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## **Models of Fiscal Equalisation: European Practice**

**Abstract.** *The purpose of the article is to study models of equalization payments used in European countries and to identify the model of fiscal equalization of Ukraine. The following methods were for this purpose: abstract and logical comparative analysis, graphical visualization, statistical analysis. Analysis of the models of fiscal equalization of European countries indicates that most of them are aimed at overcoming imbalances of budget revenues of administrative and territorial units by redistributing budgetary resources between different levels of government. The authors note that the fiscal equalization models of many countries have been modified over the last decades, with more attention paid to equalization of expenditures. With the implementation of the decentralization reform in Ukraine, the model of fiscal equalization places emphasis on equalizing budgets revenues using separate equalization tools that focus on expenditures.*

**Keywords:** *fiscal equalization, budget, transfers, territorial development, decentralization*

### **1. Introduction**

The purpose of fiscal equalization is to minimize territorial disproportions of development, which arise from differences between budget revenues of local administrative and territorial units, and to solve the problem of insufficient budget revenues by increasing the spending potential of local authorities. The practice of many countries shows that budgetary and administrative decentralization, which is characterized by increasing disproportions of the fiscal capacity of local units of government, is accompanied by adjustments of the model of

fiscal equalization implemented by those units. Ukraine is no exception in this respect. As regards the implementation of reforms, the fiscal equalization system in Ukraine has undergone significant decentralization of resources and powers. As a result of these changes the model has moved away from equalization of expenditures to equalization of revenues. However, the introduction of the new equalization system, while creating more incentives for local authorities to increase the revenue base of their budgets, causes problems related to the redistribution of resources and powers between state, regional and local authorities, the stability and consistency of legislative innovations, the validity of the level and the procedure of index calculation of taxability, which is used in horizontal fiscal equalization and others. Against this background, an important task is to identify the main problems of transition to the fiscal equalization of the revenue capacity and to find ways of improving it, taking into account the accumulated experience of developed countries and characteristics of the budgetary system of Ukraine.

The purpose of the article is to study models of fiscal equalization used in European countries and to describe the model of fiscal equalization of Ukraine.

## **2. Identification of models used in European countries and Ukraine**

In European countries, fiscal equalization of territorial development is defined as a system of tools and measures for eliminating differences in available revenue. Fiscal equalization involves a vertical redistribution of fiscal resources, vertically between different levels of the budgetary system, and horizontally between poorer and richer administrative and territorial units [Lunina 2002: 10-16].

On the basis of the analysis of domestic and foreign experience of inter-budgetary relations, one can identify the main types, forms, methods of fiscal equalization: vertical, horizontal (by direction of revenue flows); revenue equalization, expenditure equalization, mixed equalization (by subject of equalization); full and partial equalization (by degree of equalization).

It should be noted that in practice it is extremely rare for countries to use only one form of fiscal equalization; in most countries, the fiscal equalization model is a combination of different methods (vertical, horizontal, equalization of revenues, equalization of expenditures). The taxonomy of the fiscal equalization models of OECD countries and Ukraine shows that most of them are aimed at overcoming imbalances of budget revenues of administrative and territorial units by redistributing revenue resources between different levels of government (Fig. 1).

