



Enforcement actions against European banks in the years 2005–2022. Do financial penalties imposed on European banks follow any patterns?

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Abstract

This study aims to identify, by year and over the entire period under study (2005–2022), the countries with the most restrictive bank sanctioning policies in terms of amounts and numbers of penalties to point out the most active institutions in terms of imposing penalties, and to determine the regularities governing the process of imposing these burdens. Using linear ordering methods, groups of countries with similar levels of supervisory stringency identified with one of the supervisory actions, which are financial penalties, are distinguished. A total of 53 banks (the 50 largest European banks and an additional three banks designated as G-SIIs by the EBA) are identified from a constructed database of more than 300 European banks with penalties imposed between 2005 and 2022. The study's conclusions indicate that the frequency of penalties cannot be clearly equated with the restrictiveness of supervisory institutions, as evidenced by the example of Hungary (multiplication of small penalties). The positioning of countries regarding the number of penalties, their value and grouping using linear ordering allows the conclusion that highly developed countries are characterized by relatively high restrictiveness. The results also show the difference between the Anglo-Saxon and continental models. The analysis in this article is the first comprehensive study of penalties imposed on banks by different types of institutions in 36 jurisdictions from the pre-GFC period up to the year in which the COVID-19 pandemic expired. The multi-faceted approach also provides a basis for formulating practical regulatory implications by redirecting sanctioning policy towards banks to their management and reducing the frequency of penalties while increasing their severity.

Keywords Bank · Supervisory enforcement action · Penalty · European Union · Financial supervision

Introduction

The global financial crisis (GFC) revealed rather aggressive business models of banks accompanied by risky decisions of the managers of these institutions. Moral hazard and state support for liquidity- and solvency-losing banks triggered reforms aimed, among others, at strengthening banks' capital (higher regulatory capital adequacy levels, additional buffers and improving the quality of the structure of the capital), limiting their dependence on the interbank market, increasing liquidity, reducing leverage, relatively higher requirements for institutions important for financial stability and diminishing potential capital savings that in the past were possible due to implementation of internal risk models. All of these reforms were implemented in the wake of the GFC under Basel III and Basel IV frameworks. They were introduced in all the countries covered by this study, although with some minor differences between the

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European and American continents. At the same time, in order to, *inter-alia*, counteract practices that violate the interests of consumers, all types of market manipulation (e.g. LIBOR manipulation discovered in 2012), violations of the law as a result of participation in money laundering and terrorist financing, non-compliance with international sanctions and the policy of penalties imposed on banks have been strengthened.

In the first phase of the study, the diagnostic features of 311 European banks fined between 2005 and 2022 by 36 jurisdictions are selected. In the second phase, the focus is on the largest European banks in terms of assets (as at 31.12.2022) and banks on the European Banking Authority (EBA) list of Global Systemically Important Institutions (G-SIIs) between 2005 and 2022. Fifty largest European banks and an additional three banks designated by the European Banking Authority (EBA) as Global Systemically Important Institutions (G-SIIs). The penalties imposed on these institutions represent approximately 98.72% of the total penalties in value terms. Based on such a sample, the geographical distribution of penalties, trends and the restrictiveness of supervisory institutions are analysed. We consider restrictiveness in terms of the intensity of decisions (frequency) and the value of penalties (severity).

This article aims to determine the top countries by year and over the entire study period (2005–2022) in terms of amounts and numbers of penalties, to identify the most active institutions in terms of penalties and to define the regularities governing the process of imposing penalties. Using linear ordering methods, groups of countries with similar supervisory stringency levels in imposing financial penalties (treated as one of the enforcement actions) are identified. The area of interest also includes answering the question of the impact of fines on the condition of banks and determining which supervisory institutions are subject to a kind of self-restraint in this process so that their sanctioning policy is not recognized as a trigger that amplifies systemic risk.

The remainder of this article is structured as follows. "[Data and methods](#)" section reviews the most significant literature. The next one describes the data and methodology employed in the empirical research. "[Discussion](#)" section presents results that are discussed in Sect. "[Conclusions](#)". The last part of the manuscript summarizes and presents the main conclusions.

Literature review

The subject of analysis in this article is the restrictiveness of supervisory institutions. Research to date in this area can be divided into three main streams.

The first focuses on the restrictiveness of supervisory regulation, which is the subject of periodic analysis by the

World Bank's Bank Regulation and Supervision Survey (BRSS) based on data from 160 jurisdictions. The study of Anginer et al. [1] summarizes the latest BRSS in terms of the evolution in bank capital regulations, capitalization of banks, market discipline and supervisory power (identified with the possibility of reducing dividend and bonuses payments) since the global financial crisis (GFC). They conclude that the reforms after the GFC resulted in an increase in capital requirements, and bank supervision became stricter and more complex. Based on the BRSS data, an index of the restrictiveness regulations is constructed by Kil [20]—this measure is based on the results of the study conducted by Sum [32]. Czaplicki [9] proposes a measure of macroprudential policy restrictiveness, identified with the quotient of a new lending a bank can extend on the basis of its capital surplus above regulatory requirements, and its current volume of loans.

