Comparison of Capital Adequacy Rules for Credit Institutions and Investment Firms*

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Capital adequacy requirements play a key role in the current prudential regulatory system for the financial sector, both for credit institutions and investment firms. This study summarises how the system of requirements has developed, which elements are similar for credit institutions and investment firms, what the differences are, and what justifies them. It is also examined whether the capital requirement regulatory system for investment firms has become more effective, as a result of the special framework based specifically on the particular risks of investment firms that was developed for them starting in 2021. Finally, the paper also discusses possible directions in which capital requirements regulation may further evolve in these sectors.

Journal of Economic Literature (JEL) codes: F38, G21, G24, G28, N24

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1. Introduction

One exciting issue related to financial sector regulation over the past thirty years has been whether the prudential regulation of credit institutions and investment firms should be the same or different. The main arguments in favour of harmonisation are that credit institutions and investment firms engage in similar activities, and in doing so they take on similar risks, and that different capital adequacy requirements may give rise to competitive advantages or disadvantages in individual sectors, which may lead to undesirable market effects in the long term. In addition, credit institutions themselves provide investment services or own investment firms, and it is simpler for them if they can calculate capital requirements for these activities using the same method as for financial services. However, the rationale for applying different capital adequacy requirements lies in the fact that while in the case of

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credit institutions the vast majority of risks arise from lending activities and thus primarily take the form of credit risk, in the case of investment firms, as they only provide credit to a limited extent and within a narrow scope, their risks mainly take the form of market and operational risk. As regulations have evolved, the focus has shifted from one side to the other, and thus before we go into more detail on the arguments and observable effects, we begin with a brief historical overview showing the sometimes divergent and sometimes convergent development paths of credit institutions and investment firms.

2. Development of capital adequacy requirements for credit institutions and investment firms

2.1. 1980s and 1990s – the beginnings

In the case of banks, own funds and risk-based own funds requirements came to the fore at the end of the 1980s, when the Basel Committee on Banking Supervision published its famous Basel I recommendations in July 1988. On the one hand, Basel I defined in detail the components and conditions of banks' own funds and, on the other hand, it prescribed which banking risks should be taken into account and what methods should be used to calculate capital requirements. The main reason for the establishment of the Basel Committee and the publication of the recommendations was that, starting in the 1970s, the international nature of financial services had become increasingly strong, making it necessary to define internationally accepted minimum requirements that would be capable of preventing or at least anticipating the emergence of crisis situations at individual banks (*Kandrács et al. 2018*). Given that uniform application of such requirements across Europe was already of paramount importance at that time due to the common banking market, in 1989 the European Economic Community implemented the Basel Committee's recommendations through two directives.[1] However, these directives only applied to credit institutions. At that time, no uniform European capital requirements had yet been defined for investment firms.

One significant change was brought about by Council Directive 93/6/EEC of 15 March 1993 on the capital adequacy of investments firms and credit institutions. The main reason for issuing the new directive was that Council Directive 93/22/EEC of 10 May 1993 on investment services in the securities field enabled investment firms authorised and supervised in the EEC to establish branches and provide services freely in other Member States. Opening of the single market also made it necessary to establish a uniform set of requirements for investment firms. The main innovation of Directive 93/6/EEC was that it laid down detailed methods for

[1] Council Directive 89/299/EEC of 17 April 1989 on the own funds of credit institutions; Council Directive 89/647/EEC of 18 December 1989 on a solvency ratio for credit institutions.

calculating capital requirements for the market risks of banks and investment firms, with particular emphasis on position risk, counterparty credit risk/settlement risk and foreign exchange risk. Prior to this, the capital adequacy requirements for banks were based almost exclusively on credit risk, while no uniform capital requirements had been specified for investment firms. Accordingly, Directive 93/6/EEC can be regarded as the starting point to which the rules for calculating capital requirements for credit institutions and investment firms were linked.

However, Directive 93/6/EEC also introduced a number of other important harmonisation requirements in the area of prudential regulation of investment firms. It laid down initial capital requirements which are essentially still in force today, but at that time, in the absence of the euro, they were set at ECU 50,000, ECU 125,000 and ECU 730,000, depending on the activities for which the investment firm was authorised (under the current Directive, these are set at EUR 75,000, EUR 150,000 and EUR 750,000, and thus although the classification criteria have changed somewhat since then, they have not increased significantly in 30 years). In addition, Directive 93/6/EEC required also investment firms to apply the same large exposure regime as banks and laid down rules for supervision on a consolidated basis. Directive 93/6/EEC is considered by Member States to be the predecessor of the current MiFID and, in accordance with Council Directive 93/22/EEC of 10 May 1993 on investment services in the securities field, had to be transposed into national legislation by 31 July 1995, with Member States to apply the rules from 1 January 1996.

