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CLUSTERING OF EU MEMBER STATES BY THE LEVEL OF DEVELOPMENT OF INSTITUTIONAL INVESTOR ASSET MANAGEMENT

КЛАСТЕРИЗАЦІЯ КРАЇН-ЧЛЕНІВ ЄС ЗА РІВНЕМ РОЗВИТКУ УПРАВЛІННЯ АКТИВАМИ ІНСТИТУЦІЙНИХ ІНВЕСТОРІВ

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The financial landscape within the European Union is characterized by a significant disparity in the development of institutional investor asset management across its member states. Institutional investors, such as pension funds, insurance companies, and investment trusts, are vital in shaping financial markets and influencing economic stability. This study aims to fill the gap in the existing literature by examining the grouping of European Union member-states. The research focuses on examining key attributes, trends, and performance indicators of institutional investor asset management across various EU member-states. It utilizes data from 2017 to 2022, reflecting the average values of financial assets held by institutional investors as a percentage of Gross Domestic Product (GDP). This data provides a critical perspective on the investment landscape within the EU, particularly focusing on investment funds and insurance corporations. A notable observation from the data is the significant variance in the financial assets to GDP ratio among EU countries, with Denmark and France showing exceptionally high ratios, indicating a substantial role of institutional investments in their economies. In contrast, Lithuania and Greece demonstrate much lower ratios. This disparity is further analyzed through cluster analysis, grouping EU member-states into five clusters based on their asset management profiles. The clusters reveal distinct patterns in the distribution and development of asset management across the EU. Countries like Denmark and France, with highly developed financial markets, contrast sharply with those like Lithuania and Greece, which have less mature markets. The study highlights the influence of various factors such as economic structure, regulatory environment, and cultural attitudes towards savings and investment on these disparities. The study suggests that future research should focus on developing comprehensive policy recommendations, taking into consideration the distinct characteristics of each cluster to promote balanced economic growth and stability within the EU.
Keywords: asset management, cluster analysis, comparative analysis, EU member-states, financial markets, institutional investors, investment strategies.

Фінансовий ландшафт Європейського Союзу характеризується значними відмінностями в розвитку управління активами інституційних інвесторів у країнах-членах. Інституційні інвестори, такі як пенсійні фонди, страхові компанії та інвестиційні фонди, відіграють важливу роль у формуванні фінансових ринків та впливають на економічну стабільність. Це дослідження має на меті заповнити прогалину в наявній літературі в контексті групування країн-членів Європейського Союзу. Статтю сфокусовано на вивченні ключових характеристик, тенденцій та показників ефективності управління активами інституційних інвесторів у різних країнах-членах ЄС. Для аналізу використано дані за період з 2017 по 2022 рік, що відображають середню вартість фінансових активів, якими володіють інституційні інвестори, у відсотках від валового внутрішнього продукту (ВВП). Ці показники дозволяють критично оцінити інвестиційний ландшафт в ЄС, особливо інвестиційні фонди та страхові корпорації. Важливим спостереженням з цих даних є значна різниця у співвідношенні фінансових активів до ВВП між країнами ЄС, причому Данія та Франція демонструють надзвичайно високі показники, що свідчить про значну роль інституційних інвестицій в їхніх економіках. На противагу цьому, Литва та Греція демонструють значно нижчі показники. Ця диспропорція додатково аналізується за допомогою кластерного аналізу, який групує країни-члени ЄС у п’ять кластерів на основі їхніх профілів управління активами. Кластери виявляють чіткі закономірності в розподілі та розвитку управління активами в ЄС. Такі країни, як Данія та Франція, з високорозвиненими фінансовими ринками, різко контрастують з Литвою та Грецією, які мають менш зрілі ринки. Дослідження підкреслює вплив різних чинників, таких як економічна структура, регуляторне середовище та культурне ставлення до заощаджень та інвестицій, на ці відмінності. У статті пропонується в майбутніх дослідженнях зосередити увагу на розробці комплексних політичних рекомендацій з урахуванням особливостей кожного кластера для сприяння збалансованому економічному зростанню та стабільності в межах ЄС.