The second strand relates to supervisory powers, which concern, *inter-alia*, the scope of activities and objectives of supervisory institutions and the possibility of imposing sanctions, including pecuniary ones, to a supervised institution, its directors or managers and the scale of these sanctions [21]. Based on a standardized questionnaire, a comprehensive overview of supervisory powers is contained in a report prepared by the Committee of European Banking Supervisors (CEBS). This report maps supervisory objectives and powers across EU banking authorities, focusing on early intervention measures and the actual use of sanctioning powers. In numerous studies, supervisory power (as a kind of sanctioning potential for banks) is subject to parameterization and comparison. The effectiveness of different supervisory instruments and enforcement actions is compared. Thus, for example, Shehzad and de Haan [30] verify the effect of different types of bank supervisory powers on bank risk-taking during the crisis. They conclude that the powers to change the organizational structure of banks are more effective than monetary penalties.

The third strand, most closely related to the considerations in this article, concerns supervisory enforcement actions, particularly the legitimacy and impact of financial penalties imposed on banks by supervisors. A fundamental question arises: are there factors that make certain banks more and others less susceptible to supervisory penalties. Srinivas et al. [31] highlight that while the number of supervisory enforcement actions decreases in the years following the global financial crisis, the penalties imposed on banks intensify and increase. Self-disclosures and proactive communication have an impact on the amount of penalties awarded. Cotugno et al. [7], studying Italian banks from 2009 to 2015 and the penalties imposed on their managers show that the severity of penalties imposed on banks is positively correlated with the rotation of bank boards and negatively with the number of board members.



The impact of penalties imposed on banks clearly affects punished banks and systemic risk, the real economy and other participants in the financial system. Flore et al. [15] note that banks correctly anticipate penalties because they are cash flow-effective but not income-effective in the year the fines are imposed. Regarding the consequences borne by sanctioned banks, according to Srinivas et al. [31], these entities experience both direct (i.e. financial penalties) and indirect costs of supervision enforcement actions (e.g. reputational loss and panic among investors/depositors). Pereira et al. [27] suggest that both investors and depositors can distinguish enforcement actions (including penalties imposed on banks) based on the severity criterion, and the level of stringency determines their reactions. Köster and Pelster [22] find a negative relation between financial penalties and pre-tax profitability of banks and no association with after-tax profitability. It is because banks can deduct penalties from the tax base. At the same time, the aforementioned authors reveal that the capital market reacts positively to the termination of supervisory proceedings, which is manifested by the payment of the penalty. The positive reaction of the capital market is also due to the fact that the financial penalties imposed are smaller than the accrued economic gains from the banks' misconduct. Gowin et al. [16] show that a civil money penalty imposed on a bank adversely affects its market value in the next quarter. Delis et al. (2020) give evidence that total deposits at punished banks decrease in the post-enforcement year. The decline of uninsured deposits is higher than insured ones. Hotori et al. [18] find that imposing penalties on banks reduces the risk of bankers' moral hazard. Roman [28] document that punished banks offset uncertainty and reputational damage of supervision enforcement actions by improving credit conditions and availability for large businesses but reducing credit availability to small companies. This observation is confirmed by Deli et al. [11]. At the same time, the question arises as to how banks can reduce the level of penalties paid. Chaikovska [5] notes that effective compliance function shall result in diminishing fines, penalties and financial sanctions against banks by supervisors. When examining the impact of financial penalties imposed on banks on systemic risk, Köster and Pelster [23] prove that financial penalties increase banks' systemic risk exposure but do not significantly affect banks' contribution to systemic risk. Cotugno et al. [7], on the other hand, highlight that when financial penalties imposed by supervisors are exceptionally severe, they have the potential to damage bank standing and financial stability, while Danisewicz et al. [10] provide evidence that enforcement actions taken by bank supervisors trigger temporarily adverse effects for the real economy. Penalties imposed on banks affect not only the penalized banks, systemic risk or the real economy but also other participants in the financial

system. Zaring [33] highlights that large banks regularly pay huge fines to many different regulators. The aforementioned author argues that under the imposition of a penalty on one large bank, the probability of imposing a penalty for this type of misconduct on other banks of similar size increases significantly. At the same time, the study confirms the lack of discrimination by the US supervisors for foreign banks. Deli et al. [11] find that supervisory enforcement actions against banks result in a reduction in the cost of funding for loan companies, a segment that is sometimes seen as substitutional, other times as competitive with the banking sector. The described impact of penalties imposed on banks on the shadow banking sector's funding cost is due to competition and reputation effects.

In the context of analysing the penalties imposed by supervisory institutions on banks, the effectiveness of these penalties is crucial. The mere amount of penalties and their frequency do not serve their purpose if these penalties are not enforced, as Barth et al. [2] point out, among others. With regard to banks from the European Union, Cuong and Pham [8] conclude that the stringency of supervisory regulation is not strong enough to reduce bank risk. Therefore, the aforementioned authors recommend the introduction of higher penalties for those banks that do not comply with recommendations to reduce the risk level of their businesses. Berger et al. [3] state that severe supervision enforcement actions against banks (institutions, not their managers) are more effective in systemic risk reduction than those less severe and against individual bank managers. Marchionne et al. [26] study the consequences of penalties imposed on local banks in Italy and give evidence that reducing the frequency of penalties and increasing their values would be better. Bank penalties result in a growth of the transparency of the affected institutions and an improvement in the efficiency of banking practices.

The literature review, the content of the analysed database and the proposed research methods allow us to formulate the following hypotheses:

H1 The higher the frequency of penalties imposed, the lower their unit value, which means that the sets of the Top 5 countries in terms of frequency of penalties imposed and, respectively, their value do not overlap.