The rules in Directive 93/6/EEC defining the calculation of capital requirements for market risks were primarily based on the Basel Committee's recommendations on the same topic, which was published in its final form in 1996,[2] which means that they were developed primarily on the basis of the activities and risks of credit institutions. The Directive and the Basel recommendations introduced two significant changes to the calculation of capital requirements, which also had a major impact on the rules currently in force. First, they introduced the concept of the trading book into the regulations, dividing the positions of banks and investment firms into those held by institutions for the short term for trading purposes and those held for the longer term for investment purposes. This distinction is important because, while credit risk remains significant in the case of assets held for investment purposes (i.e. in the case of a bond, whether the issuer will be able to repay the capital raised upon maturity), in the case of positions taken for trading purposes, the fluctuations of market factors (interest rates, foreign exchange, exchange rates) must be taken into account when calculating capital requirements, as these determine whether the institution will realise a profit or loss on a given position. In the case of positions recorded in the trading book, another new feature

[2] Amendment to the capital accord to incorporate market risks: https://www.bis.org/publ/bcbs24.htm

was that they had to be valued at market value on a daily basis in order to ensure that the resulting profits and losses were properly reported.

It is interesting to note that the rule still in force today, according to which investment firms must have own funds equivalent to at least one-quarter of their fixed overheads for the previous year, was already included in this Directive published in 1993, which is noteworthy because, as also mentioned later in this study, the vast majority of investment firms still use this indicator, which cannot be considered risk-sensitive at all, to determine their final capital adequacy requirement.

Another significant change in the regulatory framework occurred with an amendment to Directive 93/6/EEC in 1998, which – in line with the 1996 Basel recommendations on the calculation of capital requirements for market risks – allowed institutions, with the permission of the supervisory authorities, to calculate their market risk capital requirements not only using a standardised approach, but also by applying internal models developed by themselves. This conceptual shift was introduced for credit risk only later, with the publication of the Basel II framework in 2004. The applicability of internal models was therefore first tested in the case of market risks and was subsequently extended more broadly.

2.2. 2006 – New EU Directives

The next major milestone in the capital adequacy regulation of credit institutions and investment firms came in 2006, when two important new directives were issued, replacing the EU legislation previously in force. Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (CRD) essentially dealt with the prudential regulation of credit institutions, the conditions for taking up and pursuit of the business, and the freedom to provide services; it also included the method for calculating own funds and the capital requirements for credit risk and operational risk. In line with the Basel II recommendations published by the Basel Committee in 2004, the latter already allowed banks to calculate capital requirements based on internal models and required supervisory authorities to set individual additional capital requirements for banks under the SREP procedure, if necessary. Another requirement arising from Basel II was the establishment of detailed disclosure requirements for banks.

Another important EU directive adopted in 2006 was Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions, which repealed Directive 93/6/EEC. Directive 2006/49/EC laid down the initial capital requirements for investment firms and, taking over the provisions of Directive 93/6/EEC, regulated the calculation of

capital requirements for market risks. Directives 2006/48/EC and 2006/49/EC were closely interconnected, *inter alia*, because of the following:

- Directive 2006/48/EC stipulated for credit institutions that were required to keep a trading book to apply the market risk capital requirement calculation set out in Directive 2006/49/EC;
- investment firms were similarly required to calculate capital requirements for credit risk and operational risk in accordance with the rules set out in Directive 2006/48/EC;
- institutions with low trading book exposures could also calculate their market risk capital requirements in accordance with Directive 2006/48/EC;
- investment firms had to calculate their own funds in accordance with Directive 2006/48/EC; and
- Directive 2006/49/EC also incorporated those elements of the Basel II recommendations that allowed supervisory authorities to impose additional capital requirements and introduced detailed disclosure requirements.

Directives 2006/48/EC and 2006/49/EC essentially follow the Basel II recommendations, but there are some differences, as pointed out by *Radnai* and *Vonnák* (*2010*). In their opinion, one of the most important differences is that the Basel II recommendations only apply to large banks operating internationally, while the provisions of the above Directives apply to European credit institutions as well as investment firms. Due to the difference in the scope of application, several detailed provisions in the Directives have been amended, for example, certain rules have been relaxed so that compliance with the requirements would not impose a disproportionate burden on smaller institutions.

2.3. 2013 – CRD/CRR

Adoption of the new CRD/CRR[3] framework in 2013 was a significant milestone in the harmonisation of capital adequacy requirements for credit institutions and investment firms. The fact that the rules defining capital adequacy requirements were transferred from the level of directives to the level of regulations was in itself a significant step forward, as this made them directly applicable in the Member States and prevented Member States from implementing them in a way that would give their own markets a competitive advantage. According to *Tajti* (*2011*), implementation also provided an opportunity to harmonise domestic regulations applicable to credit institutions and investment firms, i.e. to reduce regulatory differences between sectors. Mandatory, uniform and direct implementation also

[3] CRD: Capital Requirements Directive CRR: Capital Requirements Regulation.

enabled the use of a number of other new instruments that would not have been able to function properly under the previous system, such as:

- many detailed rules were laid down in the form of European Commission regulations;
- the European Banking Authority (EBA) was able to develop a Q&A system providing further guidance on the practical application of the rules; and
- the EBA was able to issue guidelines setting out common supervisory expectations for institutions operating in the EU, or setting out supervisory methodologies that can be applied uniformly by the national supervisory authorities of all Member States.