Ключові слова: управління активами, кластерний аналіз, порівняльний аналіз, країни-члени ЄС, фінансові ринки, інституційні інвестори, інвестиційні стратегії.

Statement of the problem. Institutional investors, such as pension funds, insurance companies, and investment trusts, play a pivotal role in the financial markets, influencing capital flows and economic stability. The development of asset management within these institutions significantly impacts the financial dynamics and overall economic health of the countries in which they operate.

However, there is a noticeable disparity in the maturity and sophistication of institutional investor asset management across the EU. This uneven landscape presents a complex challenge, as it affects investment strategies, risk management, and ultimately the economic outcomes for each member state. A key problem is the lack of a comprehensive framework to effectively cluster and compare the EU member-states based on the development level of their institutional investor asset management.

Analysis of recent research and publications. The literature on asset management of institutional investors encompasses a rich array of research examining various facets, challenges, and perspectives encountered by different types of institutional investors, such as pension funds, mutual funds, insurance companies, and investment firms.

For instance, Grybauskas and Pilinkiene emphasize the potential of Real Estate Investment Trusts (REITs) in European real estate markets and use a Data Envelopment Analysis model to compare REITs and Real Estate Operating Companies (REOCs) from 2015 to 2017. Their research uncovers differences in debt maturity types and efficiencies between these entities, suggesting unexploited benefits of REITs in the EU [1, pp. 119-120]. However, the study lacks specific policy recommendations on REIT implementation.

Rizvi, Mirza, Naqvi, and Rahat analyze the effect of the Covid-19 pandemic on EU mutual funds, particularly focusing on risk-adjusted returns and investment styles during different phases of the pandemic. They find social entrepreneurship funds outperformed others, indicating a shift toward safer investments [2, p. 289]. The study provides insights but lacks generalizability beyond the limited data and time period.

Balp and Strampelli discuss the impact of the EU's sustainable finance regulations on asset managers, comparing their performance with counterparts in the US and globally [3, pp. 897–898]. They highlight the need for improved ESG ratings and indices and express concerns about the ability of institutional investors to promote sustainability without stronger regulations.

Rexhepi and Gashi study the growth of pension funds in new EU member states post-reform. They find these funds positively influence local capital markets but caution against potential market distortions [4, pp. 450–451]. The authors recommend that policymakers support institutional investor development to bolster market growth, though the paper mainly focuses on the positives, neglecting potential drawbacks.

Daniels, Stevens, and Pratt address disparities in legal frameworks for private pension funds between the USA and the EU regarding sustainable investment. They observe that while Europe is more progressive in sustainable finance, both regions aim for long-term capital growth [5, pp. 260–261]. The study underlines the importance of legal frameworks but overlooks other influential factors.

Vukašina, Kersan-Škabić, and Orlić assess the impact of European Structural and Investment Funds (ESIF) on GDP per capita in new EU member states. Their research finds a minor positive effect but suggests that ESIFs shouldn't be the sole investment source [6, pp. 869–870]. The study lacks a detailed discussion on the allocation of ESIF investments across sectors.

Staehr and Urke explore the relationship between ESIF funds and public investment in EU member-states, particularly highlighting the Cohesion Fund's support for less developed countries [7, pp. 1053–1054]. They suggest more research into specific categories of public investment and influencing factors but do not provide a comprehensive analysis of these impacts across EU regions.

Luković, Pjanić, Čakajac, and Mitrašević analyze trends in EU insurers' portfolio compositions amidst low interest rates. They observe a predominant focus on debt securities with variations across countries but exclude smaller insurance markets from their analysis [8, pp. 111–112]. The study highlights these trends without delving into the underlying reasons or potential risks.

