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INDEPENDENCE OF CENTRAL BANK: NEW CHALLENGES

Abstract. The studydeals with determining the status of central banks and their formal independence in the context of the index approach. The authors argue that there is an inverse relationship between inflation and the level of independence of central banks. It turned out that the expansion of powers of the central bank based on the GMT-index shows a lower level of independence. The authors conducted a quantitative study of the elements of the index of independence of central banks. The peculiarities of formulating the central bank's mandate, procedures for agreeing goals, appointing management and duration of its stay in an office, ability to choose and apply monetary instruments, procedures for covering operating costs of the central bank and transferring profits to the budget, correct interpretation of legislation are identified. The problems of the index approach are the interpretation of the central bank's mandate, the density of the relationship between indices and inflation rates, as well as the quantification of legislation. To eliminate the shortcomings of the basic index approach, alternative approaches are proposed, in particular, the index of constitutional independence, the TOR index and the index of political vulnerability of the management. Extrapolating the index approach for developed countries does not always work when the sampling expands to include emerging market countries. Particularlyin countries with weak institutions, the de facto independence of the central bank does not always correspond to the formal one. For example, in Ukraine, asserting the consistency of the relationship between the inflation rate and the level of formal independence is quite complicated. Particular attention is paid to the problem of opposition to the political and economic independence of the central bank. The originality of the article is due to the need to identify new challenges to the independence of monetary authorities due to macroeconomic and institutional factors that lead to imbalances between the status of central banks and the consolidation of monetary objectives (instruments) at the legislative level to achieve price stability.

Keywords: central bank, economic independence, quality of institutes, GMT-index, political power.
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НЕЗАЛЕЖНІСТЬ ЦЕНТРАЛЬНИХ БАНКІВ: НОВІ ВИКЛИКИ

Анотація. Дослідження присвячено визначенню статусу центральних банків та їх формальної незалежності в контексті індексного підходу. Доведено, що існує обернений зв'язок між інфляцією та рівнем незалежності центральних банків. Було встановлено, що розширення повноважень центробанку на основі GMT-індексу демонструє менший рівень його незалежності. Проведено кількісне дослідження елементів індексу незалежності центральних банків. Визначено особливості формулювання мандата центрального банку, процедури погодження цілей, призначення керівництва і тривалості перебування його на посаді, здатності обирати і застосовувати монетарні інструменти, процедури покриття операційних витрат центрального банку та перерахування прибутку до бюджету, коректності інтерпретації законодавства. Проблеми індексного підходу полягають в інтерпретації мандата центрального банку, щільності взаємозв'язку між індексами і показниками інфляції, а також квантифікації законодавства. Для усунення недоліків базового індексного підходу запропоновано альтернативні підходи, зокрема індекс конституційної незалежності, TOR-індекс та індекс політичної вразливості керівництва. Екстраполяція підходу індексів для розвинутих країн не завжди спрацьовує, коли вибірка розширюється за рахунок країн із ринками, що розвиваються. Зокрема, у країнах зі слабкими інститутами фактична незалежність центрального банку не завжди відповідає формальній. В Україні, наприклад, твердження щільності зв'язку між рівнем інфляції та рівнем формальної незалежності є досить ускладненим. Акцентовано увагу на проблемі протиставлення політичної та економічної незалежності центробанку. Оригінальність статті обумовлена необхідністю визначення нових викликів незалежності монетарних органів, зумовлених макроекономічними та інституціональними чинниками, які призводять до порушення рівноваги між статусом центральних банків і закріпленням монетарних цілей (інструментів) на законодавчому рівні в напрямі досягнення цінової стабільності.

Ключові слова: центральний банк, економічна незалежність, якість інститутів, GMT-індекс, політична влада.

Формул: 0; рис.: 2; табл.: 0; бібл.: 19.