H2 Relatively higher intensity (in terms of value) characterizes institutions from highly developed countries.

H3 The penalties imposed on banks in the wake of the GFC and LIBOR scandal have had the effect of intensifying compliance at these institutions which resulted in significant reduction in penalties in subsequent periods.



Table 1 Countries and international institutions imposing penalties on banks included in the second stage of the analysis

Specification		
Austria	Ireland	Romania
Denmark	Italy	Slovakia
European Union/EBC	Lithuania	Spain
Finland	Luxembourg	Sweden
France	Netherlands	Switzerland
Germany	Poland	UK
Greece	Portugal	US
Hungary		

Data and methods

The data for the research cover both countries, supervisory institutions and banks. The characteristics of the data are presented later in the section. The survey sample includes national and international supervisory institutions. It consists of (i) banking supervisors, (ii) securities supervisors, (iii) competition/antitrust authorities and (iv) DPAs that imposed financial penalties.

In the first phase of the study, the diagnostic features of 311 European banks fined between 2005 and 2022 by 36 jurisdictions were selected. In the second phase, the focus was on the largest European banks in terms of assets (as at 31.12.2022) and banks on the European Banking Authority (EBA) list of Global Systemically Important Institutions (G-SIIs) between 2005 and 2022. A total of 53 banks are analysed. In addition, the amounts of court judgements resulting from proceedings against banks by the judiciary are also included (Table 1).

The selection criterion is the imposition of financial penalties on at least two European banks selected according to the aforementioned rules. It should be noted that the sample of 53 banks analysed corresponds to 98.72% of the value

of all penalties calculated in absolute amounts among all 308 European banks sanctioned by the European and the US authorities.

The analysis is carried out using linear ordering methods, classified into Multiple Criteria Decision-Making (MCDM), which leads to a ranking from the point of view of the ordering criterion adopted. For this purpose, the Hellwig method (1968) and the TOPSIS method proposed by Hwang and Yoon [19] are used—exemplary variable aggregation methods, which consist in determining the distance of individual objects from a certain defined model object (Table 2).

Adapted from: Hellwig [17], Hwang and Yoon [19], Kukuła and Luty [24]

In the first step of the multidimensional comparative analysis, a selection of diagnostic characteristics is made, taking into account the decisions of supervisory institutions on violating applicable regulations by banks and imposing penalties in quantitative and value terms (Tables 3 and 4).

Linear ordering methods require the determination of quantitative weights for individual variables [6, 25, 29]. In the study conducted, the following are used:

- system w1—equal weights are assumed for all variables, i.e.: $w_k = \frac{1}{m}$, where: k —number of the indicator ($k = 1, 2, \dots, m$).

In order to check the assumptions made and the sensitivity of the compilation to the weighting system, additional robustness checks are performed according to:

- system w2—the weights are determined based on the expert method—the highest weight is given to diagnostic variable X1-0430, the remaining diagnostic variables X2-X4 are given weights—0.20. Adoption of such a set of weights takes into account the number of penalties assigned as a priority, i.e. the number of cases that were

Table 2 Hellwig and TOPSIS synthetic measure designs

Method	Standardization	Pattern coordinates	Distances of objects from the pattern	Values for the aggregate variable
Hellwig	$z_{ij} = \frac{x_{ij} - \bar{x}_j}{s_j}$	$z_j^+ = \max_i \{z_{ij}\}$	$d_i^+ = \sqrt{\sum_{j=1}^m (z_{ij} - z_j^+)^2}$	$q_i = 1 - \frac{d_i^+}{d_0}$, whereby: typically $q_i \in [0;1]$; $\max_i \{q_i\}$ —the best object $\min_i \{q_i\}$ —the worst object $d_0 = \bar{d}_0 + 2S_d$; $d_0 = \frac{\sum_{i=1}^n d_i^+}{n}$; $S_d = \sqrt{\frac{\sum_{i=1}^n (d_i^+ - \bar{d}_0)^2}{n}}$
TOPSIS	$z_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^m x_{ij}^2}}$	$z_j^+ = \max_i \{z_{ij}\}$ $z_j^- = \min_i \{z_{ij}\}$	$d_i^+ = \sqrt{\sum_{j=1}^m (z_{ij} - z_j^+)^2}$ $d_i^- = \sqrt{\sum_{j=1}^m (z_{ij} - z_j^-)^2}$	$q_i = \frac{d_i^-}{(d_i^+ + d_i^-)}$, whereby: $q_i \in [0;1]$; $\max_i \{q_i\}$ —the best object $\min_i \{q_i\}$ —the worst object



Table 3 Selected characteristics of adopted diagnostic variables

Symbol	Description	Variable profile
X1	Penalties imposed by supervisory authorities in quantitative terms	S-stimulant
X2	The average value of the penalty imposed by supervisory institutions in value terms in relation to the bank's net profit for the year in question	S-stimulant
X3	The average value of the penalty imposed by the supervisory institutions in value terms in relation to the bank's assets in a given year	S-stimulant
X4	Penalties imposed by the antitrust authority in quantitative terms	S-stimulant

Table 4 The basic characteristics of selected diagnostic variables

Specification	X1	X2	X3	X4
Max	482.00	0.082192	0.000376	0.007207
Min	2.00	0.000101	0.000000	0.000008
Arithmetic mean	45.87	0.014517	0.000079	0.001334
Median	12.00	0.001821	0.000011	0.000166
Standard deviation	121.64	0.024392	0.000122	0.002190
V(x) variability coeff	2.65	1.680210	1.549505	1.641550

processed and given a final decision to apply a monetary sanction—as an exemplification of the ‘diligence’ of supervision.

