member State	Degree of diffusion
Italy	0.0180
Cyprus	0.0230
Latvia	0.0873
Lithuania	0.0930
Luxembourg	0.0476
Hungary	0.0545
Malta	0.0362
Netherlands	0.0144
Austria	0.0156
Poland	0.0622
Portugal	0.0564
Romania	0.0523
Slovenia	0.0402
Slovakia	0.0583
Finland	0.0156
Sweden	0.0126
United Kingdom	0.0138

* Calculated by the author according to formula (2). Source of initial data: European Commission, Eurostat.

Denmark, France, Germany, Netherlands, Italy, Austria, Finland, Sweden and United Kingdom have the lowest values of the degree of budgetary diffusion ranging from 0.01 to 0.02. Also it can be noticed that national fiscal systems of the EU member states with the largest economies are significantly less tied with the EU budgetary system. That is shares of the mega-regional budgetary transactions in macro-regional transactions of these countries (demonstrated by the values of the DBD-index) are much smaller than similar indicators calculated for less economically powerful member states.

Conclusions

As budgetary relations transit from macro- to mega-regional (global) level a phenomenon of inter-state budgetary diffusion arises. It can be defined as mutual penetration of elements and application of common tools for regulation of national and supranational budgetary systems driven by the attempts of the countries to enhance efficiency of fiscal regulation and to secure their national interests while participating in a particular international community (union). The inter-state budgetary diffusion reveals itself in a few spheres: distribution of powers between national and supranational authorities, structure of revenue and expenditure parts of national and supranational budgets, decision-making procedures as for financial matters, rules and mechanisms of financial control and accounting etc. An integral index of the inter-state budgetary diffusion can be used as a quantitative indicator for this phenomenon in a particular international union on the whole. Another index – a degree of mega-regional budgetary diffusion of a state – can be applied to differentiate the levels of the diffusion among the union's member states. The indicators for the inter-state budgetary diffusion can serve both descriptive and analytical purposes when a researcher deals with the processes of mega-regional economic integration. In particular they can indicate the 'depth' of integration in an international union.

References

1. Alesina, A., Ignazio, A., Federico, E. (2005). International Unions. *The American Economic Review*, 95 (3), 602–615.
2. Boiar, A. O. (2014). Revenue-Generating Schemes for International Unions. *Journal of Economic Integration*, 29 (3), 407–429.
3. Boiar, A. O. (2014). *Transformation of the EU budgetary model under global financial turbulence*. Lutsk, Vezha-Druk, 256 p. (in Ukrainian)
4. Carruba, C. J. (1997). Net Financial Transfers in the European Union: Who Gets What and Why? *Journal of Politics*, 59 (2), 469–496.
5. Dalton, H. (1923). *Principles of Public Finance*. New York, Knopf, 208 p.
6. European Commission / EU budgetary revenue and expenditure. URL: http://ec.europa.eu/budget/revexp/revenue_and_expenditure_files/data/revenue_and_expenditure_en.xls.
7. Eurostat / Government revenue, expenditure and main aggregates. URL: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.
8. Hoole, F. W., Handley, D. H., Ostrom, C. W. (1979). Policy-Making Models, Budgets and International Organizations. *The Journal of Politics*, 41 (3), 923–932.
9. Musgrave, R. (1959). *The Theory of Public Finance: a Study in Public Economy*. New York, McGraw Hill, 480 p.
10. Pigou, A. C. (1928). *A Study in Public Finance*. London, Macmillan and Co., limited, 323 p.

11. Rogers, E. M. (2003). *Diffusion of innovations* / 5th ed. New York, Free Press, 576 p.

12. Simon, J., Valasek, J. M. (2012). Efficient Fiscal Spending by Supranational Unions (SP II 2012–305). WZB Discussion Paper.

13. Stiglitz, J. (2000). *Economics of the Public Sector*. New York, W. W. Norton & Co., 848 p.

14. The Organisation for Economic Co-operation and Development (OECD) / Revenue Statistics – Comparative Tables. URL: https://stats.oecd.org/ Index.aspx?DataSetCode=REV.

15. Wildavsky, A., Caiden, N. (1997). *The New Politics of the Budgetary Process* / 3rd ed. Washington DC, Longman, 367 p.

The article was received on October 20, 2016.