Introduction. The accumulated negative empirical experience in combating inflation in developed economies during the 1970—1980s shows the theoretical and political need for academic substantiation of the independence status of central banks and the consolidation of responsibility for price stability in their mandate [1—5]. Since macroeconomic policy is conducted in a political environment, it is important to clarify the relationship between this environment and the design of macroeconomic policy institutions. It is important to define the status of macroeconomic policy in order to be able to assess its effectiveness or, conversely, to look for factors influencing it in the sphere of political process, political organization of society, political preferences and so on. The problem of status quantification is important, which means a way to quantify the status of macroeconomic policy bodies. Due to their specificity, central banks proved to be leaders in quantification assessment. It was in relation to them that the index approach to status assessment was applied. Taking into account the peculiarities of defining this status, the problem of central bank independence comes to the fore.

Analysis of research and problem statement. Research on the role of the status of monetary authorities in determining inflation rates is widely considered by both domestic and foreign researchers. An empirical analysis of the inverse relationship between the level of independence of central banks and the level of inflation is discussed in detail in the monograph [4]. The problem of reforming the status of central banks in the context of globalization is covered in [1; 5]. The independence of central banks in developed countries, as well as in countries with emerging markets, in terms of different functional approaches is considered in the study [2]. The author emphasizes that in developing countries there is a significant difference between the formal and actual status of central banks, which affects the statistical significance of the relationships obtained. According to some researchers, the independence of the central bank is ensured by three main elements: a clear model of monetary policy; effectiveness and responsibility [3]. Other scholars point out that central bank independence consists of a set of elements, the most important of which are the absence of a dual or multi-mandate (i.e. the principle of a single mandate for price stability), a ban on government funding, and a clear system of appointment and dismissal of management, responsibility and accountability, which would not mean subordination to institutions formed on the basis of political and electoral process [6].

Unsolved aspects of the problem. A number of issues remain unresolved regarding the relationship between independence in the choice of goals and independence in the choice of tools for the effective implementation of monetary policy. Nowadays in Ukraine, there is a problem of functional separation of monetary policy from banking supervision and prudential regulation given the institutional risks of overlapping competencies that may affect the trust and accountability of monetary authorities.

The purpose of the article is to determine the status of the central bank in the context of its quantification using an index approach, as well as to determine the elements of central bank independence, their impact on inflation and price stability.

Research results. Let's take a digression into history in order to understand why the question of independence was formulated in the context of a quantitative assessment of status. This idea originates from the fact that in the Law «On the Bundesbank of Germany» of July 26, 1957, it was clearly stated that the Bundesbank of Germany in its activities is independent of the government [7]. At the same time, when the US Federal Reserve proceeded from the post-military mentality of cooperation with the Ministry of Finance, an agreement was also concluded between them on granting the Fed the right of operational autonomy in decision-making. This is an example of understanding the relationship between central bank independence and the status structure factor, the assertion of its mandate, which is an extremely important determinant of operating processes.

Developing this assumption, Alesina and Summers [8] were one of the first researchers of this problem, as well as Grilli et al. [7]. They were the first to develop an index of central bank independence. These studies of the late 80's early 90's of the twentieth centurylaid a certain direction not only for the development of new political economy, but also of empirical macroeconomics. The developments of these economists have also significantly influenced the development of empirical institutional macroeconomics precisely for the sake of confirming or refuting the relationship between the status of central banks and the results of macroeconomic policy.

