

此報告取代之前於 2019 年 7 月 22 日發行的全球債券評等準則

全球債券基金評等準則

主要準則

範圍

本準則適用於債務與債類證券投資組合，其中包括短期與長期債券基金、貸款基金、地方政府投資組合 (LGIPs)、債券指數型基金及私人管理的投資組合。這類投資組合可包含各種短期與長期債務及債類工具，例如商業本票、存單、債券、貸款、優先證券、反向買回協議、主權債務、結構性融資證券及信用違約交換 (CDS)。

債券基金評等的授予對象為資產組合，而非單一證券。此一評等概不授予封閉式基金或投資信託發行的債務，惠譽為其另訂準則，請見封閉式基金與市值結構之評等。即便如此，全球債券基金評等準則可用於封閉式基金及投資信託投資組合本身的評等。

評等之主要驅動因素

資產層級評等因素：資產組合的 WARF 來自惠譽為每項資產及／或交易對手設定的信用風險因素，這類因素係以公開評等、信用意見或其他可比較違約風險衡量方式以及到期日作為根據。

資產經理人評估：惠譽檢視投資組合經理人的能力，據以評估經理人是否適格、適任且能管理投資組合。凡是未能通過評估的經理人，惠譽不會對其管理的投資組合進行評等。

法律及法規覆核：投資組合必須通過法律及法規篩選過程，包括投資組合資產的法律隔離與保障。

市場風險敏感度：在特定情況下，惠譽亦可授予輔助性的基金市場風險敏感度評等，以針對投資組合對利率風險、利差風險、匯率波動、槓桿等市場風險因素的敏感度表示意見，端視市場相關性或法規要求而定。

主動評等監控：惠譽要求提供每月的投資組合與相關績效統計資料，以監控各項評等。

本報告包含中文摘譯與英文全文，譯文若與英文有出入，請以英文為準。

This report contains a full report in English and a summary in Chinese. The Chinese version is for reference only and must not be relied on. The English version shall prevail in all circumstances.

Analysts

EMEA

Abis Soetan
+44 20 3530 1311
abis.soetan@fitchratings.com

Minyue Wang
+44 20 3530 1406
minyue.wang@fitchratings.com

Latin America

Davie Rodriguez
+1 212 908-0386
davie.rodriguez@fitchratings.com

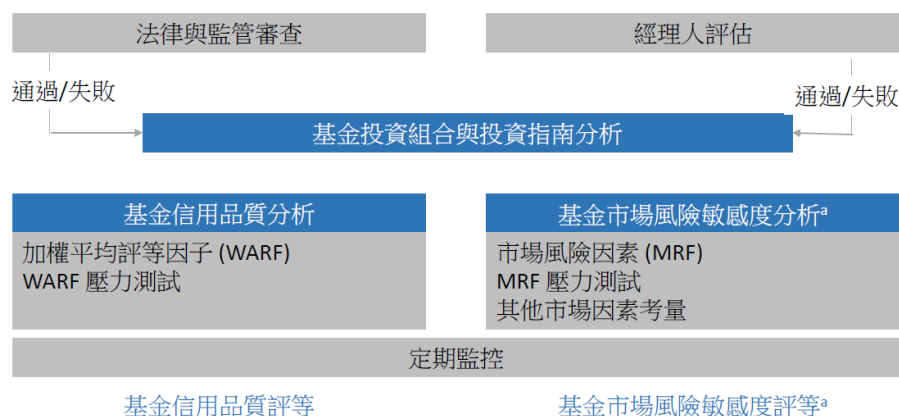
Juan Pablo P. Haro Bayardo
+52 81 4161 7005
juanpablo.harobayardo@fitchratings.com