In addition, EU policymakers decided in 2013 to set uniform capital requirements for credit institutions and investment firms in the CRR. This was also reflected in the title of the regulation, and the preamble to the CRR (2) specifically refers to the European Council's decision of 18–19 June 2009, which stated that a single European rulebook applicable to all credit institutions and investment firms in the internal market was also necessary.

Since one of the fundamental objectives of the CRR was the EU-level implementation of the Basel III recommendations issued by the Basel Committee in 2010, and partly included regulatory responses to the 2008 global financial crisis, it remained true that investment firms also had to operate under a capital adequacy regime that was essentially based on the specific characteristics of banking activities. There was a significant difference in the initial capital requirements, as the CRD set an initial capital requirement of EUR 5 million for credit institutions, while for investment firms it retained the previous initial capital requirements, which remained at EUR 50,000, 125,000, or EUR 730,000, depending on the type of investment firm. The CRR itself contained minor differences for investment firms: for example, groups of investment firms were exempt from the application of capital requirements on a consolidated basis, and investment firms carrying out simpler activities could apply simpler capital requirement calculation methods, but the basic principle was uniform capital requirements regulation for credit institutions and investment firms.

2.4. 2019 – IFR/IFD

In 2019, the IFR[4] and IFD[5] were adopted, which fundamentally changed the prudential regulation of investment firms and effectively separated them from the requirements for credit institutions. According to the preamble to the IFR, this was necessary primarily because the CRR rules were designed based on the specific characteristics of credit institutions' activities and were not fully applicable to investment firms. Unlike credit institutions, most investment firms do not pose a systemic risk that would require overly detailed requirements to be imposed on them. Furthermore, they differ from each other in terms of size and activities, so it is appropriate to develop differentiated rules for them. The new rules applicable to investment firms from 2021 are essentially based on the following main principles:

- they take much greater account of the specific characteristics and risks of investment firms' activities than before;
- large investment firms (Class 1) must continue to comply with the CRR requirements, while medium-sized firms (Class 2) have a separate capital requirement framework that takes into account the specific characteristics of investment firms, while the smallest investment firms (Class 3) that perform simple activities must comply with a simplified set of requirements;
- the capital requirement calculation is based on the typical risks of investment firms, in particular the risk arising from exposures to clients, the risk arising from market exchange rate movements, and the risks arising from the operation of the investment firm; and
- the new regulation remains linked to the CRR, so that, for example, the concepts of own funds and many others are the same as those used in the CRR, and investment firms are given the option calculate their capital requirements based on the CRR instead of the IFR.

However, one important change following transition to the IFR/IFD framework was that the capital buffer requirements previously applicable to investment firms under CRD provisions were abolished, while the supervisory review and evaluation process (SREP) applied under Pillar 2, the possibility of imposing specific additional capital requirements in connection with it, and the Pillar 2 guidance tool remained in place.

[4] Regulation (EU) 2019/2033 of the European Parliament and of the Council of 27 November 2019 on the prudential requirements of investment firms and amending Regulations (EU) No 1093/2010, (EU) No 575/2013, (EU) No 600/2014 and (EU) No 806/2014

[5] Directive (EU) 2019/2034 of the European Parliament and of the Council of 27 November 2019 on the prudential supervision of investment firms and amending Directives 2002/87/EC, 2009/65/EC, 2011/61/EU, 2013/36/EU, 2014/59/EU and 2014/65/EU.

The EBA and ESMA[6] also issued joint guidelines on the methodology to be applied in the SREP process for investment firms.[7]

Starting in 2021, the prudential requirements for credit institutions and investment firms was once again separated. The similarities and differences that remain between the capital requirement calculation systems for credit institutions and investment firms are summarised in *Table 1*.

Table 1
Similarities and differences between the capital adequacy calculation rules for credit institutions and investment firms

Similarity	Credit institutions	Investment firms
Calculation of own funds is essentially the same	Capital requirement calculation is primarily based on credit risk	Capital requirements are also calculated on the basis of fixed overheads and initial capital requirements
Pillar 2 and capital guidance	Applicability of internal credit risk models	K-factors
Disclosure requirements	Capital buffers (capital conservation, countercyclical, systemic risk, systemic importance)	There are no capital buffer requirements
Initial capital requirements may also be a minimum level	Uniform capital requirement system	Different capital requirements depending on the specific characteristics of the investment firm (Class 1, 2, 3)
Investment firms may choose to comply with the rules set out in the CRR	Based on the specific characteristics of banking risks	Based on the specific characteristics of investment firm risks
To be met not only at individual level, but also at group level	Prudential consolidation	Possibility of group capital testing for simple groups
Quantitative requirements are supplemented by corporate governance requirements	Supplemented by detailed liquidity requirements (LCR, NSFR)	Supplemented by simplified liquidity requirements

Note: LCR: Liquidity Coverage Ratio, NSFR: Net Stable Funding Ratio

In the second part of the study, we primarily examine the extent to which actual data of credit institutions and investment firms support the need for this amendment.

