

## CREDIT OPINION

19 July 2023

Update

✓ Send Your Feedback

### RATINGS

#### European Investment Fund

	Rating	Outlook
Long-term Issuer	Aaa	STA
Short-term Issuer	--	--

### Contacts

Steffen Dyck +49.69.70730.942  
 Senior Vice President  
 steffen.dyck@moodys.com

Samia Benkirane +33.1.5330.1020  
 Associate Analyst  
 samia.benkirane@moodys.com

Dietmar Hornung +49.69.70730.790  
 Associate Managing Director  
 dietmar.hornung@moodys.com

Marie Diron +44.20.7772.1968  
 MD-Global Sovereign Risk  
 marie.diron@moodys.com

### CLIENT SERVICES

Americas 1-212-553-1653  
 Asia Pacific 852-3551-3077  
 Japan 81-3-5408-4100  
 EMEA 44-20-7772-5454

# European Investment Fund – Aaa stable

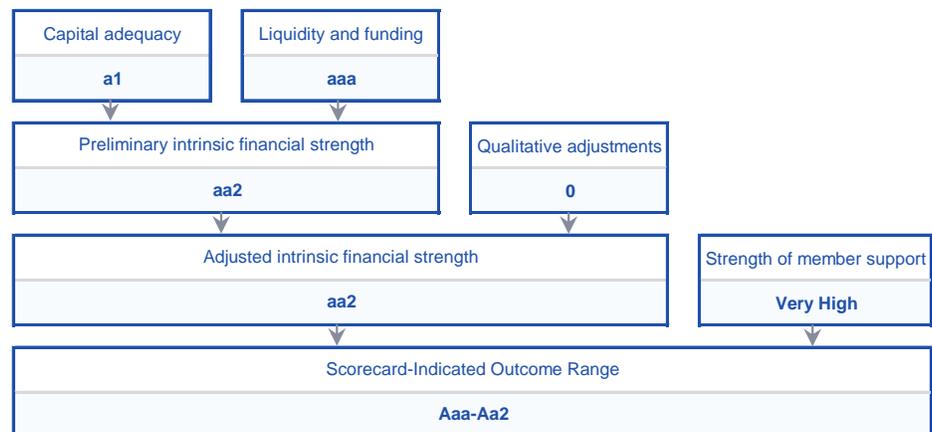
Regular update

## Summary

The [European Investment Fund's](#) (EIF) credit profile reflects its robust capitalisation, very strong liquidity and funding position and the very high ability and willingness to support by its key shareholders, the [European Investment Bank](#) (EIB, Aaa stable) and the [European Union](#) (EU, Aaa stable), which together account for 89.5% of authorised and subscribed capital. EIF's business is inherently risky, which is, however, balanced by a strong track record of low impairments on equity investments and limited guarantee calls. The EIF has preserved its solid capital position in the context of a rapid expansion of its portfolio in 2020 and a more adverse macroeconomic environment in light of the European energy crisis.

Exhibit 1

EIF's credit profile is determined by three factors



Source: Moody's Investors Service

## Credit strengths

- » Very strong liquidity position coupled with no debt outstanding
- » Track record of low impairments on equity investments and limited guarantee calls
- » Very high ability and willingness of key shareholders (EIB and EU) to provide support

## Credit challenges

- » Focus on inherently risky equity participations in small- and medium-sized enterprises
- » Potential risks stemming from periods of rapid business expansion

## Rating outlook

The stable outlook reflects our view that the EIF's credit strengths will be maintained over the coming years. In particular, we expect asset quality and performance to remain very strong even in light of an adverse macroeconomic environment. The EIF's prudent and robust risk management policies are an important support factor in our view.

## Factors that could lead to a downgrade

The rating could come under downward pressure if there was a severe deterioration in the EIF's treasury or equity portfolios, a material rise of called guarantees, and/or rating downgrades of the entity's main shareholders. The rating would also come under pressure if the shareholders were unwilling to provide further capital support or strong risk mitigation as the EIF increases its leverage in a scenario of rapid business growth.