North America

Peter Gargiulo
+1 212 612-7762
peter.gargiulo@fitchratings.com

Kimberly Green
+1 646 582-4042
kimberly.green@fitchratings.com

全球債券評等準則 - 簡化圖表



基金信用品質評等
 受市場相關性或監管要求影響
 資料來源：惠譽信評

基金市場風險敏感度評等^a

全球債券基金評等準則架構

惠譽全球債券基金評等準則的用途，在於授予投資組合的基金信用風險評等。這類評等係以傳統

「AAA」等級表示，並在末尾加上「f」，有別於證券及發行人的傳統信用評等。為了配合特定市場的市場需求及／或法規要求，該準則亦可用於授予基金市場風險敏感度評等。基金信用風險與基金市場風險敏感度評等可單獨或一併授予，以反映基金投資人面臨的信用和市場風險。

為了符合國際債券基金評等的資格，基金或投資組合的多元化程度須達下限，債務人須達五人以上，而且該準則定義中債務人的集中度並未過高 (>30%)，除非有其他減輕風險的相關因素。這類因素可能包括未納入多元化程度考量範圍的高品質主權、超國家與機構發行人重大曝險。

債務人曝險可能為「現金」或透過各種參照證券組合或指數的衍生性工具建構的合成部位。例如，針對從事總收益互換 (TRS) 交易的投資組合或基金，惠譽可分析交易對手與 TRS 合約所列固定收益證券組合的信用風險，據以授予債券基金評等。本報告結尾處說明了惠譽全球債券基金評等準則的限制。

惠譽針對特定市場授予國內評等，因為評等尺度係由當地監管部門決定。如欲深入瞭解惠譽配合國內評等調整準則的方式，請見附錄 A：國內債券基金評等。

- 基金信用風險評等：針對固定收益基金或投資組合整體信用狀況及易受違約損失的程度提出意見。這類評等係以投資組合部位的實際與潛在信用風險平均值作為根據。基金信用風險評等包含評等動態因素，從而因應投資組合長期維持特定信用風險的可能性。
- 基金市場風險敏感度評等：針對投資組合總收益及／或淨資產價值對信用利差、利率及其他特定市場風險參數變化的相對敏感度提出意見，並適時考量槓桿的影響。基金市場風險敏感度評等並未預測市場狀況變化的方向和幅度，因此並未預測特定基金或投資組合未來表現的好壞或好壞程度。基金市場風險敏感度評等並未衡量投資組合對極端風險的敏感度，這類風險可能源自次級市場流動性在特定時期內降低的情況。

受到積極管理的投資組合通常遵循一套投資指導原則。若投資原則有別於現有投資組合，本機構將考量相關評等是否應較為保守，以反映相關投資組合的可能變動。例如，惠譽可針對新上市的投資組合授予評等。在此情況下，初始投資組合可能無法完全由長期或目標投資組合代表其狀況。因此，在已滿足法律和監管覆核及對經理人之評估下，惠譽之評等可基於該投資組合事先議定之投資原則保守分析。此種情況下，本機構可對該分析額外調整，使其更能反映可能影響投資組合之潛在風險。

經過比較，被動管理型的投資組合會受到特定指標指數的組成和再平衡要求的影響。在授予和監控評等時，惠譽會考量特定投資組合的複製或最佳化程度。在新投資組合或現有投資組合試圖完全複製指標指數時，惠譽可能會將其持有投資組合的分析搭配指數的同步分析或回顧分析，或同時搭配兩者。相反地，針對複製程度較低、最佳化程度更高的投資組合，惠譽的分析可能會更著重於現有投資組合。無論是哪一種情況，如果每月的再平衡並未移除低於與現有投資組合一致之評等級別的曝險，則惠譽可能會針對投資組合與指數對信用轉移的脆弱性進行更保守的分析。

惠譽可設定基金信用風險評等及／或基金市場風險敏感度評等的定性上限，或針對惠譽認為過度運用槓桿的投資組合選擇不進行評等。具體而言，若投資組合的市場風險因素（請見：基金市場風險敏感度評等準則）已因槓桿操作而遠超出惠譽所訂的上限區間，惠譽可能拒絕賦予該基金評等。例如，若槓桿操作導致某個 5 年期「BBB」證券組合的市場風險因素達到 30（沒有槓桿時的數值應為 5 左右），惠譽或將認定槓桿過高而拒絕對該基金進行評等。