Exploratory analysis plays a key role in the study, which includes both cross-sectional and panel approaches, also taking into account changes over time. The tabular summaries and visualizations related to the topics under study provide the basis for statistical inference, related, among other things, to various types of rankings and data aggregations.

Results

The study on financial penalties imposed on banks is conducted at three levels. First of all, the sanctioned entities are analysed, with the institutions identified by the country where the bank is registered. The second level of analysis looks at the institutions that imposed financial penalties between 2005 and 2022. The inclusion of inference related to the two sides of the subject matter in the study brings about its holistic nature and allows changes and their dynamics to be captured over the years. The third level of the study aims to assess the restrictiveness of supervisory institutions.

The first part of the analysis covers countries where banks with financial penalties are operating. The analysed group of 311 banks fined at least once over the years under consideration operate in 30 countries. However, not all countries are equally represented. The leading countries in terms of the number of fines imposed on banks operating in their territory are Hungary, the UK and Switzerland. Table 5 summarises all countries that ranked in the top

Table 5 Statistics related to the leading countries in terms of the number of penalties received by banks operating in their territory

Country	Number of times in			Number of financial penalties
	Top 1	Top 3	Top 5	
Hungary	12	14	14	901
UK	2	15	17	196
Switzerland	4	11	13	157
Germany	0	3	10	98
Italy	0	5	5	98
France	0	2	9	96
Spain	0	1	4	73
Poland	0	1	9	71
Romania	0	1	3	48
Netherlands	0	1	3	42
Austria	0	0	1	38
Greece	0	0	1	21
Portugal	0	0	1	15

five countries in at least 1 year regarding the number of financial penalties assigned. The number of times between 2005 and 2022 that a country appeared in the rankings as number one, in the top three countries and the top five is indicated. By far, the winner in this ranking is Hungary, ranking first as many as 12 times (in 18 years). Considering the presence in the top five, the UK comes out on top, occupying one of the places 1–5 as many as 17 times. The exact rankings are shown in Table 6.

Significantly different results are obtained by analysing not the number of financial penalties, but their value. The UK and Switzerland are still in the top positions, but Germany takes Hungary's place in the top three. It is because Hungary does not apply high-value fines despite the high number of penalties imposed. Thus (due to the presence of the UK and Switzerland in both sets), H1 is not verified positively. Table 7 shows the shares of each country in the total amount of financial penalties. The first three countries account (by amount) for almost 77% of all fines imposed, while the first 10 countries in this ranking account for 99.2% of all fines. A detailed breakdown of the rankings based on penalty amounts is provided in Table 8, which shows that the countries with the highest penalties



Table 6 Ranking of countries based on the number of penalties received by banks operating in their territory

Year	Ranking of countries based on the number of financial penalties					Number of financial penalties for the country				
	Place 1	Place 2	Place 3	Place 4	Place 5	Place 1	Place 2	Place 3	Place 4	Place 5
2005	Switzerland	Netherlands	UK	France	Germany	5	3	2	2	1
2006	UK	Germany	Switzerland	Netherlands	Spain	5	5	4	2	1
2007	Switzerland	UK	France	Germany	Poland	8	6	1	1	1
2008	Switzerland	Germany	UK	Poland	France	8	4	2	2	1
2009	Switzerland	UK	Hungary	Germany	Poland	10	6	5	2	2
2010	Hungary	France	UK	Switzerland	Poland	51	18	9	8	8
2011	Hungary	Switzerland	UK	France	Poland	242	14	10	5	5
2012	Hungary	UK	Switzerland	Poland	Netherlands	206	16	11	9	5
2013	Hungary	UK	Switzerland	Germany	Poland	142	17	10	7	7
2014	UK	Hungary	Switzerland	Poland	France	24	24	11	5	4
2015	Hungary	UK	Germany	France	Romania	18	16	14	13	12
2016	Hungary	UK	Switzerland	Romania	Germany	36	21	12	11	7
2017	Hungary	Italy	Romania	UK	Germany	18	15	15	10	10
2018	Hungary	Spain	UK	Switzerland	France	27	19	13	13	11
2019	Hungary	Italy	UK	Portugal	Spain	30	18	15	11	10
2020	Hungary	Italy	Poland	Greece	France	28	17	11	9	7
2021	Hungary	Italy	UK	Spain	Austria	42	16	12	8	8
2022	Hungary	Italy	Switzerland	Germany	UK	32	12	10	9	7

Table 7 Statistics related to the leading countries in terms of the value of penalties received by banks operating in their territory

Country	Number of times in			Share [%] of the amount of financial penalties
	Top 1	Top 3	Top 5	
UK	6	14	18	33.4
Switzerland	4	11	17	25.0
Germany	4	10	15	18.3
France	1	5	9	13.4
Netherlands	1	7	7	3.6
Denmark	1	1	1	2.2
Italy	0	2	4	1.6
Spain	0	1	4	0.9
Sweden	1	1	3	0.6
Ireland	0	0	3	0.3
Portugal	0	1	1	0.2
Luxembourg	0	0	1	0.2
Austria	0	0	1	0.1
Poland	0	1	4	0.1
Slovakia	0	0	1	0.0

in a given year (Top 1) account for more than 54% of all penalties.