## Key indicators

### European Investment Fund

European Investment Fund	2017	2018	2019	2020	2021	2022
Total Assets (USD million)	2,985.5	3,051.1	3,331.2	3,995.5	5,874.4	5,862.0
Development-related Assets (DRA) / Usable Equity [1]	366.7	457.4	577.9	329.0	312.3	254.1
Non-Performing Assets / DRA	0.0	0.0	0.0	0.0	0.1	0.1
Return on Average Assets	4.6	4.9	6.2	4.1	13.4	1.3
Liquid Assets / ST Debt + CMLTD	--	--	--	--	--	--
Liquid Assets / Total Assets	21.4	19.3	15.1	27.1	25.1	29.7
Callable Capital / Gross Debt	--	--	--	--	--	--

[1] Usable equity is total shareholder's equity and excludes callable capital  
Source: Moody's Investors Service

### Profile

The EIF was founded in 1994 as an EU body owned by the EIB, the European Community (now the EU) – represented by the European Commission (EC) – and a group of mainly European financial institutions. The EIF has a mandate to support the creation, development and growth of small and medium-sized enterprises (SMEs). Its regional focus is mainly on EU member countries, but also those in the European Free Trade Association (EFTA) and in EU candidate and potential candidate countries.

The EIF managed the SME Window of the EU's European Fund for Strategic Investments (EFSI, or the "Juncker Plan"), and now plays a key role in the implementation of InvestEU, the successor to the EFSI. The EIF was also part of the EU's coronavirus crisis response through the Pan-European Guarantee Fund (EGF), which was mainly deployed in 2021.

The EIF designs and implements financial instruments to provide market-based finance to SMEs such as (1) guarantees on tranches of securitisations of SME loans, leases and other debt financings and guarantees on a portion of SME loan portfolios made by financial institutions; and (2) stakes in private equity funds oriented toward investments in SMEs. For this type of funding, the EIF typically requires private investors to contribute at least 50% of the capital (on average, the private-sector contribution is 70%-75%).

The EIF considers itself to be an alternative asset manager, as an increasing share of the financing is done on behalf and at the risk of the EIB and the EU, as well as individual EU member states and their national promotional/development banks ("mandate" resources).

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

## Detailed credit considerations

Our determination of a supranational's rating is based on three rating factors: capital adequacy, liquidity and funding and strength of member support. For Multilateral Development Banks (MDBs), the first two factors combine to form the assessment of intrinsic financial strength, as shown on the cover page graphic. Additional factors can affect the intrinsic financial strength, such as risks stemming from the operating environment or the quality of management. The strength of member support is then incorporated to yield a rating range. For more information please see our [Supranational Rating Methodology](#).

### FACTOR 1: Capital adequacy score: a1

EIF's "a1" capital adequacy score combines a high leverage ratio with excellent asset quality and performance. In contrast to most rated MDBs, the EIF does not extend loans but has a large off-balance sheet ("own-risk") guarantee exposure of €9.5 billion as of year-end 2022, which we incorporate into our credit analysis and key ratios. The EIF also has an unusual combination of large but relatively low-risk guarantee exposures with a portfolio of inherently high-risk private equity funds, including venture capital investments.

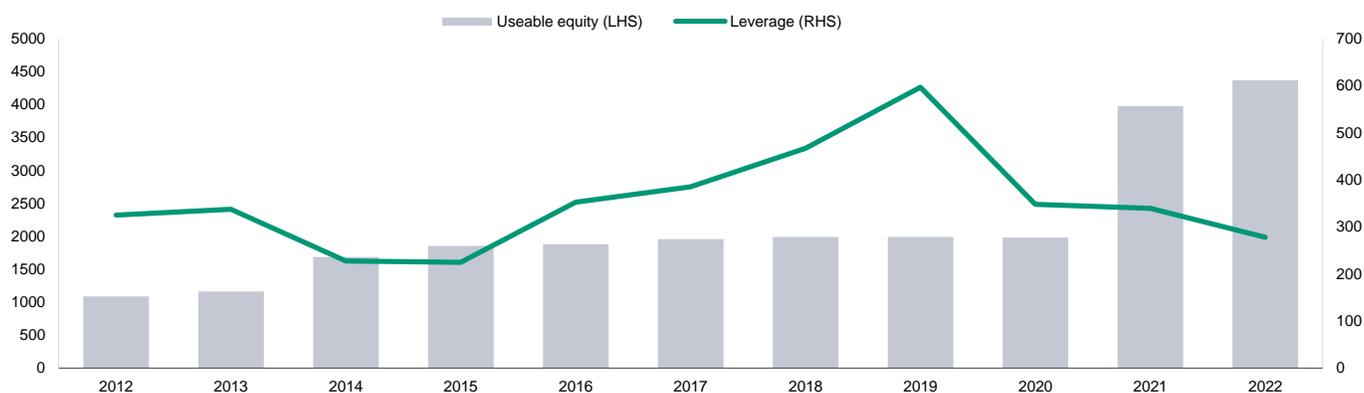
#### High leverage mitigated by large share of mandate business and absence of debt

Our assessment of the EIF's capital position is "baa2". The EIF's leverage ratio assesses the entity's available capital buffer relative to the entity's development-related assets plus liquid treasury assets rated A3 and lower. At 278% as of end-2022, this ratio is still high, but has declined further from 339% in 2021 (Exhibit 3). Due to the large capital increase that took place in 2021 it has decreased significantly from 597% in 2019, a peak that was reached because of rapid business expansion between 2014 and 2019 linked to the EU's multi-year strategic investment programme, the European Fund for Strategic Investments (EFSI).