法律及法規覆核

基金與投資組合委任案的法律架構並不一致。惠譽將檢視投資組合或基金的法律環境，因為這與基金資產的法律隔離及估值有關。覆核作業將考量資產所有權認定方面的潛在難題，尤其是資產是否適度隔離並獲得保障，因而得以及時歸還。針對投資組合或基金資產的隔離與保障，惠譽若發現重大弱點，則不授予評等。

投資經理人之評估

惠譽針對積極管理型投資組合的投資經理人進行評估。本機構希望確認該經理人適格、適任且能管理投資組合。若無法確認這些條件，惠譽即不對該基金進行評等。經理人評估流程結束後，就能針對諸多投資組合進行評等。評估重點包括：

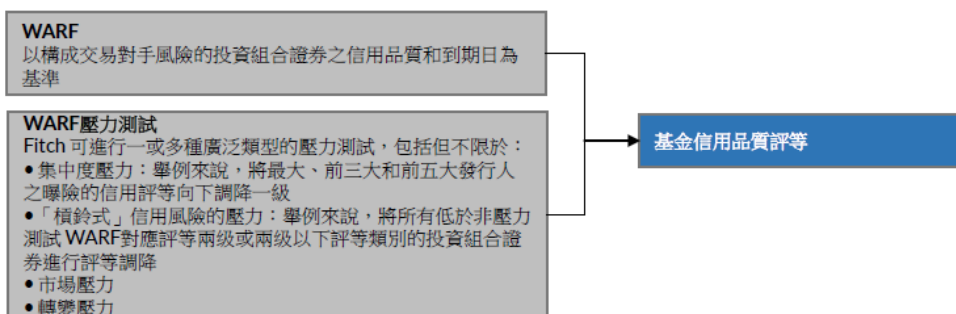
- 投資經理人的營運與財務穩定度、人員編制、技術資源、控制與治理。
- 管理被評資產類別的經驗。
- 針對主動管理型投資組合，惠譽也會考量重要投資人員的經驗。針對新上市基金或新的投資經理人，惠譽則會觀察此類人員管理類似投資組合或策略的經驗。
- 採取的風險控管機制包括曝險限制、壓力測試、交易對手風險管理（包括 ETF 的授權參與者及／或法規遵循程序）。

基金信用風險評等準則

基金信用風險評等係以投資組合部位的實際與潛在信用風險加權平均值作為根據。基金信用風險評等並非即時評等，因此已包含評等動能因素，以因應投資組合長期維持特定信用風險的可能性。

基金信用風險評等主要取決於投資組合的 WARF，並已考量負面評等觀察名單中的證券、準則中特定壓力測試的結果以及其他風險考量，例如交易對手風險、集中度與衍生性工具。

基金信用品質評等 - 簡化圖表



基金信用風險評等主要取決於投資組合的 WARF，並考慮納入負面評等觀察名單上的證券、本準則所定義的特定壓力測試以及其他信用因素，例如交易對手風險、集中度與衍生性金融性商品。此外，新基金的開放申購期間及定期債券基金終止後的緩衝期間，均為評等考量因素（請見附錄 D 以瞭解更多細節）。

加權平均評等因素

惠譽會計算投資組合的加權平均評等因子 (WARF)，並將其作為基金信用品質評等的主要影響因素。基金信用品質評等大致上是由 WARF 計算隱含的評等為指引，詳情請參閱本節底部的表格。投資組合的 WARF 為每一投資組合證券信用評等因子的市價加權總和，並將債務工具的到期日列入考量，在大多數情況下，係以法律規定的最終到期日為據。在少數的特定情況下，惠譽會考慮比投資組合證券之法定最終到期日更短的到期日，以決定每一投資組合證券的信用評等因子。例如，如果證券具有投資者需求特性（例如看跌期權），則惠譽會將行使日視為到期日。對於可能具有提前還款選項的特定結構型金融證券，惠譽將以每一證券的加權平均壽命 (WAL) 為依據，因為這能更準確地反映出預期本金償還。