The average and total values of financial penalties from 2005 to 2022 are shown in Fig. 1. A clear increase in the amount of fines occurred in 2008, 2014–2015 and 2017–2018.

The second part of the analysis concerns institutions that impose financial penalties on banks. Of the 128 institutions that have decided to impose a financial penalty at least once, the majority sanction banks in this way quite sporadically—almost 72% of institutions have imposed a financial penalty no more than six times (see Fig. 2). The highest number of fines by a single institution in this period was 67, representing more than 10% of all burdens of this type. A summary of the 20 institutions most frequently penalizing banks is presented in Table 9. They account for more than 51% of all penalties imposed.

In terms of amounts, the breakdowns are somewhat different from the rankings and analyses of the number of penalties imposed. Figure 3 shows the breakdown of institutions by the value of financial penalties imposed. Almost 76% of fines do not exceed 100 million EUR. Considering all institutions with a share of 1% or more in the total value of financial penalties imposed on banks, we limit the list of 128 institutions to just 16, which account for almost 93% of all financial sanctions (by value). The institutions occupying the first three places on the list (see Table 10) imposed penalties of almost 47% of their whole value.

The third stage of the study is to assess the restrictiveness of supervisory institutions in terms of the relative proximity of each supervision to the ideal solution. For this purpose, rankings of these institutions are constructed using the Hellwig and TOPSIS methods. In this way, two rankings are obtained, which are used to build the final ranking of



Table 8 Ranking of countries in terms of the amount of penalties received by banks operating in their territory

Year	Ranking of countries based on the amount of financial penalties					Share [%] of amount of financial penalties for the country				
	Place 1	Place 2	Place 3	Place 4	Place 5	Place 1	Place 2	Place 3	Place 4	Place 5
2005	Netherlands	UK	France	Switzerland	–	58.17	26.26	12.58	2.98	–
2006	Germany	Netherlands	Switzerland	UK	Spain	68.93	21.69	9.36	0.01	0.01
2007	Switzerland	UK	Germany	France	Poland	82.03	16.95	0.52	0.48	0.01
2008	Switzerland	Germany	Poland	UK	Ireland	76.98	23.00	0.01	0.01	–
2009	Switzerland	UK	France	Italy	Slovakia	79.84	18.57	0.44	0.29	0.24
2010	Germany	Netherlands	France	UK	Switzerland	28.95	25.37	22.27	16.58	6.50
2011	Switzerland	Germany	UK	Sweden	Poland	44.77	30.45	22.62	0.85	0.51
2012	UK	Switzerland	Netherlands	Germany	Sweden	58.08	27.57	10.30	3.37	0.28
2013	Germany	UK	Netherlands	Switzerland	Austria	36.18	21.03	19.85	17.93	3.20
2014	UK	Switzerland	Germany	France	Luxembourg	61.51	33.27	2.08	1.54	1.16
2015	France	Germany	UK	Switzerland	Spain	53.22	22.34	20.84	3.30	0.23
2016	UK	Switzerland	Italy	Germany	Spain	43.59	39.48	10.60	2.50	1.87
2017	Germany	UK	Switzerland	France	Italy	40.16	28.84	27.39	3.13	0.22
2018	UK	France	Netherlands	Switzerland	Germany	65.45	16.41	10.25	4.03	3.11
2019	UK	Italy	Portugal	France	Switzerland	51.65	35.77	6.77	2.10	1.53
2020	Sweden	Spain	Germany	UK	Poland	36.91	33.98	12.86	8.97	2.65
2021	UK	Switzerland	Netherlands	Germany	Ireland	42.88	23.24	22.65	6.00	2.95
2022	Denmark	Switzerland	UK	Germany	Ireland	49.77	21.76	14.65	4.68	4.47

Fig. 1 The average and aggregate value of financial penalties from 2005 to 2022 [EUR million]

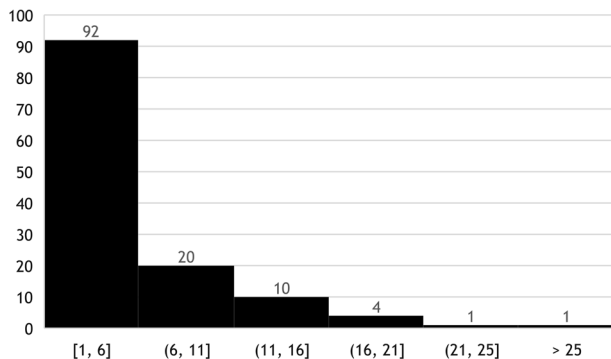
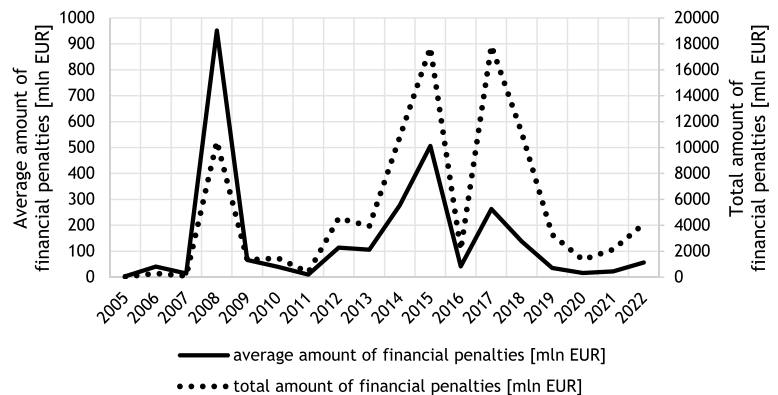


Fig. 2 Breakdown of institutions by the number of financial penalties imposed

supervisors in the 15 countries with the highest activity in imposing penalties on banks (Table 11).