Prior to the pandemic the EIF had planned to stabilise business volumes at around €10 billion per year in 2020-22, but revisions to the corporate operation plan (COP), reflecting the EIF's participation in the crisis response, resulted in much higher volumes in 2020-21.

Exhibit 3

#### EIF's leverage ratio declined further in 2022 € million and in %



Source: EIF and Moody's Investors Service

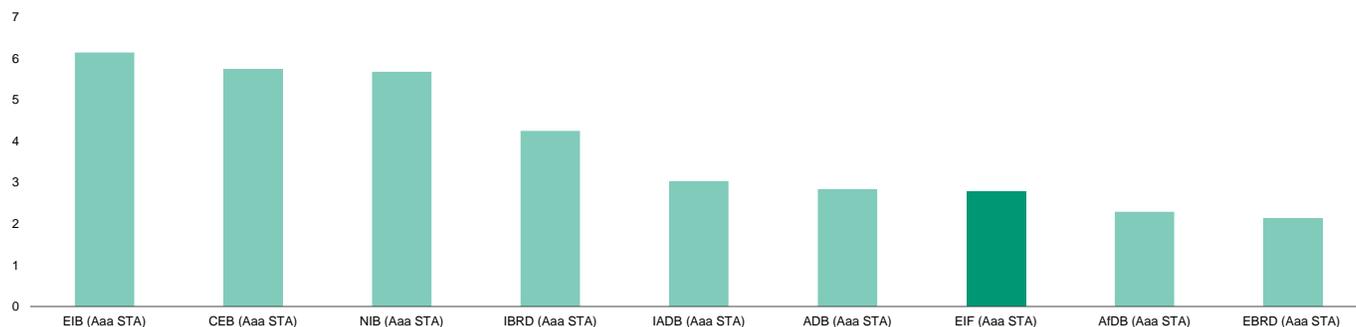
Risks from fast business growth are mitigated by the fact that the vast majority of EIF's business is done under mandate from and at the risk of either the EIB, the EU or individual member states. For instance, in 2022, out of €9.2 billion in total signatures, almost €7.5 billion or almost 82% were done under mandate. In addition, the absence of outstanding debt liabilities means that EIF's useable equity is entirely available to absorb potential losses from business activities. Moreover, the EIF's predominant guarantee business has an inherently lower risk profile than extending loans.

In our view, Aaa-rated MDBs are able to carry much higher leverage than their lower-rated peers because of the strength of their other core credit metrics, and elevated leverage is common among highly-rated MDBs (Exhibit 4). Moreover, the EIF's rising leverage between 2015 and 2019 was a clear indication of the EIF's relevance to and success in achieving the EU's policy goals – in this case to channel financial resources to SMEs in the EU member states.

Exhibit 4

**EIF's leverage ratio is now lower than for some other highly-rated MDBs**

Leverage ratio: Development-related assets and liquid assets rated A3 and lower over usable equity (2022)



Source: Respective MDBs' financial statements and Moody's Investors Service

The EIF's statutes limit the size of the guarantee and securitisation (G&S) portfolio to five times the amount of subscribed capital, which implies a headroom of €36.5 billion at the end of 2022. Similarly, own-risk PE commitments are subject to a statutory ceiling of 70% of own funds.<sup>1</sup> The board also limits the risk appetite (including treasury assets, operational risks and other assets besides the core assets) to 100% of the EIF's own funds. As of year-end 2022, economic capital consumption stood at 52% of own funds.