針對附發行機構買權的永續型金融工具，惠譽將依個案逐一認定其到期日。針對不附買權或賣權的永續型金融工具，惠譽將適用標準 30 年到期日。

惠譽評等因素請見下方表格。評等因素由 10 年累積違約頻率推導產生，其與惠譽投資組合信用風險模型採用方法相符。這些因素可能會定期更新。

採用的評等因素或用以決定妥適評等因素的方法，在某些國內市場可能有所不同，以反映出附錄 A 中詳細描述的具體市場特性。投資組合的 WARF 計算則是以投資組合內的相關資產市場價值 (CDS 或其他可比較衍生性工具的名目價值) 為基礎。因此，個別證券對於整體投資組合 WARF 的貢獻，將隨該證券的市場價值而有不同。

當計算本機構的 WARF 時，不考量空頭部位。針對透過衍生性工具 (例如具有一致的名目價值與期限) 而完全對沖信用風險的持有部位，惠譽使用衍生性工具部位的市場價值，以及衍生性工具交易對手信用風險 (若此交易對手經授予評等)，以計算該部位的 WARF。附錄 B 包含計算 WARF 的範例。

基金信用品質評等 – 信用風險因素

(以標的證券評等類別及到期日剩餘期限劃分)

到期日剩餘期限	AAA	AA	A	BBB	BB	B	CCC	CC 及以下
0 至 90 天	0.00	0.02	0.14	0.6	3.2	11.8	23.7	100.0
91 至 397 天	0.01	0.05	0.3	0.9	4.5	19.6	50.0	100.0
398 天至 3 年	0.05	0.2	0.6	1.4	5.8	23.7	50.0	100.0
3 年以上	0.14	0.6	1.6	3.2	11.8	23.7	50.0	100.0

資料來源：惠譽國際信用評等公司。

WARF 是以評等類別 (例如「BBB」) 而非評等分類中的細分級別 (例如「BBB+」) 進行計算，這會使評等類型對應的 WARF 涵蓋範圍較廣，並在提升評等穩定性時，允許正常投資組合的調整。WARF 代表投資組合的平均信用風險，有助於比較不同投資組合本身的信用風險。

當計算 WARF 時，惠譽會將所有列入負面評等觀察名單的證券 (或列入其他具有相似名稱定義的評等) 的評等調低一級，其 WARF 均會較授予。這項作法只會影響因此落入另一評等類別的評等 (例如「AA-」可能落入「A」類別)。針對列入正面評等觀察名單的證券，或屬於評等展望的證券 (無論其結果為正面或負面)，則未進行類似的調整。針對僅具有短期評等的證券，惠譽使用評等因素轉換表，詳見本頁左側空白處表格。

針對高度集中的基金或交易對手較數量少的衍生性工具為基礎的基金，由於，惠譽得將該基金評等等同與獲得最低評等的債務人或交易對手的信用風險。具體而言，若基金的債務人曝

險超過五人以上但少於 10 人，除與高品質主權、超國家與機構發行人，或任一債務人占總投資組合超過 30% 等情形相關外，惠譽會將基金信用風險評等等同於與獲得最低評等的債務人或交易對手的信用風險。