The results obtained—using both the Hellwig and the TOPSIS methods—are close to each other and clearly indicate three groups of countries that can be observed from a restrictiveness point of view (Fig. 4).

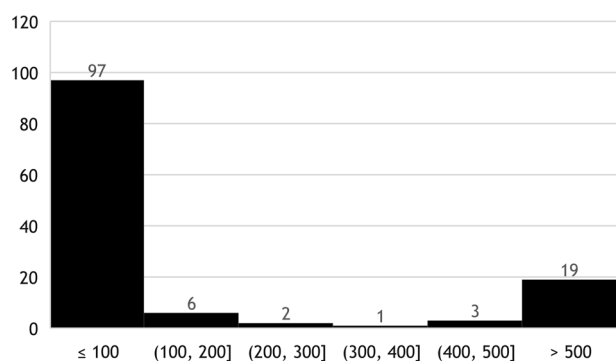
The first group—the most restrictive supervisors—includes the US, the Netherlands, the UK and Sweden. The second group belongs to the medium restrictive supervisors: EU/ECB and France. The last group includes the other supervisors analysed. Robustness checks performed using a different weighting system yield similar results (Table 12).

Although—for understandable reasons—adopting a different weighting system makes the ranking of supervisory



Table 9 Institutions imposing financial penalties on banks most frequently

Institution	Number of financial penalties	Share [%] of financial penalties' number
Italy—Banca d'Italia	67	10.23
Great Britain—The Financial Conduct Authority (FCA)	22	3.36
Austria—Financial Market Authority	21	3.21
Luxembourg—La Commission de Surveillance du Secteur Financier	21	3.21
Justice Department Criminal Division	17	2.60
Poland—Office of Competition and Consumer Protection	17	2.60
Commodity Futures Trading Commission	14	2.14
Federal Reserve	13	1.98
Office of Foreign Assets Control	13	1.98
Securities and Exchange Commission	13	1.98
Romania—AUTORITATEA NAȚIONALĂ, PENTRU PROTECȚIA CONSUMATORILOR—ANPC	13	1.98
Sweden—Finansinspektionen—Financial Supervisory Authority (SFS)	13	1.98
New York Department of Financial Services	12	1.83
Malta—The Financial Intelligence Analysis Unit	12	1.83
Poland—Polish Financial Supervision Authority	12	1.83
Portugal—Portuguese Competition Authority (AdC)	12	1.83
ECB	11	1.68
Hungary—Central Bank of Hungary	11	1.68
Latvia—Financial and Capital Market Commission	11	1.68
Spain—Banco de España	11	1.68

**Fig. 3** Breakdown of institutions by the value of financial penalties imposed [EUR million]

institutions slightly different, it does not change the main distribution of restrictiveness of supervisory institutions obtained with the calculations made using the w1 weighting system.

An analysis of the behavior of 308 banks after two major events (the GFC and the LIBOR scandal) that triggered waves of penalties in 2010–2011 and 2014–2015, respectively, indicates that the penalized institutions have not stopped violating supervisory laws and regulations. The above result implies a negative verification of H3.

Discussion

The research carried out presents the scale of penalties paid by banks. Their value for the period analysed is more than 94.9 billion EUR. It should be noted that only 17 European banks pay as much as 95.54% of the penalties paid by all 308 banks. The results obtained confirm the observations of Anginer et al. [1] that supervisory policy has tightened in the aftermath of the GFC, as well as the conclusions formulated by Srinivas et al. [31] that, despite the reduction in the application of supervisory enforcement actions, the intensity and scale of penalties imposed on banks are increasing. The study carried out allows certain regularities to be formulated. Firstly, the frequency of penalties cannot be unambiguously equated with the restrictiveness of supervisory institutions, as evidenced by the example of Hungary, which applies a policy of multiplying relatively small penalties. Secondly, both the positioning of countries in terms of the number of penalties and their value and the grouping using linear ordering, which takes into account the relative (to a bank's net result and its total assets) amount of sanctions, leading to the conclusion that highly developed countries, including the US, the UK and the Netherlands and Sweden, are characterized by relatively high restrictiveness. It allows for positive verification of H2 and confirms the phenomenon



Table 10 List of 16 institutions with at least 1% of the total financial penalties imposed on banks

Institution	Total amount of financial penalties	Share [%] of financial penalties' amount
Justice Department Criminal Division	16,969.39	18.15
Justice Department Civil Division	14,751.44	15.78
Multistate Attorneys General Case	11,770.87	12.59
Federal Housing Finance Agency	8218.58	8.79
New York Department of Financial Services	5601.86	5.99
US Attorney—Southern District of California	4816.24	5.15
Commodity Futures Trading Commission	4262.28	4.56
UK—Bank of England Prudential Regulation Authority	4249.48	4.55
Great Britain—The Financial Conduct Authority (FCA)	3437.76	3.68
Justice Department Tax Division	2847.38	3.05
Securities and Exchange Commission	2804.42	3.00
Federal Reserve	2622.06	2.80
Netherlands—Dutch Public Prosecution Service (DPPS)	1255.00	1.34
Manhattan (NY) District Attorney	1238.03	1.32
Office of Foreign Assets Control	1047.21	1.12
National Credit Union Administration	1018.59	1.09