Grilli et al. [7] proposed the actual author's index of independence of the central bank — Grilli-Masciandaro-Tabellini-index (GMT-index). Within the framework of this index, it was possible to clearly differentiate the political and economic independence of the central bank. They later determined the financial independence of the central bank. The universal Grilli-Masciandaro-Tabellini independence index is still used in quantitative studies. It interprets the central bank's mandate: the more powers the central bank has, in particular with regard to banking supervision, maintaining financial stability, the more it affects the fact that the GMT index will show a lower level of central bank independence. The construction of this index is to determine the elements of central bank independence and their potential impact on inflation (*Fig. 1*).
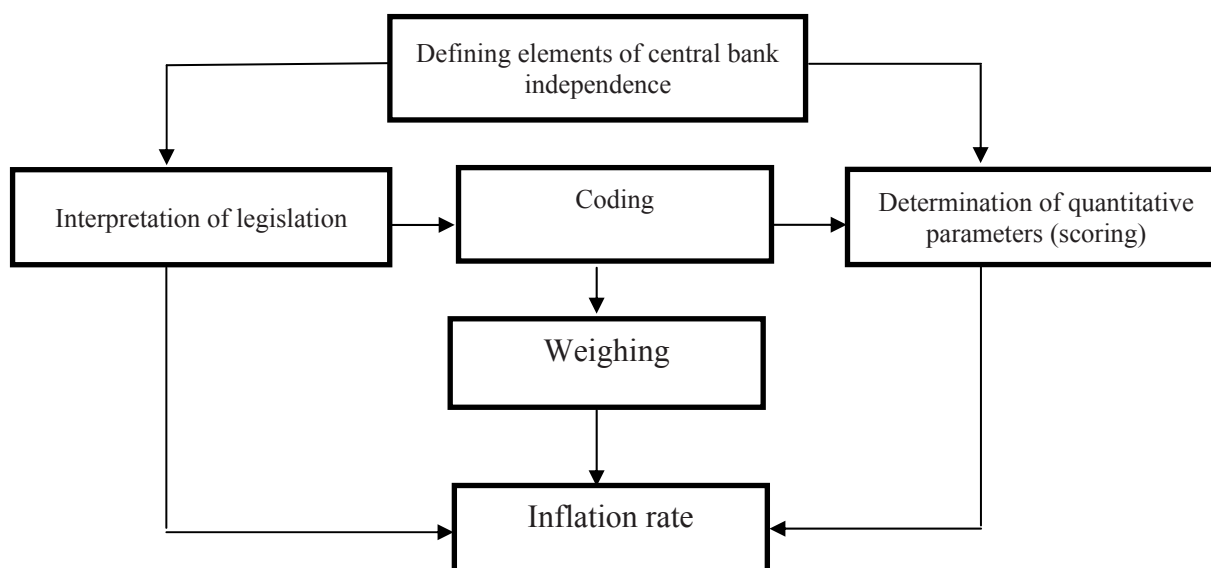
Fig. 1. **Quantitative study of elements of the index of independence of central banks**

The first element that arises in the analysis of the GMT-index is the formulation of the mandate. Within its definition, there should be no macroeconomic conflict between the main tasks (objectives) of the central bank. The way of question of the formulation of the mandate is put is based on the traditional problem of trade-off (the problem of choosing alternatives in the organization of macroeconomic policy). This is nothing more than an echo of the lively debate over the Phillips curve problem. If the central bank is obliged to achieve conflicting goals at the same time, it is natural that this potentially reduces its level of independence, as well as its ability to control inflation. In the Western economic literature, this idea is called the dynamic consistency of monetary policy [9; 10].

The second element is a caveat to goal approval procedures. The problem of the absence of such reservations means that the central bank has complete independence in the choice of targets. Using the example of Ukraine, this is considered quite natural. It is enough to look at the experience of the Bank of England to understand that the procedure for agreeing on monetary policy objectives is not so trivial.

The third element concerns the appointment of management, the procedure for its dismissal, and the length of its tenure. The latter is structured in such a way that the length of office exceeds the duration of the electoral cycle. This is done in order to eliminate the influence of changes in the electoral process on the reappointment of the central bank's management for reasons of political expediency. The dismissal of the central bank's management for political expediency poses a similar problem. The management of the central bank cannot be fired just because elections have taken place in the country. This idea is enshrined in the legislation on central banks and is recognized as a criterion for assessing the level of its independence.

The fourth element is the ability to select and apply monetary instruments (in conjunction with restrictions on budget deficit financing and restrictions on participation in the primary public debt market). Together, this determines the issue of economic independence of the central bank, as well as the problem of choosing the exchange rate regime.

The fifth element is the coverage of the central bank's operating costs and the procedure for transferring profits to the budget. Traditionally, this is not considered an important macroeconomic problem. In fact, there is a close connection between political, economic and financial independence. These are the elements that mutually reinforce each other. For example, in the case of economic and financial independence, such a connection is clear. As soon as specific figures for the conversion of profits to the budget are determined for the central bank, it automatically means a narrowing of its economic independence (the central bank is limited in its ability to use certain tools). This problem is closely linked to political independence. In order to enjoy economic

independence, the central bank's management and, accordingly, its mandate must be specified.