[6] European Securities and Markets Authority.
[7] Joint EBA and ESMA Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) under Directive (EU) 2019/2034, EBA/GL/2022/09, ESMA35-36-2621, 20 July 2022.

3. Proportions of risks determining the capital requirements of credit institutions and investment firms

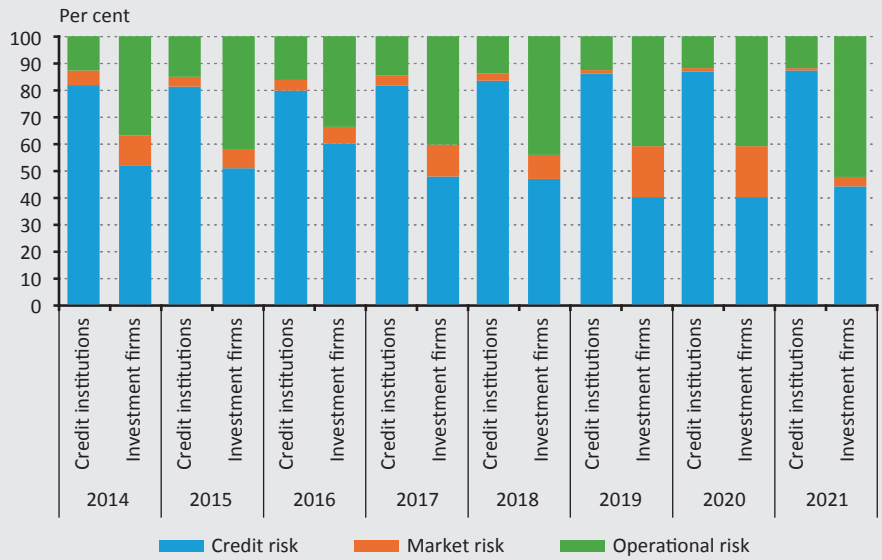
The development of the IFR and IFD rules was a long process. One important milestone in this was the EBA opinion prepared at the request of the European Commission (Call for Advice), in which the EBA summarised its recommendations that should be taken into account in the development of prudential rules for investment firms based on its analysis (*EBA 2015*). In its opinion, the EBA noted that there are very large differences between investment firms in terms of their activities and corporate risks, and therefore a number of exemptions had to be developed for them in the CRD/CRR framework. The EBA therefore recommended to the European Commission that these differences be taken into account in the prudential regulation of investment firms, by classifying investment firms into three groups (Class 1, 2, 3). Another important finding of the EBA opinion is that, for investment firms not covered by the CRR, the principles of proportionality and risk sensitivity justify the development of a new capital requirement calculation framework that better reflects the specific characteristics of investment firms' operations.

The different risk profiles of credit institutions and investment firms are easy to see when we look at the activities they perform. The three most important activities of credit institutions are lending, deposit-taking, and account management and related payment services. From the perspective of capital requirement calculation rules, lending is therefore the most important activity (deposit-taking and account management have more of an impact on liquidity requirements), so in the case of banks, credit risk accounts for the vast majority of capital requirements.

In the case of investment firms, capital requirements depend largely on the activities carried out by the investment firm in question. The main considerations here are whether the investment firm carries out trading on own account, manages client money, provides investment loans, etc. However, since the main activity of investment firms is not lending, their risks differ significantly from those of credit institutions.

To illustrate this, we examined the risks determining the capital requirements of credit institutions and investment firms during the period when investment firms also calculated their capital requirements under the CRR (2014–2021). Supervisory disclosure requirements require national supervisory authorities to publish sector-level statistical data on the institutions they supervise. Under the disclosure requirements, capital requirements must be broken down by credit risk, operational risk and market risk. Based on data published by the MNB, the distribution of these risks for domestic credit institutions and investment firms is shown in the chart below (*Figure 1*).

Figure 1
Breakdown of capital requirements for credit institutions and investment firms by risk type (CRD/CRR) (2014–2021)



Source: Compiled based on supervisory disclosures by the MNB

Figure 1 clearly shows that while the share of credit risk in the total capital requirement for credit institutions consistently remained between 79 and 87 per cent, the corresponding figures for investment firms ranged between only 39 and 59 per cent. The difference is also clearly visible in the share of operational risk, which ranged between 11 and 16 per cent for credit institutions and between 33 and 51 per cent for investment firms, clearly showing that operational risk has a much more significant impact on capital requirements for investment firms than in the case of credit institutions. As regards the share of market risk within capital requirements, this ranges from 0 to 4 per cent for credit institutions, but from 3 to 19 per cent for investment firms, meaning that market risks also have a proportionally greater impact on the capital requirements of investment firms than on those of credit institutions.