Identification of previously unresolved parts of the overall problem. While the literature offers valuable insights into various aspects of institutional investor asset management in the EU, there is a notable lack of comprehensive policy recommendations, balanced assessments of benefits and risks, and extensive exploration of underlying factors and long-term impacts. These gaps present opportunities for further research to develop a more holistic understanding of the challenges and opportunities in this field.

Formulation of the objectives of the article. The article aims at examining and comparing key attributes, trends, and performance indicators across EU member-states to identify distinct groups. A critical aspect of this study is to identify patterns and commonalities among countries with similar levels of asset management development, as well as to pinpoint the unique characteristics of each cluster.

Summary of the main research material. The data in Table 1 illustrates the average values of financial assets of institutional investors as a percentage of Gross Domestic Product (GDP) across various European Union (EU) member states from 2017 to 2022. This table provides insights into the investment landscape of these countries, highlighting two key types of assets: investment funds and insurance corporations.

A striking observation is the significant variance in the total financial assets to GDP ratio among these countries. For instance, Denmark (225.0%) and France (194.5%) exhibit exceptionally high ratios, indicating a substantial penetration of institutional investment in their economies. On the contrary, countries like Lithuania (7.2%) and Greece (13.3%) show much lower ratios, suggesting a relatively smaller role of institutional investments in their economies.

Focusing on investment funds, Denmark (108.4%) and Sweden (99.7%) lead with the highest percentages of GDP. This could be indicative of a robust investment culture or favorable regulatory environments in these nations. In contrast, countries like Lithuania (2.6%) and Greece (3.3%) have the lowest percentages, which could be due to various factors including less developed financial markets or differing investment preferences.

Table 1

Average Values of Financial Assets of Institutional Investors as Percentage of GDP in EU Member-States, 2017–2022

Country	Investment funds, % of GDP	Insurance corporations, % of GDP	Total, % of GDP
Austria	48.5	29.8	78.3
Belgium	40.4	70.5	110.9
Czechia	9.3	9.4	18.7
Denmark	108.4	116.6	225.0
Estonia	9.6	5.4	15.0
Finland	59.3	32.3	91.6
France	74.6	119.9	194.5
Germany	67.9	66.2	134.1
Greece	3.3	10.0	13.3
Hungary	15.0	6.6	21.5
Italy	15.3	52.7	68.0
Lithuania	2.6	4.7	7.2
Slovenia	6.7	17.0	23.7
Spain	27.1	25.7	52.8
Sweden	99.7	35.9	135.7

Source: elaborated by the author based on reference [9]

Insurance corporations present another dimension of analysis. France (119.9%) and Denmark (116.6%) demonstrate remarkably high percentages, possibly reflecting a strong insurance sector or a cultural propensity towards insurance products as investment vehicles. Conversely, countries like Estonia (5.4%) and Lithuania (4.7%) have the lowest proportions in this category, pointing towards either a nascent insurance sector or different financial priorities among the populace.

The disparity in these percentages can be attributed to multiple factors such as the maturity of the financial market in each country, the economic structure, regulatory environment, and cultural attitudes towards savings and investment. For instance, high ratios in countries like Denmark and France might be supported by sophisticated financial systems and strong investor confidence. In contrast, lower ratios in countries like Lithuania and Greece might reflect economic challenges, less developed financial sectors, or cultural inclinations towards other forms of savings.

The cluster analysis of EU member-states based on the values of financial assets held by institutional investors, particularly investment funds and insurance corporations as a percentage of GDP, reveals interesting insights about the financial landscape within the European Union. Using the elbow method, the EU member-states data was segmented into 5 clusters. We opted for the minimum value of k (depicted in Figure 1), which accounts for a minimum of 90% of the variability (91.9143%).

Table 2 presents statistics for each cluster and identifies the specific countries included in each cluster.

