Journal of Siberian Federal University. Humanities & Social Sciences
2024 17(3): 592–606

EDN: AOZSCI
УДК 336.1

Identification of Countries' Financial Sovereignty

**Galina G. Gospodarchuk*[a], Elena S. Zeleneva[b]
and Dmitry S. Kolesnikov[a]**
[a]*National Research Lobachevsky State University of Nizhny Novgorod
Nizhny Novgorod, Russian Federation*
[b]*Financial University under the Government of the Russian Federation
Moscow, Russian Federation*

Received 27.11.2023, received in revised form 25.12.2023, accepted 18.01.2024

Abstract. The restructuring of international financial flows has exacerbated the challenge of state control over the provision of financial sovereignty of countries and highlighted the need to identify it. This study aims to develop a concept for the identification of financial sovereignty that enables the formation of quantified strategic goals to ensure the said sovereignty achievement and to monitor their implementation. The methods employed include systemic, matrix, comparative, and graphical analysis. The novelty of the results of the study lies in the application of a systematic approach to the identification of financial sovereignty based on the System of National Accounts; the decomposition of financial sovereignty into three categories (monetary, debt, and stake); and in the development of a new concept of quantitative and qualitative assessment of financial sovereignty based on the share of domestic sources of financing in the financial resources of countries. The study clarifies and structures the concept of financial sovereignty, and devised analytical tools for its measurement and evaluation in the form of indicators and criteria. The new toolkit was tested on OECD countries in 2021. The testing involved constructing a country ranking by the level of financial sovereignty, identifying the leading countries in its provision; and pinpointing the elements containing threats to its loss. The obtained results enhance the use of quantitative methods in further research of the financial sovereignty of the countries and, when applied to financial development strategies, advance the quality and monitoring of such strategies.

Keywords: financial sovereignty, monetary sovereignty, financial independence, financial development, strategic management.

Research area: social structure, social institutions and processes (socio-logical sciences); regional and sectoral economy.

The research was funded by the Russian Science Foundation (project No. 23–28–01020).

* Corresponding author E-mail address: gospodarchukgg@iee.unn.ru

Citation: Gospodarchuk G.G., Zeleneva E.S., Kolesnikov D.S. Identification of countries' financial sovereignty. In: *J. Sib. Fed. Univ. Humanit. soc. sci.*, 2024, 17(3), 592–606. EDN: AOZSCI

Идентификация финансового суверенитета стран

Г.Г. Господарчук[а], Е.С. Зеленева[б], Д.С. Колесников[а]
*[а]Национальный исследовательский
Нижегородский государственный университет имени Н.И. Лобачевского
Российская Федерация, Нижний Новгород*
*[б]Финансовый университет при Правительстве Российской Федерации
Российская Федерация, Москва*

Аннотация. Реструктуризация международных финансовых потоков обострила проблему государственного контроля за обеспечением финансового суверенитета стран и выдвинула на первый план задачу по его идентификации. Цель настоящего исследования – разработка концепции идентификации финансового суверенитета, позволяющей формировать количественно выраженные стратегические цели по его обеспечению и осуществлять контроль за их достижением. В исследовании использовались методы системного, матричного, сравнительного и графического анализа. Новизна результатов исследования состоит в применении системного подхода к идентификации финансового суверенитета на основе Системы национальных счетов; разложения финансового суверенитета на три вида: монетарный, долговой, долевой; в разработке новой концепции количественной и качественной оценки финансового суверенитета на основе доли внутренних источников финансирования в финансовых ресурсах стран. В результате исследования было уточнено и структурировано понятие «финансовый суверенитет»; разработан аналитический инструментарий для его измерения и оценки в виде индикаторов и критериев. Тестирование нового инструментария выполнено применительно к странам ОАЭСР за 2021 г. По результатам тестирования построен рейтинг стран по уровню финансового суверенитета, определены страны-лидеры в его обеспечении; выявлены элементы, содержащие угрозы его потери. Полученные результаты открывают большие возможности для применения количественных методов в дальнейших исследованиях финансового суверенитета стран. Внедрение полученных результатов в процесс формирования стратегий финансового развития позволит повысить качество самих стратегий и качество мониторинга за их реализацией.

Ключевые слова: финансовый суверенитет, монетарный суверенитет, финансовая независимость, финансовое развитие, стратегическое управление.

Научная специальность: 5.4.4. Социальная структура, социальные институты и процессы (социологические науки); 5.2.3. Региональная и отраслевая экономика.

Исследование выполнено при финансовой поддержке Российского научного фонда (проект № 23–28–01020).

Цитирование: Господарчук Г. Г., Зеленева Е. С., Колесников Д. С. Идентификация финансового суверенитета стран. *Журн. Сиб. федер. ун-та. Гуманитарные науки*, 2024, 17(3), 592–606. EDN: AOZSCI

Introduction

Geopolitical challenges and threats, the destruction of integration ties, the restructuring of international financial flows and the global monetary system, and the escalation of international sanctions jeopardize the financial development and sovereignty of countries worldwide irrespective of their position and role in the global economy. The changes that occur impose new requirements on the strategic management of countries' financial development, aimed at addressing the challenges of financial sovereignty. The importance of addressing these challenges is confirmed by the rhetoric of public administration (Spinaci, 2020) and a number of scientific publications, which suggest that excessive financial dependence heightens the risk of economic volatility, the frequency of imported crises, vulnerability to global shocks; reduces government autonomy in fiscal policy, constrains the growth of the banking system and weakens competitiveness (Abelin, 2012, Dudin et al., 2023).

However, translating financial sovereignty requirements into specific strategies and strategic decision-making practices remains challenging due to the underdeveloped theoretical ideas about the essence and content of the concept of "financial sovereignty" and the fragmented nature of methodological approaches and analytical tools for its analysis, as evidenced by relevant publications, for example (OECD, 2023). This fact determines the relevance, as well as scientific and practical significance of further investigations in this direction.