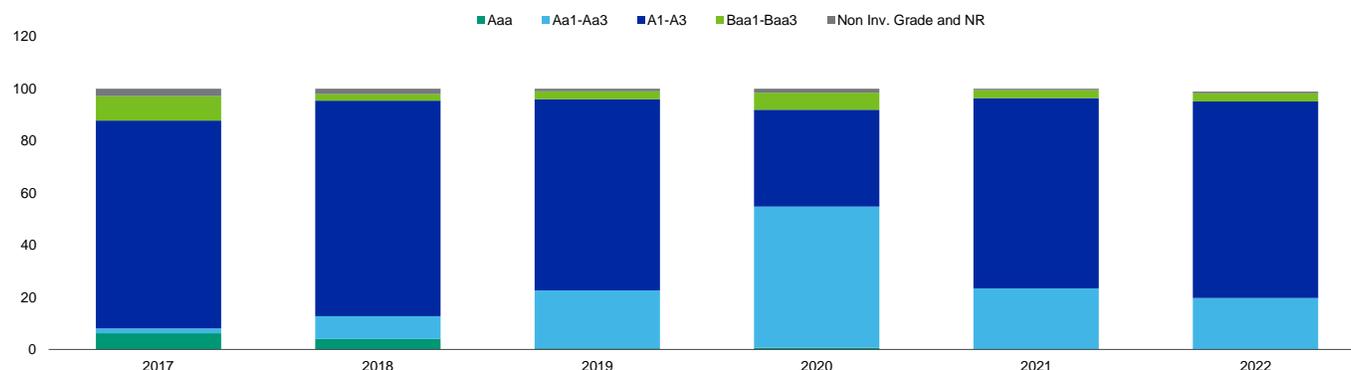
**Very strong development asset credit quality**

Our assessment of the EIF's development asset credit quality at "aa" focuses mostly on the entity's guarantee portfolio, which accounts for over 85% of the own-risk exposure. Riskier equity investments are a small share of the EIF's total exposure. The guarantee portfolio has a high credit quality in itself and benefits from credit protections provided by the EU (Exhibit 5). Portfolio diversification is a further strength. The top-10 exposures accounted for around 24% of EIF's own-risk guarantee portfolio and 15% of the own risk equity portfolio<sup>2</sup> at the end of 2022. For both combined, the concentration was 20.8% in 2022, down from 23.6% in 2021.

Exhibit 5

**Over 96% of the EIF's guarantee commitments were rated in the A-category or above in 2022**

EIF's own-risk guarantee portfolio exposure by retained rating, % share



\*Non-investment grade: Ba1-C, NR: not rated.

Source: EIF and Moody's Investors Service

The key ratio we consider to assess asset performance is the level of non-performing assets, which we score at "aaa". The EIF has a long track record of very strong asset performance, reflecting solid governance and prudent risk management. There have been very limited calls on guarantees and impairments on the equity portfolio in recent years. In 2022, there have been no guarantee calls for the EIF's own risk securitisations and own risk exposures under risk sharing mandates, while calls on guarantees amounted to only €214,000 in 2021, which is insignificant compared with the size of development-related assets. Even at their peak in 2015-2016, non-performing assets accounted for just 1.3% of disbursed development-related assets.<sup>3</sup>

## FACTOR 2: Liquidity and funding score: aaa

We consider the EIF's liquidity and funding position to be very strong and score it at "aaa" on both of the key indicators that we consider. We also take into account that the EIF has no debt outstanding and hence does not face any refinancing risks. It also has good visibility over its cash flow needs, given that it pays out on called guarantees according to the original schedule of payments (non-acceleration clause), such that payments are distributed over several years. The EIF also potentially has access to the ECB's refinancing operations via the EIB.

### Large liquid resources

The EIF has a large and high-quality treasury portfolio at its disposal which stood at roughly €2.9 billion at the end of 2022, broadly in line with the €2.7 billion reported at the end of 2021, but significantly higher than the €1.4 billion in 2020. The portfolio entirely consists of investment grade-rated assets. We consider only highly liquid assets such as cash and short-term bank deposits, as well as securities rated A2 or higher, because we believe only those would be available in a stress scenario at short notice and with minimal loss.<sup>4</sup>

The EIB manages the EIF's long-term bond portfolio which had a market value of €2.1 billion at end-2022, while the EIF directly holds and manages the largest portion of its cash and short-term treasury assets (€391 million, consisting of short-term deposits of €198 million and overnight cash balances at banks of €193 million) for meeting its operational liquidity needs. There is no currency risk in the EIF's treasury portfolio, as all of the assets are invested in euro-denominated securities. The treasury portfolio is also well diversified across countries and sectors.

We consider the size of the available liquid assets relative to cash outflows in a stressed scenario over the coming 18 months, in which the MDB has no access to markets but continues its normal business operations. Because the EIF has no debt outstanding, we simulate a stress scenario by assuming guarantee calls at the peak historic level, while noting that the EIF would have several years to pay out under the guarantees, given the non-acceleration clauses in its guarantee contracts.