惠譽在其分析中使用發行證券的評等，考量該債券是否是次級債是否有超額抵押。惠譽首先使用自己的評等。如果惠譽無法取得時，惠譽會采用其他經全球公認信評機構授予評等中最低者。當基金投資在各種不同部位 (例如 CDS 指數、基金或 ETF)，惠譽在計算 WARF 時使用該指數的加權平均評等。針對單一名稱信用違約交換，惠譽則考量參考實體的評等。針對未經任一全球公認信評機構公開授予評等的資產，惠譽在計算 WARF 時，將該資產評等認定為「CCC」。此方法的例外情況為：第一，若惠譽在內部設有或要求相關分析團隊提供信用意見、非公開評等或估算的最低評等。第二，在少數情況下，如果惠譽評等委員會判斷基金經理人自行所為的信用評估與本機構自身內部信用評估結果相近，本機構可能考量採用基金經理人的信用評估。但此方法的適用仍須視個案逐一認定，且本機構預期以此方式獲得評等的證券，其總和低於投資組合的 10%。第三，惠譽在本準則附錄及／或相關定制準則中所列的特定情況下，在計算 WARF 時會針對受評母公司之尚無評等的子公司計算參考評等。

WARF 範圍準則

WARF 範圍 (>=、<)	WARF-對應的 基金信用品質評等
0.0 至 0.3	AAA
0.3 至 0.9	AA
0.9 至 2.1	A
2.1 至 6.1	BBB
6.1 至 15.8	BB
15.8 至 32.4	B
32.4 至 100	CCC 及以下

資料來源：惠譽國際信用評等公司。

交易對手風險

投資組合可能會暴露在各種來源的交易對手風險之下，包括附買回交易、交換協議或現金存款。在惠譽評等基金中符合資格的曝險，不包括未要求經常性保障金填補及適當規模抵押擔保的非現金型交易對手曝險。以基金為放款人的附買回交易而言，惠譽將採取下方概述的架構，並根據交易對手的信用品質和標的抵押品來評估附買回交易。

(若附買回交易的交易對手尚無評等，但其為獲評等金融機構的子公司，除本機構認定未受評等子公司的信用狀況與其母公司評等並無關聯的情形外，惠譽將以母公司評等為依據。)

當附買回合約受到信用品質高於交易對手之流動性抵押品 (即高評等政府證券) 的充分支撐；當抵押品成分實質可見並預期維持其一致性，且在規範附買回合約的法律制度下，幾乎不可能發生交易對手破產所生凍結附買回抵押品的風險 (如標準已開發市場公約定義，例如 ISDA U.S. Stay Protocol)，惠譽可能會依據標的抵押品的信用品質計算其 WARF 及市場風險因素 (MRF)。

下表顯示出惠譽的附買回交易架構。惠譽會在擔保品的評等高於交易對手時使用抵押品評等；當抵押品的評等較低時，則使用交易對手評等。同樣地，當交易對手為投資等級時，惠譽將會以附買回合約作為依據；當交易對手為非投資等級或未獲評等者時，則以抵押品的到期日作為依據。

假設性信用品質的矩陣和附買回交易到期日

擔保品信用品質	交易對手評等	
	投資等級交易對手，或視為等值	非投資等級交易對手，或視為等值
	高於交易對手	信用：抵押品評等 到期日：附買回合約
低於交易對手	信用：交易對手評等 到期日：附買回合約	信用：抵押品評等 到期日：抵押品

針對非固定收益抵押品，WARF 及 MRF 的計算套用「CCC」評等因素及 30 年期間。

若附買回交易沒有評等高於交易對手的高品質抵押品，或暴露在破產凍結的風險之下，則將其視為暴露在交易對手風險下的直接無擔保信用加以處理。

現金

基金可能具有現金餘額，而分別以銀行存款或投資貨幣市場工具等方式持有。惠譽對於此類曝險的處理方式，與其評等分析中的其他曝險相同。例如，惠譽針對受評為「A」的銀行 60 天期存款，將會使用數值為 0.01 的評等因素。

部分基金可能會將未投資現金放在基金的保管銀行。針對此類情形，惠譽在計算其投資組合 WARF 時，採用與銀行信用品質相對應的評等因素。如果非基金保管銀行將未投資現金餘額完全區隔，該現金在法律上與營業上也與其他銀行債權人隔離 (如依 UCITS V 法令規定)，並且惠譽具有支援這類區隔的資訊，則計算 WARF 時的評等因素會採用 0