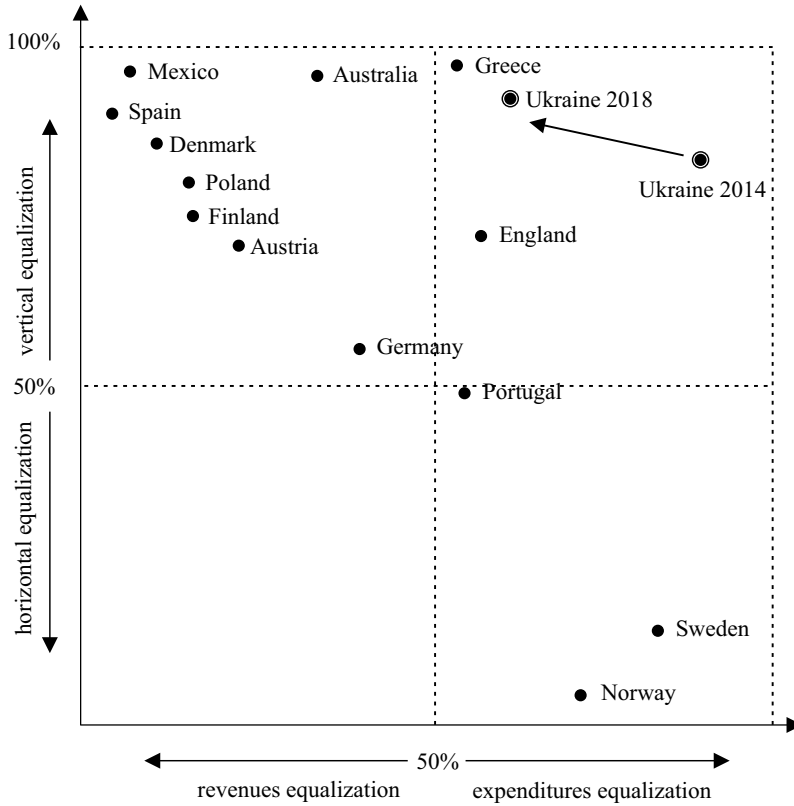


Figure 1. Taxonomy of fiscal equalization models of OECD countries (2014) and Ukraine (2014, 2018)

Source: based on Boadway 2007; Fiscal Federalism 2014; Shah 2014; Sierak 2016.

At the same time, it should be noted that fiscal equalization models of many countries have been undergoing permanent modifications over the last decades, with increasing attention paid to equalization of expenditures.

Expenditures on fiscal equalization make up a significant amount in the structure of budget expenditures in all OECD countries and range from 1.2% in Norway to 11% in Japan (Fig. 2).

The amount of equalization spending per capita is also characterized by a significant differentiation – from AUD 110 in Australia up to JPY 1,244 in Japan. It should be noted that these indicators practically do not correlate with a scale of variation in per capita GRP observed in regions of these countries. In addition, there is no relationship between types of state systems (unitary or federal state) and amounts of fiscal resources they spend on equalization.

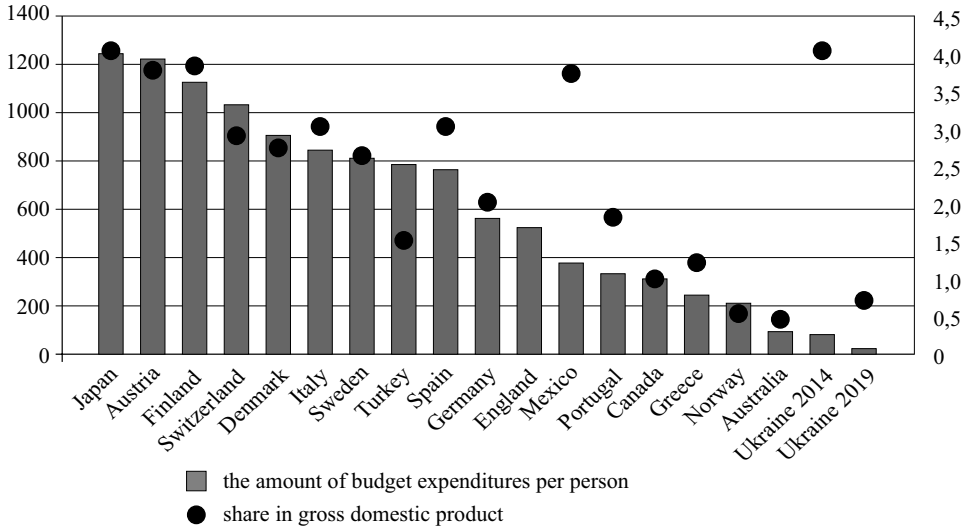


Figure 2. Comparison of OECD member states (2014) and Ukraine (2014, 2018) by the level of interregional disproportions and budget expenditures on fiscal equalization

Source: based on Boadway 2007; Fiscal Federalism 2014; Shah 2014; Sierak 2016.