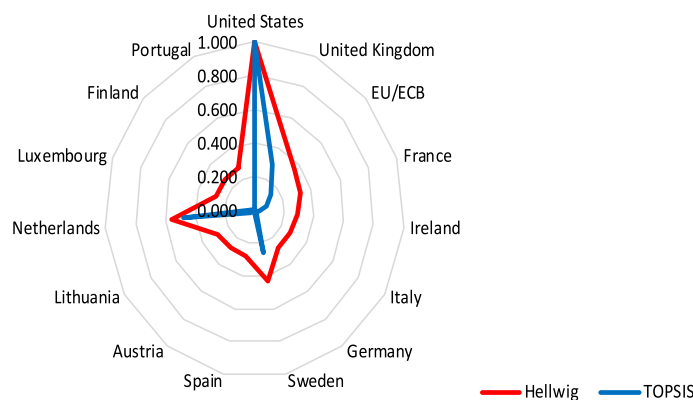
Table 11 Ranking of restrictiveness of supervisory institutions obtained using TOPSIS and Hellwig method

Ranking 1	Hellwig		Topsis	
	W1		W1	
	Scores	Rank	Scores	Rank
US	1.000	1	1.000	1
UK	0.475	3	0.297	3
EU/ECB	0.356	5	0.143	5
France	0.322	6	0.079	6
Ireland	0.285	8	0.025	8
Italy	0.275	11	0.011	12
Germany	0.277	9	0.014	10
Sweden	0.434	4	0.264	4
Spain	0.277	10	0.018	9
Austria	0.273	12	0.013	11
Lithuania	0.290	7	0.032	7
Netherlands	0.555	2	0.476	2
Luxembourg	0.269	14	0.002	15
Finland	0.268	15	0.003	14
Portugal	0.270	13	0.005	13

observed in practice and reflected in empirical studies of the placement of banking FDIs in jurisdictions with relatively laxer regulations and supervisory institutions. Banking FDI placed in countries with lower levels of economic development is determined, among other things, by the search for a softer regulatory and supervisory environment [4]. Thirdly, it is impossible to determine unequivocally which form of banking sector supervision (integrated

supervision, dedicated exclusively to the banking sector outside or in the central bank) is characterized by higher stringency in terms of the propensity to impose penalties on banks. The results also show the difference between the Anglo-Saxon and the continental models—in the latter case, the spectrum of actors imposing penalties is limited to supervisory institutions. When comparing the penalties with the scale of state aid set aside for the banking sector (EC, 2023), the question of the magnitude of the potential impact of bank-induced financial crises and the cost of intervention by supervisory institutions to ensure the stabilization of the financial system nationally and globally reappears once again. Despite an increasing trend since 2005 (with periods of spikes in sanctions), the amount of penalties remains low against the background of public assistance provided to banks balancing on the brink of solvency or liquidity. However, penalties are not the sole and primary funding source for bail-outs. The risks inherent in the conduct of banking business cannot be avoided, and even the best performing supervisory institutions and regulations put in place cannot eliminate excessive risk-taking or illegal or not ethical activities if the variable remuneration of bank managers is closely correlated to the bank's financial performance in the previous financial year. Most legal and supervisory actions cannot force managers to abandon high-risk practices if their personal benefits are not strongly correlated with long-term shareholder value creation. The issue of imposing consequences on those responsible for reprehensible practices is controversial, given, for example, that in modern banking, managers are often insured against the negative consequences



Fig. 4 Restrictiveness of supervisory bodies

of their decisions. Only a small number of people have suffered the consequences of financial crises (both among bank managers, representatives of supervisory institutions, rating agencies, auditing firms, etc.). If the conduct of managers is the main cause of the crisis, the key way to avoid similar cases in future is to firmly and systematically combat such practices. Sanctioning the bank itself only results in reduced profit, decapitalization and diminishing income tax and other levies. Such sanctions are, therefore, ultimately borne by taxpayers. However, the deficiency of supervisory proceedings in the form of relatively lenient treatment of managers is at least partly offset by decisions in broad market discipline, as evidenced by the relatively high rotation of boards in sanctioned banks, as reported by Cotugno et al. [7]. However, the answer to the impact of penalties on risk-taking in subsequent periods is no longer

Table 12 Restrictiveness ranking of supervisory institutions obtained by TOPSIS and Hellwig method using w2 weighting system

Ranking 2	Hellwig		TOPSIS	
	W2		W2	
	Scores	Rank	Scores	Rank
US	1.000	1	1.000	1
UK	0.422	2	0.225	3
EU/ECB	0.326	5	0.101	5
France	0.311	6	0.060	6
Ireland	0.290	7	0.027	8
Italy	0.280	11	0.013	11
Germany	0.278	12	0.011	12
Sweden	0.360	4	0.180	4
Spain	0.286	9	0.025	9
Austria	0.281	10	0.017	10
Lithuania	0.289	8	0.026	7
Netherlands	0.405	3	0.323	2
Luxembourg	0.272	14	0.002	15
Finland	0.273	13	0.003	13
Portugal	0.272	15	0.003	14