Motivated by the ambition to contribute to the development of a theoretical and methodological framework for analyzing and evaluating financial sovereignty, this study pursues the goal of creating a new, system-oriented concept for the identification of financial sovereignty, enabling the establishment of quantified strategic objectives to ensure its realization.

The study examines and structures the concept of financial sovereignty from the perspective of countries' independence from all external sources of financing without exception. It develops indicators and criteria for the quantitative and qualitative assessment of financial sovereignty levels, constructs country rankings based on their levels of financial sovereignty, identifies countries-leaders in financial sovereignty provision, and detects elements that threaten its loss. The obtained results were tested for adequacy by comparing them with those of similar studies conducted by other researchers.

1. Theoretical framework

In recent years, the notion of "sovereignty" has become an integral part of scientific discussions concerning the effectiveness of government decision-making and its impact on the economic development of not only individual countries, but also their integration associations. Consequently, there has been a surge in the number of publications addressing to this topic. The analysis of these publications highlights four primary avenues of investigation into the challenges of sovereignty.

The first avenue (spatial) considers the problems of state sovereignty (Emmenegger, 2021), including its forms such as mobile sovereignty (Everuss, 2020), territorial (land) sovereignty (Woods, 2022) and maritime sovereignty (Strating and Wallis, 2022). At the same time, sovereignty is perceived in the context of a nation-state's organization and manifestation of political power, asserted through the exercise of governing authority.

The second avenue (resource) is represented by works that analyze energy sovereignty (Torres and Niewöhner, 2023, Lee et al., 2023) and mineral sovereignty (Walker and Johnson, 2018). Works on energy sovereignty reflects the debate on renewable energy sources and assess their impact on energy sovereignty. These studies advocate for shared priorities for energy solutions that strengthen community control over the provision of energy services. Mineral sovereignty publications make recommendations for regulating the appropriation and distribution of minerals.

The third avenue (technical) includes the study of technological sovereignty (Edler et al., 2023, Bassens and Hendrikse, 2022), including digital sovereignty (Conradie and Nagel, 2022, Akcali Gur, 2022). Here, technological sovereignty is defined as a means of accomplishing the primary objectives of innovation policy. Key aspects of technological sovereignty discussions include access of countries and firms to emerging technologies, strengthening normative power of countries and their associations in cybersecurity governance, protecting strategic national interests while increasing their influence on global processes.

The fourth avenue (economic) covers general economic sovereignty (Richardson and Stähler, 2018), food sovereignty (Mercado and Hjortsø, 2023, Dias Blanco et al., 2022, Ferguson et al., 2022), monetary sovereignty (You et al., 2022, Murau and Klooster, 2022, Jasmine et al., 2023) and financial sovereignty (Spinaci, 2020, Dudin et al., 2023, Beau, 2020, Kaboub 2015). Issues related to general economic sovereignty are considered in the context of a possible renunciation of international agreements. Publications on food sovereignty are dominated by the translation of the food regime into concrete policies that account for ecology, ecosystem dynamics, climate change, and growing food imports. Monetary sovereignty is explored from the perspective of independence of monetary policy and central bank taking into account the formation of monetary unions. Attempts are also being made to develop indicators to measure the independence of central banks. Publications on financial sovereignty focus on the relevance of these studies in the context of geopolitical and geo-economic instability, highlighting the need for strategies to strengthen financial sovereignty, thereby ensuring the ability of the national financial system to maintain stability and independence from external shocks. Recommendations on its assessment and protection in modern conditions are provided.

2. Statement of the problem

To summarize the analysis of the publications, it is essential to note the following:

1. The notion of sovereignty is predominantly interpreted as the right to make and implement managerial decisions. The violation of this right can cause dissatisfaction both among international actors and within the national political structure, negatively impacting national growth and development.

2. Currently, the study of sovereignty is conducted in four main avenues: spatial, resource, technical, and economic. The economic avenue differs from the others due to the more comprehensive array of issues studied.

3. Within the economic avenue, the least studied problems are the problems of financial sovereignty. The limited publications available focus on the relevance of ensuring financial sovereignty in the context of geopolitical and geofinancial instability, while the proposed concepts for identifying financial sovereignty remain fragmentary. This reduces the effectiveness of strategic decision-making within this sector of public administration.

These findings highlight the need for further research into financial sovereignty and, primarily regarding its identification as the initial phase of the formation of appropriate public policy.

3. Methods

The methodology employed in this study is based on the established concept of sovereignty as the right to make and implement management decisions. Based on this general notion, the term "financial sovereignty" within this study will be understood as the right to make and implement managerial decisions in the sphere of finance. Since the rights to make and implement financial decisions are derived from the rights of financial resources, it seems appropriate to define financial sovereignty as the ability of countries to carry out economic development exclusively through domestic sources of funding, i.e. independence from external sources of funding.

Given the variety of financial flows permeating any economy, this study proposes categorizing all sources of financing into three groups: monetary, debt, and stake. Thus, financial sovereignty becomes a general characteristic of the independence of countries from external sources of financing, including private characteristics in the form of monetary, debt and stake sovereignty.

The study is based on the application of a systematic approach to identifying financial sovereignty. This approach is adapted to the purpose of the study by applying the methodology of the System of National Accounts (SNA) (SNA, 2008), which is designed to analyze the global and national economies, as well as develop public policy and public decision-making.

The study uses SNA data characterizing the financial balances of the countries (Table 1). The line items of this balance sheet, as adopted in the SNA, allow for the categorization of financial resources into internal and external, as well as the determination of the monetary, debt, and stake sources of financing each country's development. In particular, the monetary sources of financing will include: Monetary gold and SDRs, Currency and deposits; Debt – Debt securities, Loans, Stake and investment fund shares/units, Insurance pension and standardized guarantees, Financial derivatives and employee stock options, Other accounts receivable; Stake – financial capital.

The identification of a country's financial sovereignty includes both quantitative and qualitative assessments. The quantitative assessment is represented by indices of financial sovereignty, whereas the qualitative aspect is identified by the levels of financial sovereignty.