### 3. Analysis of fiscal equalization models

The following section is devoted to a detailed analysis of models of fiscal equalization in a number of developed countries, which may help to improve the system equalization in Ukraine.

#### 3.1. Germany

The German equalization system is a mixed type system (vertical and horizontal equalization tools are used in equal proportions) and is based on the principles of solidarity. An active equalization policy is considered to be an important element of the country's cohesion, mainly because of the need to support the federal states of the former German Democratic Republic. However, critics of the current system point out that even after 20 years, this policy seems to have produced no long-term results, while some even regard it as harmful, arguing that it preserves the inefficient economic structure of the Eastern regions of Germany. The equalization system implemented during the 1990s often led to the situation when the weakest Eastern states had higher budget expenditures per capita than the more affluent states. For this reason, the system was questioned by the Ger-

man Constitutional Court. As a result, a new equalization model was established, with a decreased level of redistribution of budget revenues between states.

The German model of fiscal equalization has a number of interesting features from the perspective of discussions about ways of improving the equalization system in Ukraine.

Firstly, the current system only performs equalization at the level of federal states, and the elimination of disparities at the lower level is the responsibility of individual states, which can choose their own approaches to equalization. This study only considers the system of equalization between the states.

Secondly, despite the fact that Germany is a federation of states, they do not have the right to collect their own taxes. Only municipalities can impose local business taxes. Therefore, the distribution of revenues of budgetary resource between the national and subregional levels is achieved through the division of tax revenue – personal income tax (collected according to the person's place of residence), corporate income tax (collected according to the enterprise's location), value added tax (25% of which is immediately redistributed between richer and poorer countries).

Thirdly, both revenues and expenditures are equalized. If the level of tax capacity in a given state is higher than 120% of the average national level, municipalities of that state transfer 75% of tax revenues that exceed this value to the equalization fund.

States whose tax capacity is lower than 80% of the national average can receive transfers from this fund to cover budgetary deficits to the amount of 75% of the average national level of tax capacity.

The next step is equalization of states expenditures, where states with less than 99.5% of tax capacity can additionally receive up to 77.5% of the budgetary amount that is lacking [Clemens, Veldhuis 2013]. Moreover, special equalization transfers are provided to post-communist federal states “to overcome economic backwardness”, to reduce structural unemployment, to cover budget deficits, which often leads to distortion of the initial distribution between wealthy and poor states.

Fourthly, the German equalization model does not use data about the fiscal imbalances in previous years, but it is solely based on current monthly information about the amounts of state tax revenues, with adjustments made on the basis of annual results. This makes it possible to avoid the “time gap” and to update the equalization transfer calculations.

Fifthly, with regard to equalization at the municipal level, each federal state chooses its own way of solving the problem, and several approaches are in common use. Limits and equalization tools for different groups are usually differentiated – for large cities, small towns and rural municipalities; for regulation of intraregional imbalances, the amount of budgetary resource is defined

as a certain percentage of budget revenues; equalization transfers are generally vertical.

Despite the fact that the share of redistributed tax revenues in Germany's consolidated budget is quite insignificant (ranging from 3% to 5% during 2005-2017) the effect of fiscal equalization in federal states is very significant and practically leads to a complete equalization of state tax revenues per capita after redistribution. Differentiation between the states in terms of budget expenditures per capita ranges from 106.5 to 98.3% of the average national level [Frey, Wettstein 2008]. At the same time, the German equalization model is quite often criticized on the grounds that it leads to the destimulation of economic activity in more developed regions and promotes the conservation of outdated economic structure of Eastern states.