其他基金 (例如美國 LGIP) 有時可能會投資特定美國州份所贊助的存款計畫，這類存款計畫旨在讓公部門實體得以投資具有擔保或信用強化的存款。惠譽會根據這些計畫的條款來評估其信用品質，其中可能包括存款的超額擔保，或存款機構之間的連帶擔保等特性。在連帶和多家擔保的場合，惠譽將根據計畫參與者中評等最高的兩家銀行的評等來計算該計畫的評等，如下表所示。若擔保存款的銀行遭到評等調降或移出計畫，計算得出的評等則可提供相對於銀行評等的緩衝。惠譽會定期重新評估這些存款計畫的條款和參與銀行。

連帶和多家存款計畫的假設性信用品質

	評等最高的銀行							
	AAA	AA+	AA	AA -	A+	A	A -	BBB+
AAA	AA+							
AA+	AA	AA						
AA	AA	AA -	AA -					
AA -	AA	AA -	A+	A+				
A+	AA	AA -	A+	A	A			
A	AA	AA -	A+	A	A -	A -		
A -	AA	AA -	A+	A	A -	BBB+	BBB+	
BBB+	AA	AA -	A+	A	A -	BBB+	BBB	BBB

若存款計畫受益於應付給基金的擔保或信用狀 (LOC)，惠譽將以保證人評等及存款的指定到期日為依據。在未提供擔保但存款已有抵押品，且基金或保管銀行可直接取得抵押品等其他情況下，惠譽會使用前面針對附買回交易所述的相同準則來考量存款銀行及抵押品的評等。

基金市場風險敏感度評等準則

惠譽可在特定情況下授予基金市場風險敏感度評等，端視市場相關性、法規要求及基金信用品質評等而定。基金市場風險敏感度評等的主要根據為基金投資組合利率存續期間 (修改/有效之存續期間) 與利差持續期間的分析結果，並針對槓桿影響 (依照下列惠譽市場風險因素加

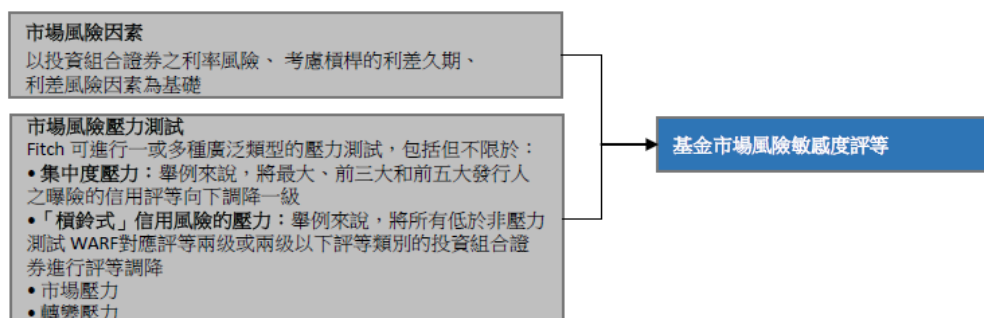
以衡量，如適用) 進行調整。基金市場風險敏感度評等的尺度為「S1」(市場風險敏感度極低)至「S6」(市場風險敏感度極高)。

市場風險敏感度評等

市場風險敏感度	市場風險敏感度評等	市場風險敏感度因素 ^a (>=、<)
非常低	S1	2.0 以下
低度	S2	2.0 至 4.0
中度	S3	4.0 至 7.5
中度至高度	S4	7.5 至 12.5
高度	S5	12.5 至 17.5
非常高	S6	17.5 以上

^a特定國內市場可能適用不同的尺度上限，以反映詳載於附錄 A 中的特定市場的管制及結構特性。
來源：惠譽國際信用評等公司。

基金市場風險敏感度評等 - 簡化圖表



市場風險分析：惠譽的市場風險因素

投資組合的市場風險因素分析，乃是授予基金市場風險敏感度評等的主要工具。

計算投資組合的市場風險因素，應針對投資組合利率期間與投資組合中經調整風險的證券利差持續期間進行綜合評估，並就槓桿作用調整結果。證券的權重端視該證券占投資組合市場價值的比例。投資組合市場風險因素越高，通常對於利率、利差及其他市場風險變數的敏感度就越高。