3.1. Quantifying financial sovereignty

To quantify the financial sovereignty of countries, it is proposed to calculate the Index of Financial Sovereignty (IFS) and its components: the Index of Monetary Sovereignty (IMS), the Index of Debt Sovereignty (IDS), and the Index of Stake Sovereignty (ISS). These indices are calculated by determining the proportion of countries' domestic sources of development financing in the total amount of financing from both domestic and external sources.

To calculate the IFS, IMS, IDS, and ISS indices, the following formulas could be used:

$$IFS = (l_1 + c_1)/(l_3 + c_3) \qquad (1)$$

where:

l_1 – internal financial obligations,

c_1 – internal financial capital,

l_3 – all (internal and external) financial obligations,

c_3 – all (internal and external) financial capital.

$$IMS = \sum_{j=1}^{2} l_{1j} /(l_3 + c_3) \qquad (2)$$

Table 1. Balance of financial assets and liabilities

Item code	Element	National economy	Rest of the world	Total
I. A F	Financial assets	a_1	a_2	a_3
II. LF	Financial obligations	l_1	l_2	l_3
1. LF	Monetary gold and SDRs	l_{11}	l_{21}	l_{31}
2. LF	Currency and deposits	l_{12}	l_{22}	l_{32}
3. LF	Debt securities	l_{13}	l_{23}	l_{33}
4. LF	Loans	l_{14}	l_{24}	l_{34}
5. LF	Stake and investment fund shares/units	l_{15}	l_{25}	l_{35}
6. LF	Insurance pensions and standardized guarantees	l_{16}	l_{26}	l_{36}
7. LF	Financial derivatives and employee stock options	l_{17}	l_{27}	l_{37}
8. LF	Other accounts receivable	l_{18}	l_{28}	l_{38}
III. CF	Financial capital	c_1	c_2	c_3

Source: compiled by the authors according to SNA, 2008.

where:

l_{1j} – monetary financial liabilities, j = (1–2).

$$IDS = \sum_{j=3}^{8} l_{1j} / (l_3 + c_3) \quad (3)$$

where:

l_{1j} – debt financial liabilities, j = (3–8).

$$ISS = c_1 / (l_3 + c_3) \quad (4)$$

The indicators calculated by this algorithm obtaining quantitative estimates of the level of financial sovereignty for different countries, including its components. Moreover, these estimates can serve as a foundation for the ranking of countries by levels of financial, monetary, debt, and stake sovereignty.

3.2. Qualitative assessment of financial sovereignty

For the qualitative characteristics of financial sovereignty, we propose the criteria presented in Table 2. These criteria facilitate the formation of five levels of financial sovereignty: high, adequate, limited, low, absent.

As evident from Table 2, the levels of financial sovereignty depend on the values of the corresponding criteria. In this case, the values of the financial sovereignty criteria are the sum of individual criteria designed to assess the levels of monetary, debt, and stake sovereignty. The quantitative values of the IMS, IDS, and ISS criteria will vary. This variation occurs due to the existing structure of financial resources of countries.

4. Results

The developed indicators and criteria for assessing financial sovereignty have been tested on current OECD members. A total of 34 countries have been included in the test, as listed in Fig. 1. Some OECD member countries were omitted due to the lack of relevant data. The test data were gathered from the SNA (2008) and pertain to 2021, as found on the Financial Accounts data (OECD, 2021) website.

The aforementioned statistical data were used to calculate the indices of financial (IFS), monetary (IMS), debt (IDS), and stake (ISS) sovereignty of the OECD countries for 2021. The IFS indices were used to rank the countries based on their achieved level of financial sovereignty (Fig. 1), and determine the contribution of each element of financial sovereignty of these countries to its total value (Fig. 2).

The analysis of the constructed ranking indicates that the highest levels of financial sovereignty in 2021 were achieved by Korea (92.13), Japan (91.32), Turkey (90.27), Iceland (90.16), Colombia (86.51), and USA (86.09). The leadership of these countries in financial sovereignty was secured by their high performance in monetary sovereignty (Japan (24.54), Turkey (24.48)) and debt sovereignty Colombia (86.41 %), USA (81.90 %), Iceland (78.50 %), Turkey (76.05 %), and Korea (68.65 %).

The countries occupying the lower ranks of the rating include Greece (63.80), Luxembourg (59.20), and Ireland (55.13). The main reasons for their low financial sovereignty scores are low levels of monetary sovereignty in Luxembourg (3.87) and Ireland (3.99), debt sovereignty in Greece (53.96 %), Luxembourg (55.23 %), and Ireland (54.32 %), and stake sovereignty in Greece (–19.27 %) and Ireland (–3.18 %).

Table 2. Levels of Financial Sovereignty

	Type of Sovereignty			
Level of Sovereignty	Financial	Monetary	Debt	Stake
High	$f_4 \leq$ IFS	$m_4 \leq$ IMS	$d_4 \leq$ IDS	$s_4 \leq$ ISS
Adequate	$f_3 \leq$ IFS < f_4	$m_3 \leq$ IMS < m_4	$d_3 \leq$ IDS < d_4	$s_3 \leq$ ISS < s_4
Limited	$f_2 \leq$ IFS < f_3	$m_2 \leq$ IMS < m_3	$d_2 \leq$ IDS < d_3	$s_2 \leq$ ISS < s_3
Low	$f_1 \leq$ IFS < f_2	$m_1 \leq$ IMS < m_2	$d_1 \leq$ IDS < d_2	$s_1 \leq$ ISS < s_2
Absent	0≤ IFS < f_1	0≤ IMS < m_1	0≤ IDS < d_1	0≤ ISS < s_1

Source: compiled by the authors.