### **3.2. Switzerland**

The Swiss model of budgetary federalism is unique for two reasons: firstly, it is very strongly fragmented – there are 26 cantons comprising 2,500 local communities with a total population of 8 million people; secondly, Switzerland has one of the highest levels of decentralization in the world – about 30% of tax revenues and budget expenditures are used by the federal government, while 70% are reserved for cantons and local communities [Frey, Wettstein 2008]. At the same time, there is a very high level of differentiation between regions – per capita GRP and tax revenues in some regions is as much as three times bigger than in others.

That is why Switzerland has one of the oldest fiscal equalization systems, whose mechanisms are laid down in the Swiss Constitution. Every two years the Swiss equalization system is reviewed and can be modified if necessary. The last fundamental reform of the system of interbudgetary relations in Switzerland was carried out in 2008, which led to a more significant distribution of functions and powers between national and sub-regional levels of government, as well as a change in the principles of fiscal equalization between territorial units.

The changes consisted in placing greater emphasis on equalization of revenues (taking into account indicators of the tax capacity of the cantons) and developing clear criteria for equalization of revenues obtained by cantons. With regard to this first element, it is assumed that the mechanism cannot lead to a change in the ranking of canton revenues, but can only smooth out the differences between them. At the same time, the historical method is used to estimate the tax capacity of the cantons, which is calculated based on several years of the previous period, to account for possible fluctuations in revenues from different taxes that may arise in the assessment of the tax capacity in a given year.

Equalization of expenditures in Switzerland is conducted for territories that fall into specific groups by social and economic or geographical factors. Currently, there are three groups: mountainous areas (characterized by low population density and difficult natural conditions), urban areas (in terms of population structure and density) and large urban agglomerations, which are assigned specific functions (large, by Swiss standards, taking into account the fact that the largest city, Zurich, has 380,000 inhabitants, followed by Geneva with 195,000 inhabitants and Basel with 170,000 inhabitants) [Dafflon 2004]. Such criteria of selecting groups are severely criticized and often called political.

Another major change in the current Swiss model of equalization is the withdrawal of targeted subsidies and the significant increase in the share of subsidies that cantons can use at their discretion.

Another feature of the new system is the creation of a transitional fund, which should provide fiscal support to weaker cantons on a temporary basis. However, the lack of clear criteria for the distribution of the fund resources has led to the situation where beneficiaries of the fund include some of the richest cantons.

### **3.3. Scandinavian countries**

The fiscal equalization models in Denmark, Norway and Sweden are practically based on the same principles, which is largely due to the similarity of local government systems in these countries. In all three countries local government plays a very important role in the accomplishment of state tasks (more than a half of all public funds are available to subregional and local levels of government). Traditionally, amounts of equalization transfers in these countries have been very significant, and have been implemented primarily through horizontal mechanisms. The equalization systems in Denmark and Sweden were reformed (in 2007 and 2005 respectively), leading to a partial replacement of the horizontal mechanism with vertical transfers from the state budget. The modern systems of the Scandinavian countries are examples of mixed models – in fact, the main part of subsidies comes from the state budget, but a substantial part is still financed by the most affluent local authorities (only the fraction has changed). The highest level of equalization exists in Sweden and relatively the lowest – in Denmark.

It should also be noted that in all these countries, equalization transfers are insignificant (compared to other European countries) in the structure of fiscal resources available to municipalities and regions. In all three countries, much more emphasis is placed on expenditure equalization. A sophisticated algorithm is used to consider factors that affect the differentiation in expenditure needs of municipalities. In Denmark, 70% of such a needs index is defined by the demographic structure of the population and 30% – by the social and economic

position of particular municipalities. In Sweden, variables relating to demography, ethnic composition, economic development and geographical location are taken into account [Frey, Wettstein 2008].

### **3.4. Poland**

Considering the fact that the Ukrainian model of local government is largely based on the Polish model, the Polish system of equalization is especially interesting from when it comes to exploring practical mechanisms of eliminating territorial disproportions.