### No debt outstanding and no issuance planned, but market access would likely be solid

We also score the EIF at "aaa" on our second key liquidity indicator, the quality and structure of funding. Given the EIF's lack of any debt outstanding and no plans to borrow in capital markets, judging the EIF's potential breadth and depth of market access is a theoretical exercise. However, we view the EIF's very strong liquidity position, as well as the strength and track record of support from its key shareholders, as very strong indication that it would have solid market access. In addition, the EIB's long-standing role as anchor shareholder gives us comfort that the EIB would provide liquidity in the unlikely event it was ever needed.

A further positive feature is that the EIF would potentially have access to the ECB's liquidity operations via the EIB, given that the EIB already manages the largest part of the EIF's treasury portfolio. We factor in this potential access (it has never been tested) by applying an upward adjustment to the EIF's liquidity score.

## Qualitative adjustments to intrinsic financial strength

### Operating environment

We do not make any adjustment for the operating environment. The EIF mainly operates in EU countries, with exposure outside the EU accounting for less than 10% of total development related assets. While the coronavirus pandemic triggered an unprecedented recession in the region, support measures put in place by national governments and European institutions have helped to keep the supply-side of the economies largely intact. Similarly, given the negligible direct exposure of the EIF to the war in [Ukraine](#) (Ca stable) and no signs so far of a negative impact from the weaker macroeconomic environment in Europe, we expect the EIF's business model to remain resilient.

### Quality of management

The EIF's risk management policies are prudent and robust, and its governance principles are of a high standard, as we would expect from a highly rated entity. The risk management department is involved at an early stage in the origination of transactions, and it monitors the performance of existing transactions and the portfolio as a whole on a quarterly basis.

**FACTOR 3: Strength of member support score: Very High**

We assess the strength of the EIF's member support as "Very High", which provides a +3 notch uplift from its intrinsic financial strength profile of "aa2". The assessment reflects the shareholders' strong ability and willingness to support the EIF, as evidenced by the 2021 capital increase and extension of the EIF's mandate, among other features. In addition, the EIB has granted a put option to financial institutions that want to exit their shareholdings at a predetermined price. The EIF and EIB together form the EIB Group, with the EIF's financial accounts consolidated into the Group's accounts. Aaa-rated shareholders account for more than 90% of the EIF's subscribed capital.

**Very strong shareholder ability to provide support**

Our assessment of the ability to provide support is based on the weighted average shareholder rating; in the case of the EIF this stands at Aa1, one of the highest in our rated MDB universe. The EIB is the EIF's largest shareholder, with a share of 59.8% of the EIF's authorised capital of €7.3 billion, followed by the EU, represented by the European Commission with a share of 29.7%, and 38 public and private financial institutions from the EU, the [United Kingdom](#) (UK, Aa3 negative) and [Turkiye](#) (B3 stable), with a total share of 10.5%.

**Large callable capital buffer, strong capital call mechanism and non-contractual commitment by shareholders**

Our score for EIF shareholders' contractual willingness to provide support is "a3". This reflects the size of the callable capital buffer relative to the EIF's asset base and also takes into account the put option offered by the EIB to any private financial institution shareholders should they wish to exit the EIF.

The EIB offers to buy back the shares at a predetermined price, and has done so repeatedly in the past. This Replacement Share Purchase Undertaking (RSPU) has been maintained, also for new shares, for financial institutions shareholders following the 2021 capital increase. The RSPU has been terminated with the EC, reflecting the EC's strong commitment to support the EIF.

In addition, the EIF statutes have an EU law status, superseding national law and hence providing a stronger-than-usual legal basis for the capital call mechanism. The mechanism to call capital is robust and transparent; a capital call has to be honoured within 90 days.