Overall, it can thus be concluded that the relative proportions of the types of risk determining the capital requirements of credit institutions and investment firms differ significantly, and while credit risk is of decisive importance in the case of credit institutions, operational and market risk have a much greater impact on the capital requirements of investment firms in terms of proportions.

The main reason for this is that there is a significant difference between the activities of credit institutions and investment firms, as credit institutions predominantly risk depositors' money by granting loans, while investment firms primarily execute client orders when managing funds received from clients and may only engage in speculative transactions on their own account, meaning that their losses also originate from other sources. From a regulatory perspective, another significant difference is that while the risks of credit institutions are primarily reflected in their balance sheets and thus also affect the liquidation assets in the event of liquidation, the client assets managed by investment service providers are not included in the company's balance sheet and are not part of the liquidation assets. This difference also has an impact in that while credit institutions face a high risk of contagion to other businesses and, consequently, systemic risk, this risk is lower for investment firms.

4. Comparison of capital adequacy ratios for credit institutions and investment firms under the CRD/CRR and IFR/IFD frameworks

Under the IFR capital requirement calculation framework, the capital requirement for investment firms classified as Class 2 is the highest of the following three amounts:

- the minimum initial capital requirement;
- a quarter of the fixed overheads calculated on the basis of the previous year's activity;
- the sum of the capital requirements (K-factors) determined for the investment firm on the basis of the risk factors established in accordance with the IFR.

The capital requirement calculation is simpler for investment firms in Class 3, which must meet the higher of the permanent minimum capital requirement or one-quarter of the fixed overheads calculated on the basis of the previous year's activity.

Table 2 shows the system of K-factors used in the capital requirement calculation method based on risk factors for investment firms.

Table 2
Types and content of K-factors

Category	K-factor	K-factor content
RtC (Risk-to-Client) Risk affecting clients	**K-AUM** (Assets Under Management)	Takes into account the risk of losses that may affect clients as a result of improper discretionary management of client portfolios or poor-quality execution.
	K-CMH (Client Money Held)	Takes into account the risk of potential losses that may arise from the investment firm holding its clients' money.
	K-ASA (Assets Safeguarded and Administered)	Covers risks related to the safekeeping and administration of client assets.
	K-COH (Client Orders Handled)	Covers the risk of losses arising from the execution of client orders (on behalf of the client, not on behalf of the investment firm) by the investment firm.
RtM (Risk-to-Market) Risk affecting the market	**K-NPR** (Net Position Risk)	The net position risk arising from the investment firm's own-account activity or from the execution of client orders on behalf of the investment firm, for which the capital requirement is calculated in accordance with the CRR.
	K-CMG (Clearing Margin Given)	An alternative method to K-NPR that can be used if the investment firm conducts trading on own account through clearing members.
RtF (Risk-to-Firm) Risk affecting the firm	**K-TCD** (Trading Counterparty Default)	Capital requirement for the investment firm's exposure to default by its trading counterparties.
	K-CON (Concentration Risk)	Based on concentration risk arising from large exposures to individual counterparties.
	K-DTF (Daily Trading Flow)	Due to operational risk arising from the investment firm's daily trading turnover.

Source: Dakó et al. (2022)

The EBA has published additional information on the capital adequacy data of investment firms operating in the EU, using data published by national supervisory authorities. This includes, among other things, the role that the individual K-factors play in determining the capital requirements of investment firms.[8] This data is presented in *Figure 2*. For better clarity, we have rearranged the data published by the EBA based on the proportion of RtC within the total capital requirement.[9] The chart clearly shows that there are significant differences in the capital requirement structures in individual countries, and there is no uniform EU experience with regard to K-factors. There are two countries (Austria and Latvia) where RtC accounts for 100 per cent of capital requirements, while there is also a country (Spain) where this K-factor accounts for only 1 per cent of total capital requirements.

[8] It should be noted that the final capital requirement for a given investment firm may be based not only on the capital requirement calculated using K-factors, but also on the capital requirement calculated using initial capital or fixed overheads.
[9] Slovenia's data are not included in the chart because they only provided partial data.

The share of market risk is also highly variable, with the highest share in the Netherlands (86 per cent), but also above 70 per cent in Portugal and Ireland. As far as risk affecting the firm is concerned, it plays a particularly important role in Cyprus and Malta. The data for Hungarian investment firms largely reflect the EU average, together with the data for French and German investment firms.

Figure 2
Distribution of K-factor requirements of investment firms (IFR) (2023)

Source: Compiled based on EBA (2024a)

Figure 3 shows the development of the average capital adequacy ratio of domestic credit institutions and investment firms between 2014 and 2025. During this period, the capital adequacy ratios of credit institutions and investment firms remained roughly at the same level. The capital adequacy ratio of credit institutions fluctuated steadily between 17 and 20.8 per cent, while that of investment firms was similar in magnitude, albeit with much greater volatility, with extremes of 19.6 per cent and 47.3 per cent.[10] In her study, *Füstös* (*2016*) highlights that the capital adequacy ratios of Hungarian banks improved significantly between 2003 and 2016 Q3, mainly due to the continuous tightening of capital requirement regulations.