The equalization system in Poland has been modernised as part of the reform of administrative and fiscal decentralization, which has led to an increased differentiation of the fiscal capacity of administrative and territorial units. Notwithstanding the growing role of local government in Poland, the share of interbudgetary transfers, which are made to equalize local revenues and expenditures is quite significant. It should be emphasized that the modern equalization system in Poland is aimed at equalizing revenues, and all levels of government – provinces, districts and communes – are involved in equalization, and separate equalization criteria have been developed for each level. For example, as regards general subsidies, districts and communes are allocated the equalization part (or are charged the balancing part in the form reverse payments), and provinces receive transfers from equalization and regional parts. The equalization part of the subsidy consists of principal and additional amounts. The principal amount is provided to:

- communes where tax revenues per capita are below 92% of the national average tax revenue level (compensation may be up to 80% of the difference between the average commune tax revenue level and the revenue of a given commune);

- districts in which tax revenues per capita are lower than the district average;
- provinces where tax revenues per capita are lower than the province average [Sierak 2016].

The additional amount is allocated to:

- communes with a population density below the national average (subject to compliance with the first criterion);

- districts in which the unemployment rate, calculated as the ratio of the unemployment rate in the district to the national unemployment rate, exceeds 1.1;

- provinces in which the number of inhabitants does not exceed 3 million people.

It should be emphasized that when calculating tax revenues, it is not real revenues for a given year that are taken into account, but the average from the two previous years. The calculation includes revenues from local taxes imposed



by administrative and territorial units (on real estate, agriculture, forestry, transport, civil transactions), the share in the personal income tax and the share in the corporate tax.

The criteria for allocating additional amounts take into account not only the large differentiation of own revenues, but also particular expenditure needs related to the economic, social and demographic situation of individual territorial units.

As for the balancing part (reverse payments), they are paid by communes in which tax revenues per capita exceed 150% of the average for all communes. The amount of reverse payments is 20% of the excess above 150% of the average; after exceeding 200% the share to be transferred increases. Districts pay reverse transfers when their tax revenues per capita exceed 110% of the district average [Kańduła 2016; Wołoszyn, Kozera, Głowicka-Wołoszyn, Stanisławska 2016].

The unemployment rate, the road network, the size of per capita GRP and functions in the field of railway transport should be taken into account when distributing the regional part of the general subsidy between the provinces.

The regional part of the general subsidy comes from reverse payments made by provinces in which per capita tax revenue exceeds 110% of the average for provinces.

An educational subsidy received by communes is often classified as another equalization mechanism in Poland, but it is difficult to agree with this view, since it is received by all communes regardless of their revenue level or educational expenditures. The formula for calculating educational subsidy amounts includes more than 40 indicators, but only a few can be considered to be determined by the differences in the fiscal capacity of communes. One such indicator is a commune's rural or mountainous location [Kańduła 2016].

In general, the Polish model of fiscal equalization, which was created (like the Ukrainian one) to stimulate endogenous economic development of basic territorial units, is now criticized for its predominant focus on revenue equalization and for neglecting the differentiation in expenditures across territorial units. That is why, the Polish Ministry of Finance is currently working on developing a new methodological approach to fiscal equalization, in which much more attention will be attached to expenditure needs of communes.

In summary, it can be argued that each of the systems of equalization described above has its advantages and disadvantages. The advantage of equalizing budget revenues is the possibility of balancing the tax capacity of administrative and territorial units and ensuring that local government bodies are motivated to increase their tax revenues. A debatable issue for scholars and practitioners is the level of tax capacity at which surplus revenue of local budgets is withdrawn by the central government and the method of its calculation. In different countries, the equalization threshold is different: for Norway, it is 100% of the amount in excess of 134% of the average tax capability, and 90% for municipalities below

110% of the average tax capability; in Sweden, 85% for municipalities above 115% of the average tax capability and 95% for municipalities below the average tax capability [Pyontko 2015].