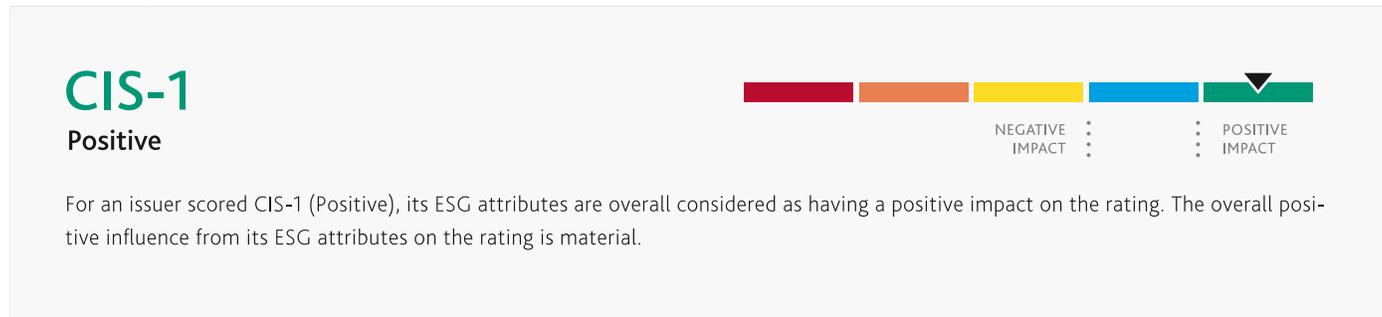
Beyond callable capital we consider the shareholders' non-contractual willingness to provide support to be very high, given the EIF's importance for and expertise in financing SMEs in Europe. The EIF's participation in the EU response to the coronavirus crisis further demonstrates the importance of its mandate for its shareholders.

## ESG considerations

### European Investment Fund's ESG Credit Impact Score is Positive CIS-1

Exhibit 6

#### ESG Credit Impact Score



Source: Moody's Investors Service

The EIF's credit impact score is positive (**CIS-1**), reflecting very limited environmental and social risks and a very strong governance framework. In addition, very strong backing by shareholders provides material support to the rating.

Exhibit 7

#### ESG Issuer Profile Scores



Source: Moody's Investors Service

#### Environmental

The EIF's environmental issuer profile score is neutral-to-low (**E-2**). The Fund exhibits neutral-to-low exposure to environmental risks across all five categories given that its projects are mainly in European countries that face limited environmental risks. As part of the EIB Group, the EIF also plays a role in EU climate policies: for instance Climate & Infrastructure Funds were transferred to EIF from EIB in early 2021.

#### Social

The EIF's social issuer profile score is neutral-to-low (**S-2**), benefitting from strengths in responsible production, and showing neutral-to-low exposure to all other areas of social risk. Being a key financial vehicle to advance the development and growth of small and medium-sized enterprises (SME) across Europe the EIF provides products that support sustainable development.

#### Governance

The EIF's governance issuer profile score is positive (**G-1**). The entity has a very strong governance profile, benefitting from being part of the EIB Group. This is underpinned by its strong risk management and high quality of management, which is reflected in superior asset performance and profitability throughout most of its history. The risk management department is involved at an early stage in the origination of transactions, and it monitors the performance of existing transactions and the portfolio as a whole on a quarterly basis.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

All of these considerations are further discussed in the "Detailed credit considerations" section above. Our approach to ESG is explained in our cross-sector methodology [General Principles for Assessing ESG Risks](#). Additional information about our rating approach is provided in our [Supranational Rating Methodology](#).

## Recent developments

### 2022 financial results are back to normal compared to 2021 levels

Following an exceptionally strong financial performance in 2021, EIF's financial results returned to historical levels with approvals reaching €12.3 billion (from €22.6 billion in 2021) and signatures totaling €9.2 billion (from €30.1 billion in 2021). Net income decreased to €70.4 million from €564 million in 2021, a year marked by higher business volumes due to the implementation of the Pan-European Guarantee Fund (EGF), compared to an average of €120 from in 2014 to 2020 (Exhibit 8).

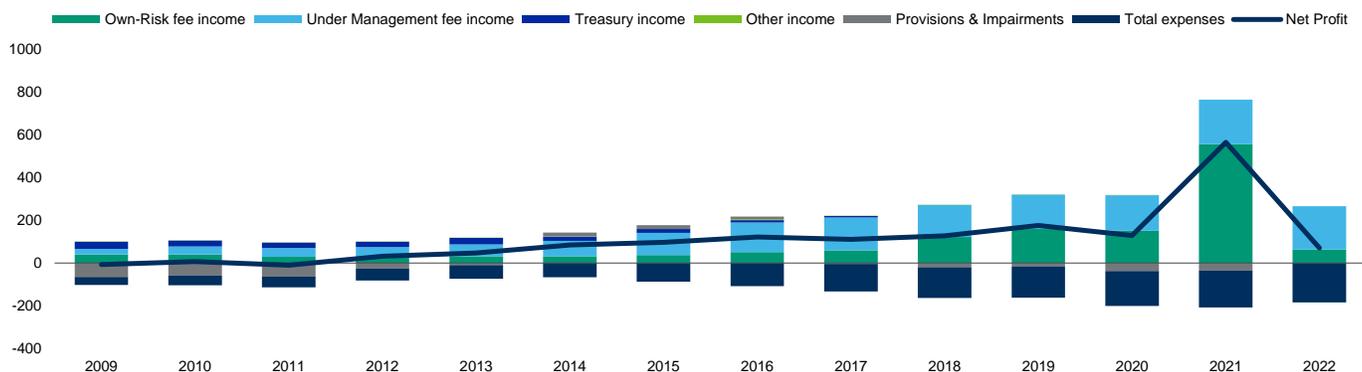
The 2022 financial results were impacted by fair value changes in equity operations amounting €61 million. Total revenues (excluding fair value changes) of €339 million were in line with the COP target while expenses of €184 million were 15% lower than planned due to postponement of IT investments. Including fair value changes, total revenues reached €278 million, with management fees as largest revenue item (€203 million), followed by income from guarantees at €53 million.