Since investment firms have been no longer calculating their capital requirements based on the CRR but on the IFR since 2021, the data of investment firms must be transformed to a value similar to the credit institution method in order to ensure that capital adequacy calculated according to the CRR and the IFR is comparable. This is necessary because, whereas under the CRR the capital adequacy ratio is

[10] Between the end of 2019 and the end of 2020, the calculated capital adequacy ratio of investment firms increased significantly, which can be explained primarily by the emergence of a new, significant market player. The same applies to the exceptionally high capital adequacy ratios "calculated" according to the IFR until the end of 2023. By the end of 2020, sector-level own funds had increased by 129.44 per cent compared to the end of the previous year, while total risk exposure had increased by only 24.68 per cent.

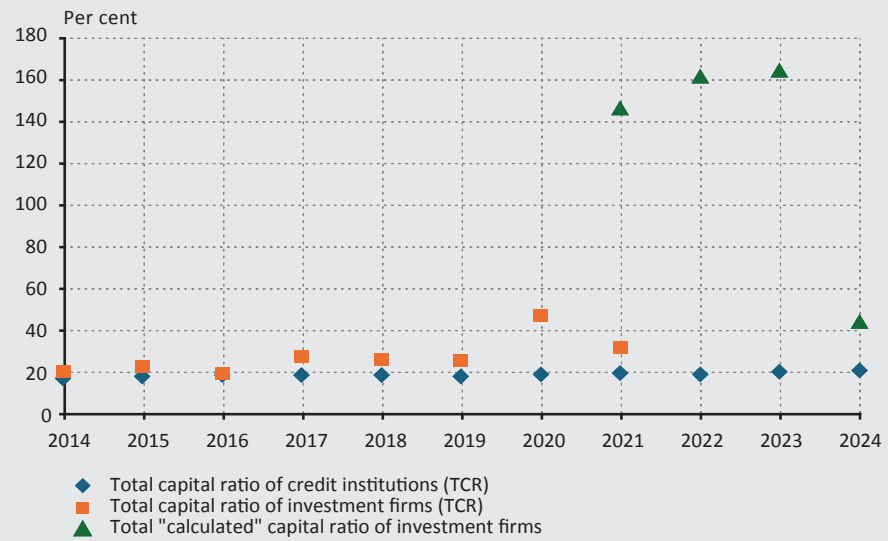
calculated by dividing own funds by the total risk exposure value, under the IFR the capital adequacy ratio is calculated as the ratio of available own funds to capital requirements. In order to make these two values comparable, we multiplied the capital requirement for investment firms by 12.5, as this value approximates the total risk exposure value used in the CRR.

Looking at the capital adequacy ratios published from 2021 onwards, it can be seen that with the introduction of the IFR, the calculated capital adequacy ratios of investment firms differ significantly from those of credit institutions, exceeding them several times over and even reaching values that would be considered almost irrational for a credit institution. In these years, the average calculated capital adequacy ratio of investment firms fluctuated between 44 and 164 per cent, mainly due to the composition effect. While at the end of 2014 there were still 23 investment firms operating in Hungary that submitted supervisory reports, by the end of 2021 there were only 12, and by the end of 2024 their number had dropped to just 9.[11]

Between 2021 and 2023, the extremely high capital adequacy ratio of domestic investment firms was primarily due to the unique effect of the presence of a market participant with special characteristics. This participant had an international background and belonged to a global corporate group, which operated with an exceptionally high capital adequacy ratio in itself. The impact of this was also reflected in the sector-level data. This market player withdrew from the market in 2024, and this market restructuring had a significant impact on the development of the national average capital adequacy ratio. It should also be noted that although the period from 2021 to 2023 should be used as a basis for assessing the impact of the introduction of the IFR, there were a number of other factors during this period (Covid, war, inflation shock) that also influenced the capital adequacy ratio of investment firms. According to the methodological notes published by the MNB on prudential statistical time series (*MNB 2025b*), the majority of Hungarian investment firms do not engage in trading on own account; their business model is dominated by intermediary activities, which is why their capital adequacy significantly exceeds the regulatory minimum requirement. However, due to the different sizes and business models of individual investment firms, there are significant differences in individual capital adequacy. To illustrate these differences, the prudential statistical capital adequacy time series published by the MNB provide institutional values in a tiered manner according to capital adequacy, in addition to the number of institutions.

[11] Source: MNB prudential statistical publications.