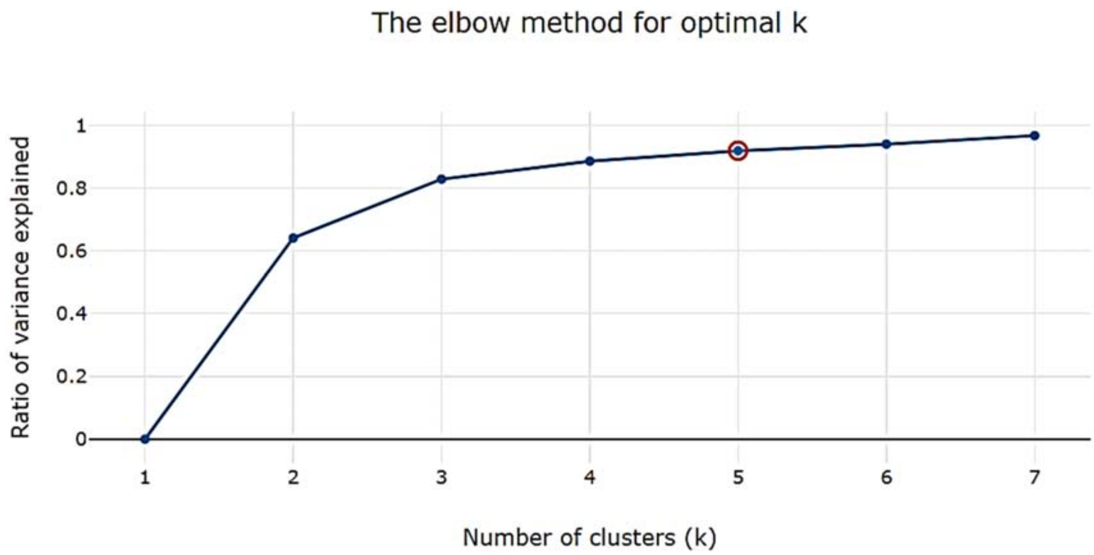

Figure 1. The number of clusters determined by the elbow method

Source: elaborated by the author

Table 2

Clusters of EU Member-States by Values of Financial Assets Held by Institutional Investors

Cluster	EU member-states	Cluster centers	
		Investment funds, % of GDP	Insurance corporations, % of GDP
1	Belgium, Germany	54.2	68.4
2	Italy, Spain	21.2	39.2
3	Denmark, France	91.5	118.3
4	Austria, Finland, Sweden	69.2	32.3
5	Czechia, Estonia, Greece, Hungary, Lithuania, Slovenia	7.8	8.9

Source: elaborated by the author

Cluster 1, comprising Belgium and Germany, shows a balanced distribution between investment funds (54.2% of GDP) and insurance corporations (68.4% of GDP). This cluster suggests a well-developed financial sector where both investment funds and insurance corporations play a significant role in the economy. Germany's robust economy and Belgium's position as a financial hub in Europe might contribute to their higher percentages. The presence of major financial institutions and a culture of saving and investing could explain why these countries cluster together.

Cluster 2, featuring Italy and Spain, has lower percentages in both categories, with 21.2% in investment funds and 39.2% in insurance corporations. This indicates a less developed institutional investment sector compared to Cluster 1. Factors such as recent economic challenges, lower rates of individual investment in funds, and possibly a lesser focus on insurance products might contribute to these countries' positions in the same cluster.

Cluster 3 includes Denmark and France, both showing very high percentages in both categories (91.5% for investment funds and 118.3% for insurance corporations). This cluster represents countries with extremely developed financial markets and high levels of wealth management. The presence of large-scale pension funds, especially in Denmark, and a strong culture of insurance and investment in both countries, are likely contributing factors.

Cluster 4 – Austria, Finland, and Sweden – presents a unique combination where investment funds form a significant portion of the GDP (69.2%), but insurance corporations less so (32.3%). This could reflect a strong culture of investment in funds, possibly due to favorable tax treatments or public trust in the stock market, coupled with a relatively lesser emphasis on insurance products.