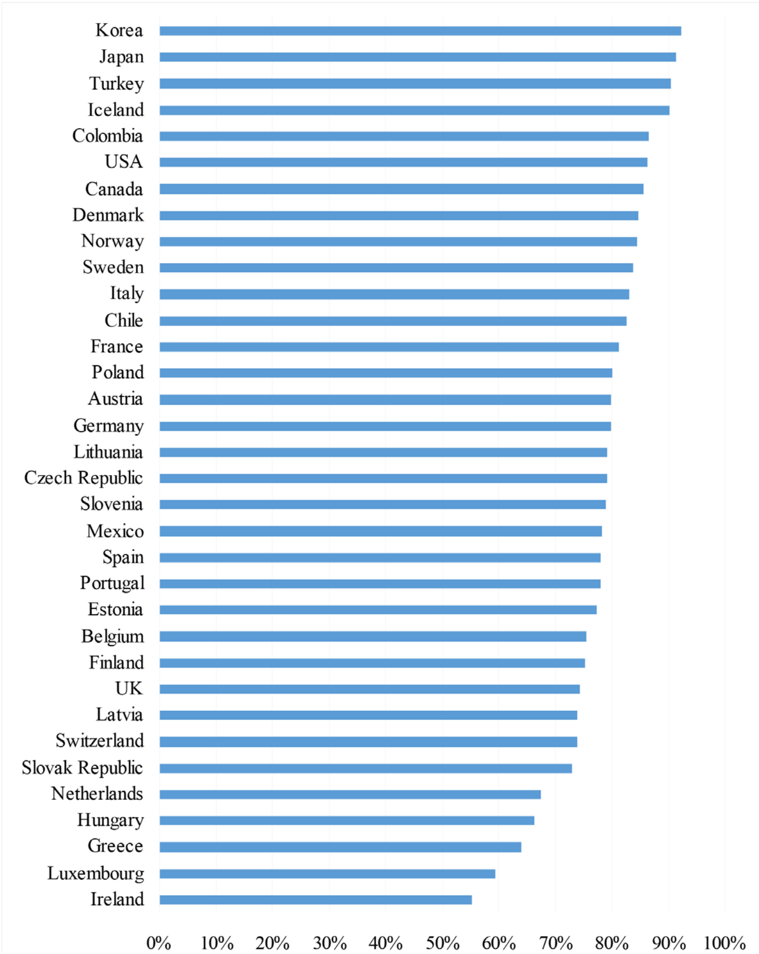


Fig 1. Ranking of OECD+ countries by the level of financial sovereignty, %.
Source: authors' calculations based on the official statistical data (OECD, 2023)

To qualitatively classify countries by their level of financial sovereignty, such criteria were developed that allow categorizing the analyzed countries into five levels: high, adequate, limited, low, and absent (Table 3).

The boundaries of the levels were established taking into account the step of 25 % for financial sovereignty, 5 % for monetary and stake sovereignty, and 15 % for debt sovereignty. For all types of sovereignty, negative values of the criteria (less than 0 %) represent the absence of sovereignty. The criteria values representing other levels vary depending on the type of sovereignty and reflect the existing correlation between monetary, debt, and stake sources of financing of the countries analyzed. Thus, to achieve a "high" level of financial sovereignty, the share of monetary sources must be at least 15 %, the share of debt sources at least 45 %, and the share of stake sources at least 15 %. The upper value of the criterion of financial sovereignty corresponds to the sum of the criteria of its elements: monetary, debt, and stake sovereignty, amounting to a minimum of 75 %.

Using the criteria developed (Table 3), all of the analyzed countries were categorized according to the levels of financial sovereignty. The results of this distribution are presented in Table 4 and Appendix.

Analysis of the data in Table 4 showed that in 2021 the financial sovereignty of the countries was at high and adequate levels. As

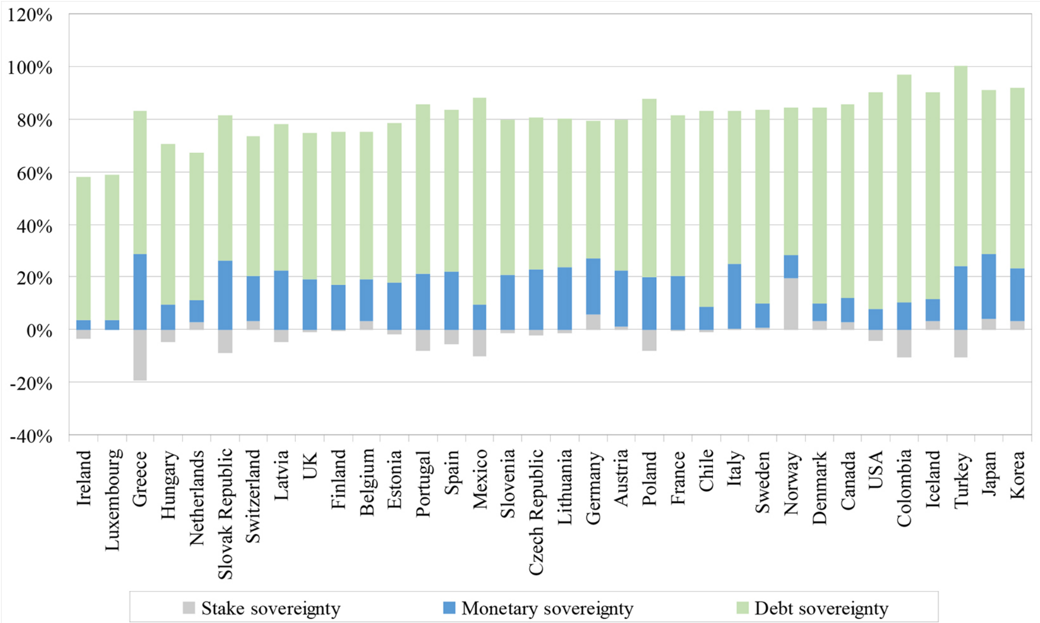


Fig 2. Elements of Financial Sovereignty of OECD Countries in 2021, %

Source: authors' calculations based on the official statistical data (OECD, 2023)