Figure 3
Capital adequacy of credit institutions and investment firms in Hungary (2014–2021)

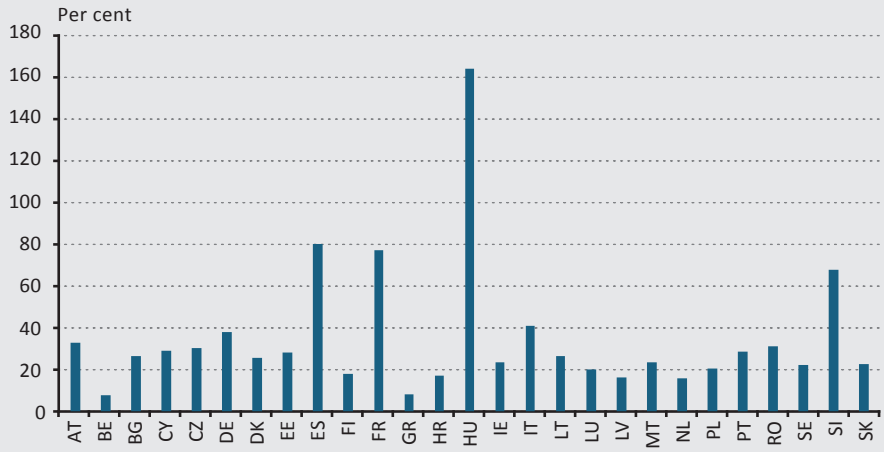


Source: Compiled based on the MNB's prudential statistical publications

Examining the calculated capital adequacy ratios of investment firms by EU Member State (*Figure 4*), it is clear that at the end of 2023 the Hungarian capital adequacy value for investment firms was exceptionally high, as most Member States were within the 20–40-per cent range, subject to significant variation depending on the business model of the investment firms. A detailed analysis covering all EU Member States showing the impact of the introduction of the IFR on capital requirements has not yet been performed, but in their study covering Italian investment firms, *Capone et al.* (2024) used empirical data from supervisory reporting to conclude that the new capital requirement calculation rules introduced by the IFR, which are better tailored to and more sensitive to the specific risks of investment firms, resulted in lower capital requirements, particularly for investment firms engaged in more complex activities (Class 2) and larger-size investment firms.

This leads to the conclusion that the capital requirements calculated using the K-factors in the IFR do not significantly restrict the risk-taking of investment firms in several countries (e.g. Estonia, France and Slovenia) and have a much lower deterrent effect than in the case of credit institutions, while in other EU Member States these values are closer to the capital adequacy ratios typical of credit institutions. To complete the picture, it should be added that by 2024 the average calculated capital adequacy ratio of Hungarian investment firms had also fallen to 33.8 per cent, mainly due to the withdrawal of one major service provider from the Hungarian market; nevertheless, this value remains exceptionally high (*MNB 2025a*).

Figure 4
Calculated average capital adequacy ratio of investment firms in 2023 in individual EU Member States



Source: Compiled based on EBA (2024b)

As mentioned earlier, the capital requirement framework for investment firms also differs from that for credit institutions in that it is determined by the higher of three values: the initial capital requirement, one-quarter of the fixed overheads of the preceding year, or the capital requirement according to K-factors. *Table 3* shows which factor represents the bottleneck, i.e. the final capital requirement, for each investment firm.

At the same time, it is also clear that only about 9.4 per cent of all investment firms listed in *Table 3* (207/2199) had a capital requirement calculated by the K-factors that was the final capital requirement. Even in the case of investment firms operating as financial groups and thus calculating consolidated capital requirements, 77.7 per cent (143 out of 184) have their final capital requirement determined by one-quarter of the fixed overheads of the preceding year. The only difference is that while the K-factor capital requirement ranks second among the factors determining the final capital requirement for investment firms calculating consolidated capital adequacy, for investment firms calculating capital requirements on an individual basis, the ongoing minimum capital requirement represents a larger proportion.

Table 3
Number of investment firms by method of determining final capital requirements at the end of 2023 at the EU level

	Number of investment firms – on an individual basis			Number of investment firms – on a consolidated basis			Total
	Class 2	Class 3	Total	Class 2	Class 3	Total	
Fixed overhead requirement (FOR)	438	865	1,303	94	49	143	1,446
Permanent minimum capital requirement (PMCR)	255	271	526	12	8	20	546
K-factor requirement (pcs)	186	–	186	21	–	21	207
Total	**879**	**1,136**	**2,015**	**127**	**57**	**184**	**2,199**

Note: The EBA notes in the consultation document that not all investment firms and their data are included in the table; the total number of investment firms operating in the EU at the end of 2023 was 2,262.

Source: EBA (2024b)

All of these figures show that, although the capital requirements calculated according to the K-factors were indeed developed taking into account the specific characteristics of investment firms, in practice they cannot effectively fulfil one of the main objectives of setting capital requirements, namely to limit the amount of risks that institutions can take on. The capital requirement calculated according to the K-factors represents an excessively low capital requirement in relation to the own funds of investment firms under the current calibration, which means that the final capital requirement for investment firms is determined primarily not by the K-factors, but rather by fixed overheads or ongoing minimum capital requirements. This situation cannot be considered optimal because, of the three possible methods, the capital requirement based on K-factors is clearly the most risk-sensitive, and so the ideal situation would be for investment firms' capital requirements to be determined primarily by this method, with the other two methods serving only as a kind of backstop, such as the leverage ratio in the case of credit institutions.