Return on Assets (RoA) for 2022 decreased to 6.2%, which, while significantly lower than the 19% in 2021, was still aligned with historical values. The operating margin stood at 39%, up from 27% in 2021 and surpassing historical levels. Following no dividend distributions in 2020 and 2021, reflecting the EIF's voluntary application of European Central Bank guidance, dividend payments of 10% of net operating income were resumed in 2022. EIF's total balance sheet expanded from €5.2 billion in 2021 to €5.5 billion in 2022.

Exhibit 8

### After a very strong year in 2021, EIF's financial performance returned to historical levels

€ million



Source: EIF and Moody's Investors Service

### Negligible direct exposure to the war in Ukraine

The EIF's own risk exposure towards counterparts in Ukraine and Russia is small (€27.9 million), accounting for only 0.2% of the total own risk exposure. The largest portion (€27.2 million) is in Ukraine, and out of the total €26.8 million is covered by guarantees. The EIF has much larger signed exposure in "neighborhood" countries in Central and Eastern Europe, but similarly to the exposure to Ukraine almost 100% of it is covered by guarantees. The EIF does not have any direct exposure through its treasury portfolio, but is subject to mark-to-market impact through rising yields.

### InvestEU will be the main driver of business activity in 2023

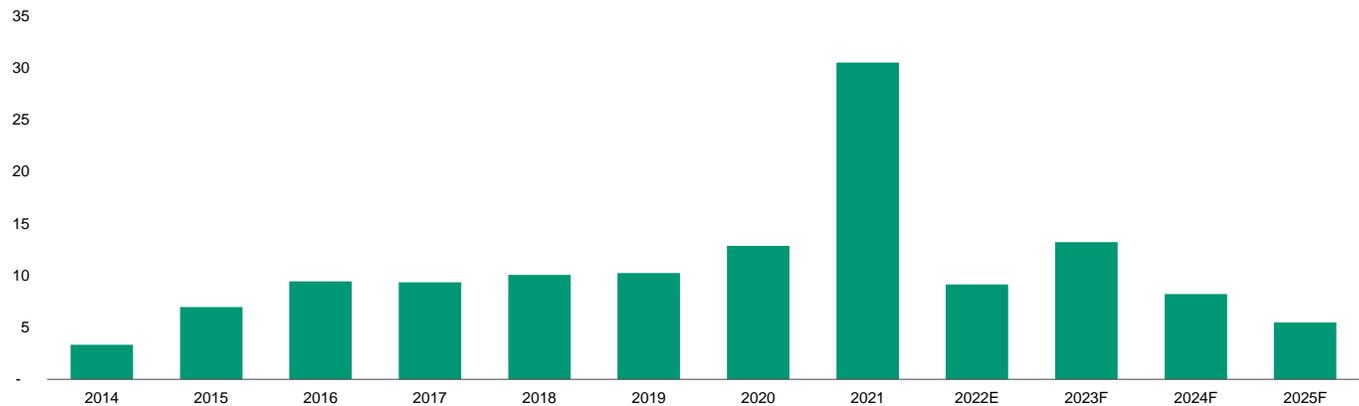
As part of InvestEU, the EU provides an overall guarantee of €26.2 billion to mobilise total additional investments of at least €372 billion by 2027. The Guarantee Agreement between the European Commission and the EIB Group (EIB and EIF together) had been signed in March 2022, allocating 75% of the total guarantee (€19.7 billion) to EIB Group, with the EIF set to manage the larger part of that (€11 billion). The EIF aims to mobilise a total of €145 billion in investments under Invest EU.