Table 3. Levels of Financial Sovereignty, %

Level of Sovereignty	Type of Sovereignty			
	Financial	Monetary	Debt	Stake
High	75≤ IFS	15≤ IMS	45≤ IDS	15≤ ISS
Adequate	50≤ IFS < 75	10≤ IMS < 15	30≤ IDS < 45	10≤ ISS < 15
Limited	25≤ IFS < 50	5≤ IMS < 10	15≤ IDS <30	5≤ ISS < 10
Low	25≤ IFS < 0	5≤ IMS <0	0≤ IDS <15	5≤ ISS <0
Absent	IFS < 0	IMS <0	IDS <0	ISS <0

Source: authors' calculations based on the official statistical data (OECD, 2023)

Table 4. Distribution of OECD countries by level of financial sovereignty, 2021

Level	Financial Sovereignty, %
High	Korea (92.13); Japan (91.32); Turkey (90.27); Iceland (90.16); Colombia (86.51); USA (86.09); Canada (85.58); Denmark (84.61); Norway (84.42); Sweden (83.70); Italy (83.06); Chile (82.47); France (81.20); Poland (79.99); Austria (79.70); Germany (79.67); Lithuania (79.07); Czech Republic (78.98); Slovenia (78.83); Mexico (78.06); Spain (77.99); Portugal (77.84); Estonia (77.18); Belgium (75.34); Finland (75.14)
Adequate	UK (74.18); Latvia (73.80); Switzerland (73.79); Slovakia (72.85); the Netherlands (67.35); Hungary (66.19); Greece (63.80); Luxembourg (59.20); Ireland (55.13)
Limited	-
Low	-
Absent	-

Source: authors' calculations based on the official statistical data (OECD, 2023).

many as 25 countries achieved a high level of financial sovereignty: Korea, Japan, Turkey, Iceland, Colombia, USA, Canada, Denmark, Norway, Sweden, Italy, Chile, France, Poland, Austria, Germany, Lithuania, Czech Republic, Slovenia, Mexico, Spain, Portugal, Estonia, Belgium, Finland; 9 countries reached the Adequate level: UK, Latvia, Switzerland, Slovakia, Netherlands, Hungary, Greece, Luxembourg, Ireland. Additionally, a level analysis of monetary, debt, and stake sovereignty of countries was performed to understand the reasons for such a distribution of countries.

Table 5 and Appendix show the distribution of countries by level of monetary sovereignty.

Analysis of the data in Table 5 shows that in 2021 most countries (21 countries) reached a high level of monetary sovereignty. The leaders in ensuring this level were Greece, Slovakia, Italy, Japan, and Turkey, which was possibly due to low real interest rates on deposits and relatively high country risks. On the contrary, countries such as Hungary, Mexico, Sweden, Canada, Chile, Norway, Netherlands, USA, Iceland, Denmark had limited monetary sovereignty, while the monetary sovereignty of Ireland and Luxembourg was at a low level due to the attractiveness of these countries for investing money savings and placing gold and foreign exchange reserves and SDRs.

Table 6 and Appendix show the distribution of OECD countries by level of debt sovereignty.

The analysis of the data in Table 6 shows that in 2021 all OECD countries had a high position in terms of the level of debt sovereignty. This situation can be explained by the lower

Table 5. Distribution of OECD countries by level of monetary sovereignty, 2021

Level	Monetary sovereignty, %
High	Greece (29.11); Slovakia (26.52); Italy (24.64); Japan (24.54); Turkey (24.48); Lithuania (23.81); Czech Republic (23.24); Latvia (22.51); Spain (22.14); Germany (21.45); Portugal (21.25); Austria (21.24); Slovenia (20.97); France (20.38); Poland (20.31); Korea (20.06); UK (19.23); Estonia (18.26); Finland (17.28); Switzerland (17.03); Belgium (15.59)
Adequate	Colombia (10.47)
Limited	Hungary (9.77); Mexico (9.50); Sweden (9.26); Canada (9.08); Chile (8.82); Norway (8.67); Netherlands (8.31); USA (8.23); Iceland (8.04); Denmark (6.40)
Low	Ireland (3.99); Luxembourg (3.87)
Absent	-

Source: authors' calculations based on the official statistical data (OECD, 2023).

Table 6. Distribution of OECD countries by level of debt sovereignty, 2021

Level	Debt sovereignty, %
High	Colombia (86.41); USA (81.90); Mexico (78.64); Iceland (78.50); Turkey (76.05); Denmark (74.56); Chile (74.28); Canada (73.48); Sweden (73.47); Korea (68.65); Poland (67.69); Portugal (64.36); Japan (62.46); Spain (61.31); France (61.08); Hungary (60.92); Estonia (60.58); Slovenia (58.96); Finland (58.02); Italy (57.72); Czech Republic (57.61); Austria (57.15); Lithuania (56.53); Belgium (56.11); Netherlands (56.08); Norway (55.95); Latvia (55.63); UK (55.63); Luxembourg (55.23); Slovak Republic (55.13); Ireland (54.32); Greece (53.96); Switzerland (53.13); Germany (52.43)
Adequate	-
Limited	-
Low	-
Absent	-

Source: authors' calculations based on the official statistical data (OECD, 2023).

Table 7. Distribution of OECD countries by level of stake sovereignty, 2021

Level	Stake sovereignty, %
High	Norway (19.80)
Adequate	-
Limited	Germany (5.78)
Low	Japan (4.32); Denmark (3.65); Belgium (3.64); Switzerland (3.62); Iceland (3.61); Korea (3.42); Canada (3.01); Netherlands (2.96); Austria (1.31); Sweden (0.96); Italy (0.70); Luxembourg (0.11)
Absent	Finland (–0.16); France (–0.26); Chile (–0.62); UK (–0.67); Slovenia (–1.09); Lithuania (–1.27); Estonia (–1.66); Czech Republic (–1.88); Ireland (–3.18); USA (–4.04); Latvia (–4.34); Hungary (–4.50); Spain (–5.46); Portugal (–7.77); Poland (–8.01); Slovakia (–8.80); Mexico (–10.08); Turkey (–10.26); Colombia (–10.36); Greece (–19.27)

Source: authors' calculations based on the official statistical data (OECD, 2023).

real yield of debt instruments and the lower liquidity of the debt segment of the financial market compared to the monetary segment, as well as by the wide range of techniques used by investors to assess investment risks when forming their investment portfolios.