However, in assessing the effectiveness of K-factors, it should also be taken into account that the method used to determine the final capital requirement for Class 2 investment firms (FOR, PMCR or K-factor) fundamentally depends on the size and activity profile of the investment firm, and thus the low proportion of K-factor firms is not necessarily or exclusively due to undercalibrated factor coefficients or the insufficient accuracy of certain K-factors.

5. Possible directions for further development

Pursuant to Article 60 of the IFR, the EU Commission, after consulting with the EBA and ESMA, shall conduct a review and, where appropriate, submit a legislative proposal to the European Parliament and the Council, which shall also address the adequacy of the K-factor capital requirement calculation provisions. In September 2024, the EBA also published a consultation paper presenting the state of prudential compliance of investment firms, setting out possible areas for further development and posing questions to market participants (*EBA 2024b*). Based on the comments received, the EBA revised its proposals and published them in October 2025, this time jointly with ESMA (*EBA 2025*).

In their final proposals, the EBA and ESMA consider the categorisation of investment firms in the IFR/IFD framework (Class 1, 2, 3) as fundamentally correct and effective, but identified a number of legal provisions that are not entirely clear and therefore need to be clarified or revised (e.g. the definition of thresholds used for classification, their combined application).

The final report raises the possible review of the capital requirement based on one-quarter of annual fixed overheads. As noted earlier, this rule was already included in Directive 93/6/EC, and its underlying rationale is that an investment firm should be able to continue operating for at least three months even in a crisis situation, so that crisis management or liquidation proceedings can be conducted during that period. Although the EBA raised the possibility in the consultation paper that this three-month period could possibly be extended, the final report states that, based on the comments received and the analyses carried out, the EBA and ESMA consider that it remains appropriate and applicable to all types of investment firms, without distinction based on their activities. The final report also contains detailed proposals for modifying the items that can be deducted when calculating fixed overheads. Currently, a separate European Commission regulation governs the scope of these deductible items,[12] which should be reviewed in line with the proposals.

In addition, the EBA and ESMA reviewed the current framework of K-factors and its possible shortcomings. For example, the K-CoH factor, which measures the risks arising from client orders, does not include the risks arising from the investment service “Placing of financial instruments without a firm commitment basis”. In the case of the K-AUM factor, which measures risks arising from asset management, it would be worth reviewing the definition of investment advice of an ongoing nature. The EBA and ESMA consider it necessary to review and define more accurately the calibration of the capital requirement for operational risk arising from daily

[12] Commission Delegated Regulation (EU) 2022/1455 of 11 April 2022 supplementing Regulation (EU) 2019/2033 of the European Parliament and of the Council with regard to regulatory technical standards for own funds requirement for investment firms based on fixed overheads.

trading activity (K-DTF), as it may result in lower capital requirements in some cases, while the use of the capital requirement for concentration risk (K-CON) is limited by the IFR to financial instruments in the trading book of investment firms, excluding instruments outside the trading book from its scope, which may result in an inaccurate assessment of actual risk concentrations for Class 2 firms. In addition to these issues, the EBA and ESMA report also identified a number of risks that are not currently fully covered by the K-factors, such as non-trading book exposures, including crypto asset exposures.

In its consultation paper, the EBA also raised the possibility of making the application of FRTB rules mandatory for investment firms belonging to Class 2. In 2019, the Basel Committee issued its recommendations on the renewal of market risk capital requirement calculations, which were named the Fundamental Review of Trading Book. The EU adopted the FRTB rules in CRR3, making them mandatory for credit institutions, but their implementation was ultimately postponed until 2027. Preliminary surveys showed that the FRTB rules would significantly increase the market risk capital requirements for credit institutions. In their final report, the EBA and ESMA recommend that the application of the FRTB should not be mandatory for Class 2 investment firms, but only optional.

Although the EU Commission specifically requested EU authorities to make proposals on ESG issues during the review of prudential regulation of investment firms, the final report of the EBA and ESMA only refers back to the EBA report published in 2023 (*EBA 2023*), in which it expressed its view that capital requirement calculation should remain risk-based in relation to ESG risks, i.e. preferential capital requirements may only be granted or additional capital requirements imposed for ESG risks if this is also justified by risk analyses.

6. Conclusions

In summary, a number of factors justified the decision to differentiate the capital adequacy requirements for investment firms from those for credit institutions. Investment firms engage in different types of activities, have different risk structures and do not carry the same systemic risk as credit institutions. However, the capital adequacy requirements set out in the IFR, which have been applied from 2021, and the related implementing regulations are not yet final, are currently under review and in many cases need to be supplemented or recalibrated. In their current form, the capital adequacy requirements do not adequately fulfil their role of limiting investment firms from taking excessive risks and have different effects on investment firms following different business models. Overall, however, investment firms in the European Union and Hungary operate with high capital adequacy ratios and operate safely, and the review of the regulations aims to ensure that this situation continues in the long term.

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