Total business volumes will increase to around €13.2 billion in 2023 (of which more than €4.5 billion related to InvestEU), before declining again in 2024 and 2025 (Exhibit 9), according to the EIF's current corporate operational plan (COP).<sup>5</sup> Total revenues are projected to reach €360.6 million in 2023. Expenses will grow to €242.7 million, mainly driven by a digitalization initiative, leading to net income of around €98 million.

Exhibit 9

**Activity will see another year of robust growth in 2023, but not as strong as during the coronavirus pandemic**

€ billion



Source: EIF and Moody's Investors Service

## Rating methodology and scorecard factors: European Investment Fund - Aaa stable

Factor / Subfactor	Metric	Initial score	Adjusted score	Assigned score
<b>Factor 1: Capital adequacy (50%)</b>			<b>a1</b>	<b>a1</b>
<b>Capital position (20%)</b>			<b>baa2</b>	
	Leverage ratio	<b>baa2</b>		
	Trend	0		
	Impact of profit and loss on leverage	0		
<b>Development asset credit quality (10%)</b>			<b>aa</b>	
	DACQ assessment	<b>aa</b>		
	Trend	0		
<b>Asset performance (20%)</b>			<b>aaa</b>	
	Non-performing assets	<b>aaa</b>		
	Trend	0		
	Excessive development asset growth	0		
<b>Factor 2: Liquidity and funding (50%)</b>			<b>aaa</b>	<b>aaa</b>
<b>Liquid resources (10%)</b>			<b>aaa</b>	
	Availability of liquid resources	<b>aaa</b>		
	Trend in coverage outflow	0		
	Access to extraordinary liquidity	+1		
<b>Quality of funding (40%)</b>			<b>aaa</b>	
<b>Preliminary intrinsic financial strength</b>				<b>aa2</b>
<b>Other adjustments</b>				<b>0</b>
<b>Operating environment</b>		0		
<b>Quality of management</b>		0		
<b>Adjusted intrinsic financial strength</b>				<b>aa2</b>
<b>Factor 3: Strength of member support (+3,+2,+1,0)</b>			<b>Very High</b>	<b>Very High</b>
<b>Ability to support (50%)</b>			<b>aa1</b>	
	Weighted average shareholder rating	<b>aa1</b>		
<b>Willingness to support (50%)</b>				
	Contractual support (25%)	<b>baa3</b>	<b>a3</b>	
	Strong enforcement mechanism	+2		
	Payment enhancements	+1		
	Non-contractual support (25%)		<b>Very High</b>	
<b>Scorecard-Indicated Outcome Range</b>				<b>Aaa-Aa2</b>
<b>Rating Assigned</b>				<b>Aaa</b>

**Note:** Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of an issuer's performance as well as for peer comparisons. Additional considerations that may not be captured when historical metrics are used in the scorecard may be reflected in differences between the adjusted and assigned factor scores. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way. For more information please see our Multilateral Development Banks and Other Supranational Entities rating methodology.

## Related websites and information sources

- » [Moody's Supranational web page](#)
- » [Moody's Sovereign and supranational rating list](#)

MOODY'S has provided links or references to third party World Wide Websites or URLs ("Links or References") solely for your convenience in locating related information and services. The websites reached through these Links or References have not necessarily been reviewed by MOODY'S, and are maintained by a third party over which MOODY'S exercises no control. Accordingly, MOODY'S expressly disclaims any responsibility or liability for the content, the accuracy of the information, and/or quality of products or services provided by or advertised on any third party web site accessed via a Link or Reference. Moreover, a Link or Reference does not imply an endorsement of any third party, any website, or the products or services provided by any third party.

## Endnotes

- 1 These limits had been raised in past years. In 2020, the board had raised the statutory limits, to five times the amount of subscribed capital from three times for the G&S portfolio, and to 100% of own funds for the PE portfolio, from 70% previously. The limit for PE investments had already been raised from 50% in 2017, to reflect the increasing focus on the PE business. However, the limit for own-risk PE investments has been lowered again back to 70% following the capital increase in 2021.
- 2 For the equity concentration we use net drawn commitments excluding conditional commitments, at current exchange rates.
- 3 For the calculation of this ratio, we only consider drawn guarantees, instead of total committed guarantees, as part of the denominator.
- 4 More precisely, we include cash and cash equivalents, deposits with a term of less than one year held at financial institutions rated Baa3 or higher, treasury assets rated A2 or higher, and committed, unrestricted and undrawn credit lines with prime lenders with a maturity greater than two years in our calculation.
- 5 See [EIF Operational Plan 2023 - 2025](#), December 2022.

© 2023 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1372228