Table 7 and Appendix show the distribution of OECD countries by level of stake sovereignty.

Analysis of the data in Table 7 reveals a negative trend in the area of stake sovereignty of countries. In contrast to monetary and debt sovereignty, most countries have either a low level of stake sovereignty or its complete absence. Countries that are heavily reliant on foreign capital include Spain, Portugal, Poland, Slovakia, Mexico, Turkey, Colombia, and Greece. This situation stems not only from the transfer of financial capital ownership to foreign entities but also from the irrational distribution of financial resources. This irrationality has led to the depreciation of assets of the analyzed countries, resulting in the formation of negative values of financial capital.

In summary, it should be noted that in 2021, OECD countries managed to ensure financial sovereignty at a high and adequate level. At the same time, the stake sovereignty of these countries had demonstrated threats not only to their financial sovereignty, but also to their financial development. This is because owning stake sources of financial resources implies making and implementing strategic decisions. If these decisions are made by external investors, there can be a conflict of interests between countries and, as a consequence, the financial development of the country that has lost control over the financial capital is inhibited.

5. Discussion

As a result of the study, theoretical and methodological foundations for identifying the financial sovereignty of countries were established. These foundations include the clarification and structuring of the notion of "financial sovereignty", as well as the concept and the analytical tools (indicators and criteria) for its measurement. This study is the first step towards identifying the financial sovereignty of countries using a systematic approach, incorporating such elements as monetary, debt, and stake sovereignty. This distinguishes the current research from previous studies, which were fragmentary and equated financial and monetary sovereignty.

The study is based on the understanding of financial sovereignty as the ability of countries to ensure development through domestic sources of financing. While this differs from the definition of financial sovereignty from the perspective of financial transactions in national currency, it confirms the conclusions of the authors that such countries as the United States, Japan and Canada possess total financial sovereignty (Kaboub, 2015).

The findings from this study corroborate those outlined in Beau (2020), which suggest that the control of capital is a strategic part of the modern power game, employed to advance national economic interests. This is confirmed by Japan's policy of using predominantly domestic rather than foreign capital to finance its development.

The scientific significance of this research lies in its ability to quantify both the financial sovereignty of countries and its structural elements: monetary, debt, and stake sovereignty. This facilitates the application of quantitative methods in further studies of the financial sovereignty of countries, enabling the identification of influencing factors affecting it, as well as to assess the relationship of financial sovereignty with other macroeconomic categories.

The practical implications of this research involve the potential use of its outcomes in shaping public strategies for countries' financial development, with due consideration given to their financial sovereignties.

Conclusions

Identifying financial sovereignty of countries is a critically relevant research area regarding sovereignty issues. This relevance stems from the present lack of established theoretical concepts related to the essence and content of "financial sovereignty," as well as the absence of comprehensive methodological approaches and analytical tools for its examination and evaluation. This hinders the translation of requirements for ensuring financial sovereignty into a specific strategy and practice of strategic decision-making. This study attempts to address these challenges by developing a novel concept and analytical tools for identifying financial sovereignty.

As a result of the study, the concept of "financial sovereignty" was refined and structured, dividing it into three types: monetary, debt, stake. Additionally, the research produced a new concept for identifying financial sovereignty based on the proportion of domestic sources of financing in the financial resources of countries, as well as a set of analytical tools (indicators and criteria) for its measurement.

The developed indicators and criteria are based on a systematic approach implemented through the use of SNA data on the financial resources of countries, including their classification into financial liabilities and financial capital, as well as internal and external sources. These indicators and criteria allow for the quantitative evaluation of the financial sovereignty of countries, enabling the creation of country rankings and sorting countries by levels of financial sovereignty. This toolkit is very important for assessing their competitive position, identifying threats to financial sovereignty, and making effective policy decisions.

The analytical toolkit developed within this study was used to assess the level of financial sovereignty of OECD countries in 2021, including monetary, debt and stake sovereignty.

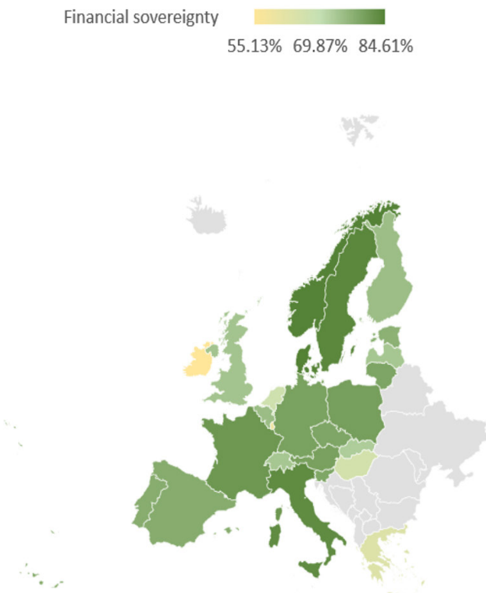
An examination of the financial sovereignty of countries showed that all OECD countries achieved high and adequate levels. At the same time, most countries demonstrated high levels of financial sovereignty. The leaders in the ranking of financial sovereignty were Korea, Japan, Turkey, Iceland, Colombia, USA, while Greece, Luxembourg, and Ireland occupied the lowest positions.

The analysis of the elements of financial sovereignty enabled the assessment of their contributions to the financial sovereignty of the analyzed countries. Thus, a significant contribution to the financial sovereignty of countries was made by monetary and debt sovereignty. Stake sovereignty, on the contrary, had a negative impact on the financial sovereignty of most countries. In addition, the results of the analysis indicated the absence of stake sovereignty in a number of countries (Finland, France, Chile, UK, Slovenia, Lithuania, Estonia, Czech Republic, Ireland, USA, Latvia, Hungary, Spain, Portugal, Poland, Slovakia, Mexico, Turkey, Colombia, and Greece), which revealed the main source of threats to the financial sovereignty of these countries.