The sixth element concerns the interpretation of legislation. Interpretation of legislation means how elements of central bank independence are appropriately represented in central bank legislation. In the future, a certain value (coding) is assigned to one or the other element. If the relevant element is present in the legislation, it is assigned significant statusand is given a quantitative assessment. If the construction of the index is carried out on a weighted principle, each element is assigned a weighting factor.

Let's consider the problems of the index approach and identify their causes. The first problem with the index approach is the interpretation of the central bank's mandate. The issue of financial stability is a typical example. It cannot be denied that the lack of financial stability in the country facilitates the achievement of price stability. Subsequent studies have shown that price stability is not always a guarantee of avoiding financial shocks [11]. However, financial and price stability may conflict with each other. On the one hand, they can reinforce each other, and on the other hand, they do not save the economy from economic shocks.

The second problem is to determine the density of the relationship between indices and inflation. Different indices may show different relationship densities. Accordingly, depending on what is considered an acceptable relationship, it will be the basis for confirming the hypothesis of the role of central bank independence in future.

The third problem is the correct interpretation of the law. The fact is that the legislation appears in the form of texts. The study aims to identify elements of the central bank. Accordingly, its task is to interpret the legislation in such a way that it corresponds to the principles of understanding the elements that have been rejected as a result of theoretical assumptions. This significantly affects the formation of elements of independence and gives them adequate quantitative values. As a result, there is a problem of quantification of legislation. Some studies show that the legislation on the same central bank is presented quite differently by individual authors in the direction of quantifying the level of its independence [12]. As a result, there is a set of indices between which there is no correlation. There are additional empirical questions about the correctness of the reflection of the indices of real legislation.

Therefore, the basic index approach has certain shortcomings. To eliminate them, it is important to use alternative approaches. One such option is the index of constitutional independence. In terms of content, this index differs little from indices based on central bank legislation. In addition, not every country mentions central banks in the Constitution, not to mention documenting their status. However, the Constitution in many countries mentions the central bank: defines its main task, powers, the functions of key monetary authorities in relation to the central bank, and so on.

The Index of Constitutional Independence to some extent allows us to understand the extent to which the central bank is protected not only at the level of the Law, but also at the level of the Constitution. The main disadvantage of the index of constitutional independence is the problem of hermeneutics, similar to the index based on the interpretation of legislation.

The next index is the TOR index (from the English — turnover rate). This index shows how often the heads of central banks change. This idea belongs to Cukierman [13; 14]. He found out that extrapolating the index approach for developed countries does not always work when picking expands to include emerging market countries. Beginning with Cukierman, the concepts of indices of formal and de facto independence are introduced. First of all, we are talking about formal independence, which follows from the law. Cukierman pointed out that very often in countries with weak institutions, the actual independence of the central bank does not always correspond to the formal one. It is in such cases that the assertion of the relationship between the level of inflation and the level of formal independence is quite complicated.

Alternatively, Cukierman proposed a TOR index designed to demonstrate the following. If the head of the central bank completes his tenure every time, it is an indication that his activity is not politically motivated. Conversely, if the heads of central banks change quickly enough, it means

that they are politically influenced. Accordingly, there is no guarantee that such leaders will be able to build immunity to the pressure from politicians. This idea was the basis of the TOR-index. However, there are some differences. Assuming that the head of the central bank completes his term, it can be assumed that the central bank has a high level of independence. At the same time, a number of studies show that there are cases when there is evidence that the heads of the central bank are in a political alliance with the ruling elites [15]. This means that in some cases the TOR index will not be representative.

Analysis of a specific set of countries confirms that the TOR index is not representative for the Gulf countries. If one looks at Latin American countries, the situation will be as follows. In these countries, the length of time that managers hold central bank positions is very short. This indicates that the level of actual independence is low [16]. In contrast, in the Gulf countries, top management of central banks tends to complete its term. However, this is not evidence of a high level of de facto central bank independence. This means that in these countries there is a completely different modality of political interaction in the appointment and operation of central banks.