Finally, Cluster 5 groups Czechia, Estonia, Greece, Hungary, Lithuania, and Slovenia, all showing low percentages in both categories (7.8% in investment funds and 8.9% in insurance corporations). These are primarily smaller economies within the EU, possibly with emerging financial sectors. This cluster might indicate limited domestic capital available for investment, a young or developing insurance sector, and possibly the impact of recent economic challenges.

Conclusions. The study highlights a marked disparity in the maturity and sophistication of institutional investor asset management across the EU. The differences in the financial assets to GDP ratio between countries like Denmark and France, compared to Lithuania and Greece, underscore the uneven economic landscape.

The research also sheds light on the influence of cultural attitudes, economic structures, and regulatory environments on the development of asset management. For example, the strong presence of insurance corporations in countries like France and Denmark could reflect cultural preferences and a robust regulatory framework.

Future studies should focus on formulating comprehensive policy recommendations. This could involve developing tailored strategies for each cluster, addressing their unique challenges and opportunities in asset management.

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REFERENCES:

1. Grybauskas, A., Pilinkiene, V. (2020) Is the rest of the EU missing out on REITs? *European Journal of Management and Business Economics*, vol. 29, no. 1, pp. 110–122. DOI: https://doi.org/10.1108/EJMBE-06-2019-0092 (accessed January 10, 2024).

2. Rizvi, S.K.A., Mirza, N., Naqvi, B., & Rahat, B. (2020) Covid-19 and asset management in EU: a preliminary assessment of performance and investment styles. *Journal of Asset Management*, vol. 21, pp. 281–291. DOI: https://doi.org/10.1057/s41260-020-00172-3 (accessed January 10, 2024).

3. Balp, G., Strampelli, G. (2022) Institutional Investor ESG Engagement: The European Experience. *European Business Organization Law Review*, vol. 23, pp. 869–904. DOI: https://doi.org/10.1007/s40804-022-00266-y (accessed January 10, 2024).

4. Rexhepi, G., Gashi, B. (2022) The Role of Pension Funds on Capital Market Growth in the New EU Member States. *Ekonomista*, vol. 4, pp. 437–454. DOI: https://doi.org/10.52335/ekon/156779 (accessed January 10, 2024).

5. Daniels, L., Stevens, Y., & Pratt, D. (2021) Environmentally friendly and socially responsible investment in and by occupational pension funds in the USA and in the EU. *European Journal of Social Security*, vol 23 (3), pp. 247–263. DOI: https://doi.org/10.1177/13882627211026930 (accessed January 10, 2024).

6. Vukašina, M., Kersan-Škabić, I., & Orlić, E. (2022). Impact of European structural and investment funds absorption on the regional development in the EU-12 (new member states). *Equilibrium. Quarterly Journal of Economics and Economic Policy*, vol. 17 (4), pp. 857–880. DOI: https://doi.org/10.24136/eq.2022.029 (accessed January 10, 2024).

7. Staehr, K., Urke, K. (2022) The European structural and investment funds and public investment in the EU countries. *Empirica*, vol. 49, pp. 1031–1062. DOI: https://doi.org/10.1007/s10663-022-09549-6 (accessed January 10, 2024).

8. Luković, S., Pjanić, M., Čakajac, B., & Mitrašević, M. (2023) The impact of low interest rates on the insurance companies' portfolio composition in EU countries. *The Annals of the Faculty of Economics in Subotica*, vol. 59, no. 50, pp. 99–114. DOI: https://doi.org/10.5937/AnEkSub2300015L (accessed January 10, 2024).

9. OECD.stat (2024) Institutional Investors' Indicators. URL: https://stats.oecd.org/viewhtml.aspx?datasetcode=QASA_7II_INDIC&lang=en# (accessed January 10, 2024).