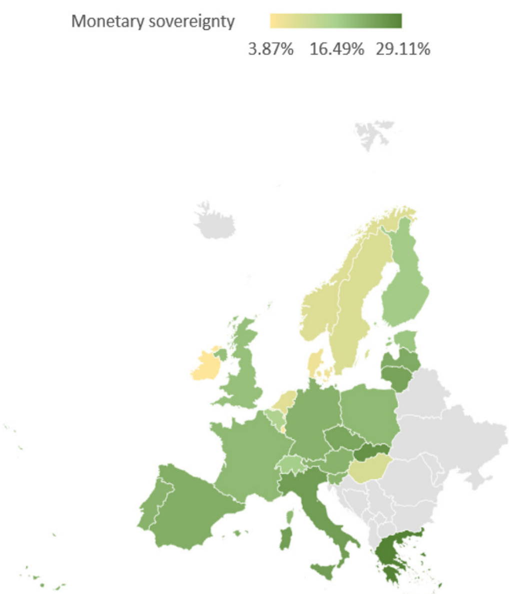
In general, the validation of the developed indicators and criteria confirmed their high representativeness and practical applicability. This allows for the use of these analytical tools for setting strategic goals and monitoring their achievement in the relevant public policies.

Appendix

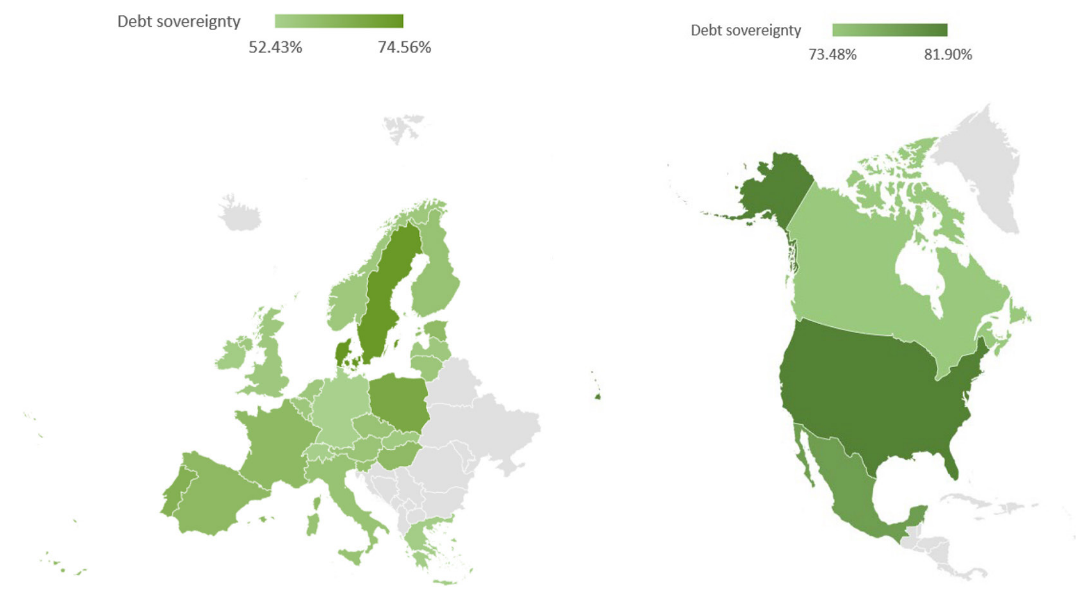
Maps of financial sovereignty of countries



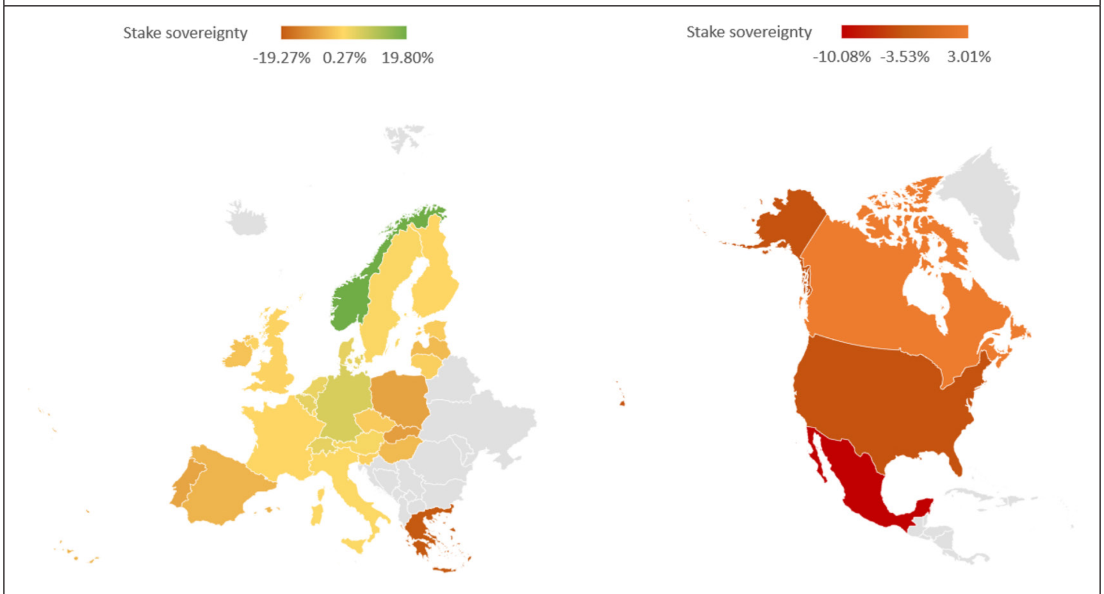
Maps of monetary sovereignty of countries



Maps of debt sovereignty of countries



Maps of stake sovereignty of countries



Source: authors' calculations based on the official statistical data (OECD, 2023).