An alternative is the index of political vulnerability of management. It is designed to measure the likelihood of rapid changes in central bank management following a change in the ruling political force. An alternative to quantifying the level of central bank independence is to assess its level on the basis of direct management surveys. The poll indicates which element of independence is most important, as well as whether central bank heads are under political pressure from the ruling party. Most central bank heads in developed countries have acknowledged that economic independence is paramount. Similar surveys in poorer countries have shown that along with economic, political independence is also an important component of de facto independence [12].

For different groups of countries there is a problem of opposing the political and economic independence of the central bank. This problem was first observed in a study by S. Fishera and H. Debele, who showed that for developed countries, political independence is not extremely important [17]. Economic independence is much more important. Further research shows that for poorer countries, not only economic but also political independence is of fundamental importance [12].

Political and economic independence need no opposition when it comes to broader sampling. The latter shows a certain heterogeneity of countries and is presented in the form of four quadrants (*Fig. 2*).
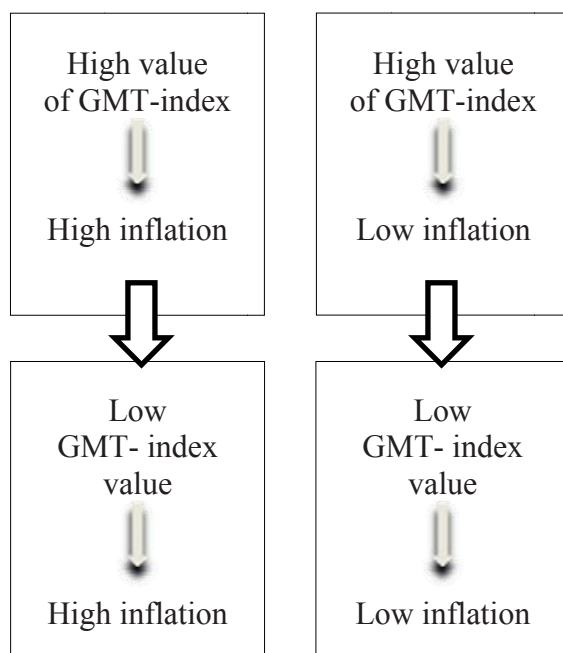

Fig. 2. **The relationship between GMT-index and inflation in the economy**

Interestingly, all values above the trend show a much wider range of inflation. In an environment where the central bank is not actually independent, inflation can be affected by a wide range of macroeconomic factors. Where the central bank is actually responsible for inflation, the level of inflation variation across countries is much smaller. This also applies to countries that try to maintain price stability even without changes in the formal status of central banks.

Conclusions. The main result of empirical research is that a significant reduction in inflation and a significant increase in the level of central bank independence have made it quite difficult to empirically verify the relationship between inflation and the status of monetary authorities from a purely statistical point of view. The results of the research began to show a clearly determined dependence on the econometric technique used. An important problem is that the relationship density depends quite rigidly on the sampling, that is, depending on the sampling the statistical properties of the relationship will be corresponding in the result. The researchers also found out that the relationship density was sensitive to the nature of the index specification.

The results of empirical studies confirm the following. First, there is an inverse relationship between inflation and the level of central bank independence. This connection has been identified previously for developed countries. Second, the level of central bank independence is neutral in terms of GDP growth. This is indirectly confirmed by the neutrality of money. As a rule, hyperinflation occurred in countries with weak central bank status. In such cases, the relationship was broken when hyperinflation became extremely destructive to economic growth. Third, a series of adverse shocks in the economy leads to the emergence of inflationary consistency, so the status of the central bank may be an ineffective safeguard of price stability. Fourth, the effectiveness of the relationship between the level of central bank independence and inflation is determined by a combination of macroeconomic and institutional factors that affect price stability. These include: adverse shocks in the economy; the level of openness of the central bank; structural vulnerability of the economy (share of imports, raw materials sector); alternative design of price stability policy. Institutional factors include: institutional issues of «follow-up commitments»; Rule of Law; fragmentation of society and group «dissatisfaction»; «Capture of the regulator»; cultural norms (attitude to hierarchies, attitude to uncertainty, temporal orientation).

Further progress in central bank independence is tied to a broader and more comprehensive package of structural reforms. Their implementation is aimed at improving the quality of institutions, which is designed to confirm certain institutional guarantees for the independence of central banks.

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