clear-cut. Hotori et al. [18] argue for a reduction in moral hazard following penalties imposed on banks. Meanwhile, Cuong and Pham [8] find that the higher stringency of supervisory and regulatory institutions does not lead to a change in risk management policies at penalized banks towards a more prudent approach. The results obtained show that, in some cases, the penalties were characterized by their materiality in relation to the net result (they were imposed even when the bank was incurring losses, although it is difficult to determine unequivocally whether the loss was not caused by the penalty imposed), which confirms the conformity of supervisory practice with the conclusions formulated by Marchionne et al. [26], who recommend reducing the frequency of penalties while increasing their severity. Concerning the above recommendation, the analysis carried out in this article shows the dissimilarity of supervisory policies in Hungary, which, although they impose many penalties, their average value is low. On the other hand, however, high penalties have a negative impact on the standing of a bank that has already experienced deterioration due to market reaction, which, especially for large banks, intensifies systemic risk. It is demonstrated, among others, by Cotugno et al. [7]. At the same time, the results indicate a self-control effect of supervisory institutions, as penalties (especially in Europe) did not represent a significant level of bank capital. Had this been the case, supervisory institutions could have been suspected of being actively involved in eroding banks' equity and destabilizing the financial system. Comparing the US and Europe in this area, it should be noted that the risk of bank decapitalization is taken into account to a relatively lesser extent in the US, where the maximum penalty in the period under review reached 18% of own funds (in Europe, it was less than 6%). The solution, which could prevent illegal practices in future, is high and severe penalties (financial and limiting the ability to hold managerial positions in the banking sector) imposed on individual bank managers, as well as the regulation of variable remuneration, so that it is not paid based on the



assessment of performance over a longer period. Indeed, in the banking sector, the costs of a dynamic and aggressive credit policy appear with a time lag.

Conclusions

The scale and frequency of the fines paid by banks shows a clear collapse of their ethos as institutions of public trust. This study is the first comprehensive analysis of penalties imposed on banks by different types of institutions in 36 jurisdictions from the period before the GFC to the year in which the COVID-19 pandemic expired. The multi-faceted approach used in this study yields conclusions about the restrictiveness of supervisory institutions, identifies similarities in the behaviour of these actors and provides a basis for formulating practical regulatory implications. Restrictiveness in the sense of the propensity to impose penalties cannot be understood solely through the prism of the frequency of punishment, and less frequent but more severe penalties bring about a relatively more significant impact on changing practices. Hungary and the US would be at opposite poles in this context. Relatively high restrictiveness is characteristic of highly developed countries (especially the US, the UK, the Netherlands, Sweden, Switzerland and Germany), and in the US (among other reasons due to the broad spectrum of entities authorized to impose financial penalties on banks), the impact of these charges on net income and own funds is not a rationale for restrictions. At the same time, we have not found any correlation between the size or frequency of penalties and the risk of a country's banking sector as measured by the Z-score. The repetitive nature of the punishment of certain banks leads to the conclusion that penalties do not result in a change in the bank's governance model and a reduction in prohibited practices. In this context, one should agree with Marchionne et al. [26] and recommend a policy of reducing the frequency of penalties with a significant increase in their unit values while recommending coordination among institutions imposing penalties so that the burden does not lead to a significant increase in systemic risk. Such an approach, supported by market discipline mechanisms, can change the risk management model and strengthen compliance. The second recommendation focuses on changing the emphasis of penalty policy and shifting it from the institution to its managers. The fact that the penalized institutions do not stop their illegal or unfair competition practices (and this is reflected in the subsequent fines imposed on them) proves of the ineffectiveness of the system of penalties imposed by supervisory authorities in Europe and the US. The penalties should apply more to managers than to the entities as such. Consideration should be given to standardizing the system of penalties for bank managers,

for which guidelines for national supervisors, formulated by the EBA, would be needed. The penalties should be deterrent and adequate in relation to the managers' involvement in breaking the law and their income. In specific cases, this could be a combination of financial sanctions and periodic bans on holding managerial positions in supervised institutions, for example. It is fairly common for managers to take out insurance against their decisions. However, these policies are paid for not by the managers, but by the banks where they are employed. In this context, a solution worthy of consideration is the introduction of regulations obliging the insured to bear a certain contribution to the payment of compensation for damage caused by them. Third, the conclusions of our study could be used in the methodology for determining ESG (governance) ratings by making the G score dependent on the frequency and relative value of penalties imposed on the bank. This solution could also be incorporated into the regulation on the transparency and integrity of ESG rating activities which is expected to be adopted by the European Union by mid-2024.

The question of the determinants of the high concentration of penalties paid by a dozen European banks in the context of attempts to create a coherent architecture of the supervisory system needs to be deepened (what characteristics make certain banks more susceptible to penalties). In addition, the research should be extended to include analyses of banks' subsidiary practices (to what extent these policies favour escalation of supervisory enforcement actions) and an analysis of the determinants and legal basis for the imposition of penalties by foreign supervisory institutions.

The study conducted also has some limitations. Among the most important are the problems of including all penalties applied by supervisory institutions. Some are secret, or the bank's name is kept secret (e.g. in Belgium and Slovenia)—these are not included in this analysis. In addition, a significant number of banks have generally appealed against the penalties imposed, with the consequence that decisions may have been subsequently amended by judicial institutions or the cases are still pending, the outcome of which may affect the final amount of the penalty. However, it should be noted that these limitations (due to the marginal importance of the cases mentioned) should not fundamentally alter the results obtained, and the conclusions drawn from them.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.



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