The equalization of expenditures also has its advantages and disadvantages. The advantage, first of all, is that it helps to reduce the imbalance in the capacities of different territories and to ensure that all citizens receive the same level of services. Typically, the biggest problem of equalizing budget expenditures is the issue of assessing the quality, cost of public services and their compliance with existing public service standards. When calculating the cost of services, different types of expenditures can be used – past, actual, standard or normalized. Expenditure equalization based on actual costs (Italy, Germany) encourages local governments to replenish the budget; expenditure equalization based on past costs (Spain, Mexico) reduces the possibility of exploitations. Standard expenditures are calculated using the indicators of needs, which are country-specific and depend on its historical, social and economic, and geographical features. Moreover, the number of such indicators also varies: in Denmark and Norway, there are about 15 indicators for estimating expenditures needs, while in Switzerland, 24 indicators are used [Fiscal Federalism 2014; Shah 2014]. Methodological approaches to calculating expenditure needs can be systematized in terms of indicators, which include:

- macro indicators (used in Indonesia, India, Brazil);
- demographic indicators: population and population density (Canada), age structure of the population (Denmark, Norway, Netherlands), population weighted by age groups (Italy);

- a set of general indicators:

- Australia: geographical characteristics of the territory, social and economic characteristics, the level of urbanization, demographic (population, percentage of Aborigines, age structure of the population).

- a set of indicators, which include specific social characteristics:

- Switzerland: population, population density, population aged 80+, recipients of social guarantees, foreigners, big cities, type of territory (mountains, border, etc.);

- Denmark: time of arrival to the place of work, unemployment rate, share of families with poor quality housing or rented accommodation, number of unmarried people, mentally ill people, children of poorly educated parents;

- Norway: number of divorced people, unemployed, mentally disabled people, single senior citizens, immigrants, time spent by residents on travel, mortality;

- Netherlands: quality of housing, high population density, share of low-income households or those who are on social welfare, number of students.

It should be emphasized that there is a fundamental difference between the above mentioned systems of expenditure equalization and the Ukrainian model of expenditure equalization which existed until 2015 – the equalization criteria

did not include expenditure needs to finance the social infrastructure in the region or municipality, but the characteristics which can increase/decrease the cost of public services in a specific territory.

#### 4. Summary and research prospects

What model of fiscal equalization is chosen in a given country depends on many factors, in particular: the state's institutional structure; population, features of the administrative and territorial system; the level of economic development of administrative and territorial units and their fiscal capacity; the level of decentralization of powers and budgetary decentralization; state of development of standards of social services and others.

With the implementation of the decentralization reform in the Ukrainian model of fiscal equalization, the emphasis is placed on equalizing budget revenues while using some elements of expenditure equalization.

Further research should focus on exploring the possibility of enhancing the role of expenditure equalization in Ukraine. However, it does not mean a return to the old funding scheme of the existing social infrastructure. The new equalization system is based on the new standards of social services and the development of a network of alternative providers of such services.

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## **Wzory wyrównania finansowego – praktyka europejska**

**Streszczenie.** *Celem artykułu jest analiza modeli wyrównania finansowego krajów europejskich i określenie modelu wyrównania finansowego Ukrainy. Podczas przeprowadzania badań zastosowano następujące metody: streszczenie i logikę, analizę porównawczą, wizualizację graficzną i dane statystyczne. W artykule poddano analizie modele wyrównywania finansowego w krajach europejskich. Stwierdzono, że większość z nich ma na celu przezwycięzenie nierównowagi budżetowej jednostek administracyjnych i terytorialnych poprzez redystrybucję środków budżetowych między szczeblami władzy. Zauważono, że modele wyrównywania finansowego wielu krajów uległy modyfikacjom w ostatnich dekadach i coraz większą wagę przywiązuje się do wyrównywania wydatków. Wraz z wdrożeniem reformy decentralizacji władzy na Ukrainie w modelu wyrównywania finansowego nacisk kładzie się na wyrównywanie budżetów „według dochodów” przy użyciu oddzielnych narzędzi wyrównywania „według wydatków”.*

**Słowa kluczowe:** *wyrównanie finansowe, budżet, transfery, rozwój terytorialny, decentralizacja*