References

Akcali Gur B. Cybersecurity, European digital sovereignty and the 5G rollout crisis. In: *Computer Law & Security Review,* 2022, 46(105736). DOI: 10.1016/j.clsr.2022.105736

Bassens D., Hendrikse R. Asserting Europe's technological sovereignty amid American platform finance: Countering financial sector dependence on Big Tech? In: *Political Geography,* 2022, 97(102648). DOI: 10.1016/j.polgeo.2022.102648

Beau D. *What financial sovereignty in a digital world?* 2020. Available at: https://www.bis.org/review/r200304c.htm (accessed on 30 August 2023).

Conradie N., Nagel S. Digital sovereignty and smart wearables: Three moral calculi for the distribution of legitimate control over the digital. In: *Journal of Responsible Technology,* 2022, 12(100053). DOI: 10.1016/j.jrt.2022.100053

Dias Blanco G., Fernández-Llamazares Á., Blanco G., Baker J., Tagliari M., Hayata M, Campos M, Hanazaki N. The impacts of mining on the food sovereignty and security of Indigenous Peoples and local communities. A global review. In: *Science of The Total Environment*, 2022, 855(158803). DOI: 10.1016/j.scitotenv.2022.158803

Dudin M.N., Shkodinsky S.V., Ivanov M.O. Current Problems of Ensuring the Financial Sovereignty of Russia in the Context of International Sanctions. In: *Finance: Theory and Practice*, 2023, 27(1), 185–194. DOI:10.26794/2587–5671–2023–27–1–185–194

Edler J., Blind K., Kroll H., Schubert T. Technology sovereignty as an emerging frame for innovation policy: Defining rationales, ends and means. In: *Research Policy*, 2023, 52(6). DOI: 10.1016/j.respol.2023.104765

Emmenegger R. Unsettling sovereignty: Violence, myths and the politics of history in the Ethiopian Somali metropolis. In: *Political Geography*, 2021, 90(102476). DOI: 10.1016/j.polgeo.2021.102476

Everuss L. Mobile sovereignty: The case of 'boat people' in Australia. In: *Political Geography*, 2020, 79(102162). DOI: 10.1016/j.polgeo.2020.102162

Ferguson C., Green K., Swanson S. Indigenous food sovereignty is constrained by "time imperialism". In: *Geoforum,* 2022, 133, 20–31. DOI: 10.1016/j.geoforum.2022.05.003

Jasmine M.F., Fayed M., Emam H. A *New Insight into the Measurement of Central Bank Independence. Econstop.* 2023. Available at: https://www.econstor.eu/handle/10419/217665 (accessed on 30 August 2023).

Kaboub F. *A Note Financial Sovereignty. Scoping Workshop on Monetary Sovereignty.* 2015. Available at: https://ild.hse.ru/data/2015/05/21/1097330887/Kaboub-FinancialSovereignty-2015.pdf (accessed on 30 August 2023).

Lee D., Schelly C., Gagnon V., Smith S., Tiwari S. Preferences and perceived barriers to pursuing energy sovereignty and renewable energy: A tribal nations perspective. In: *Energy Research & Social Science*, 2023, 97(102967). DOI: 10.1016/j.erss.2023.102967

Mercado G., Hjortsø C. Explaining the development policy implementation gap: A case of a failed food sovereignty policy in Bolivia. In: *World Development*, 2023, 166(3). DOI: 10.1016/j.worlddev.2023.106216

Murau S., Klooster J. *How to Rethink Monetary Sovereignty in an Era of Financial Globalization. Global Development Policy Center.* 2022. Available at: https://www.bu.edu/gdp/2022/08/29/how-to-rethink-monetary-sovereignty-in-an-era-of-financial-globalization/ (accessed on 30 August 2023).

Organization for Economic Co-operation and Development. 2023. Financial Accounts Data. Available at: https://stats.oecd.org/Index.aspx?DataSetCode=SNA_TABLE720R (accessed on 30 August 2023).

Richardson M., Stähler F. International Agreements, Economic Sovereignty and Exit. In: *SSRN Electronic Journal*, 2018, 120(103326). DOI: 10.2139/ssrn.3178553

Spinaci S. *Strengthening Europe's Economic and Financial Sovereignty.* 2020. Available at: https://www.europarl.europa.eu/legislative-train/theme-a-stronger-europe-in-the-world/file-eu-financial-sovereignty (accessed on 30 August 2023).

Stella G., Coli R., Maurizi A., Famiani F., Castellini C., Pauselli M., Tosti G., Menconi M. Towards a National Food Sovereignty Plan: Application of a new Decision Support System for food planning and governance. In: *Land Use Policy,* 2019, 89(104216). DOI: 10.1016/j.landusepol.2019.104216

Strating R., Wallis J. Maritime sovereignty and territorialisation: Comparing the Pacific Islands and South China Sea. In: *Marine Policy,* 2022, 141(105110). DOI: 10.1016/j.marpol.2022.105110

System of National Accounts. European Commission, International Monetary Fund, Organization for Economic Cooperation and Development, United Nations, World Bank. 2008. Available at: https://unstats.un.org/unsd/nationalaccount/docs/sna2008.pdf (accessed on 30 August 2023).

Torres I., Niewöhner J. Whose energy sovereignty? Competing imaginaries of Mexico's energy future. In: *Energy Research & Social Science,* 2023, 96(102919). DOI: 10.1016/j.erss.2022.102919

Walker J., Johnson M. On mineral sovereignty: towards a political theory of geological power. In: *Energy Research & Social Science*, 2018, 45, 56–66. DOI: 10.1016/j.erss.2018.07.005

Woods O. A harbour in the country, a city in the sea: Infrastructural conduits, territorial inversions and the slippages of sovereignty in Sino-Sri Lankan development narratives. In: *Political Geography*, 2022, 1–9. DOI: 10.1016/j.polgeo.2021.102521

You Y., Liu F., Yang D. Macroprudential Policy, Capital Flow Management and Monetary Policy Independence. In: *The Quarterly Review of Economics and Finance*, 2023, 88, 116–132. DOI: 10.1016/j.qref.2022.12.009