其他經惠譽納入分析的市場風險因素包括集中度風險、貨幣風險、避險策略及其他風險。

利率風險

惠譽以修改後持續期間作為衡量利率風險的主要方法 (即假設殖利率曲線為平行移動的情況下，市場價值對於利率變動水準的敏感度)。惠譽藉由分析個別證券和投資組合層級的修改後持續期間，以進行利率風險的評估。本機構在利率風險分析中，也可能計算投資組合加權平均到期日至利率重置日 (WAM)，以作為代表修改後持續期間的保守指標。若基金基礎投資部位包括具有內嵌期權的證券，例如不動產抵押擔保證券，惠譽可能會使用有效存續期間更準確地衡量利率風險。當基金投資在各種不同部位 (例如 CDS 指數、基金或 ETF) 時，惠譽會對基本曝險進行徹底審視分析，並使用該部位的估計加權平均期間及信用評等計算 MRS。

利差風險

利差風險考量投資組合市場價值對於信用利差變動的敏感度。信用利差反映市場對於持有品質「低於最高品質」(通常是政府發行) 證券者要求的風險溢價，無論是基於信用、流動性或技術面理由。

利差風險可透過計算投資組合利差持續期間加以評估 (對於利差變動的敏感度)，並依據利差風險因素調整計算結果。惠譽也可能在其利差風險分析中，計算投資組合的加權平均壽命，此

可作為代表利差持續期間的保守指標。(針對固定利率債券及票據，利差持續期間與首期指標相同。)

惠譽將利差風險因素詳細列於下方表格中，由於信用違約交換 (CDS) 利差資料範圍及可得性各有不同，其以 CDS 利差的歷史波動性為基礎，併同考量每一評等水準的固定收益指數報酬分析。因此，用以支持這些因素發展的分析，將同時考量兩項利差變動的敏感度，即基金利差持續期間計算與利差歷史性波動的相對水準。

利差風險因素不適用於「最高品質」證券 (即受評為「AAA」的證券)，惠譽針對「AA」類別水準則適用遞增的利差風險因素。惠譽的利差風險因素會在信用品質下降時向上提高。

利差風險因素^a

	AAA	AA	A	BBB	BB	B	CCC 及以下
利差風險因素	0.0	0.1	0.2	1.0	2.0	4.0	7.0

^a 基於 Fitch Solutions 有關 2007 - 2022 年間非金融企業 CDS 利差波動分析，以及 Bank of America Merrill Lynch (美國美銀集團) 1997 - 2022 年間全球固定收益市場指數總報酬波動性分析。利差風險因素是以「AA」類別水準相關的 CDS 利差波動性作為評估基礎。

資料來源：惠譽國際信用評等公司。

利差風險的計算是將證券的利差持續期間乘以與證券信用風險相當的利差風險因素。此計算是在單個證券層級進行。附錄 B 中提供關於此一計算的範例。

惠譽承認部分資產類別的利差風險敏感度，可能與其核心利差風險因素的假設有所不同。因此，惠譽檢視受評基金的資產類別、區域及證券類別曝險，以作為其評等分析的一部份。若惠譽認定基金四分之一以上的投資組合是在證券，且其自身的絕對及/或相對利差風險敏感度的波動性，明顯不同於 CDS 利差及衍生自利差風險因素的固定收益指數波動性，惠譽將針對反映自其核心利差風險的市場敏感度評等進行一些質性調整，或調整用於其評等分析的利差風險因素。

此處理方式將會在相關評等行動評論中揭露。針對因欠缺資料而無法確切認定利差風險敏感度不同的市場，惠譽將採用標準利差風險因素。

$$\text{市場風險因素} = \text{持續期間} + (\text{利差持續期間} \times \text{利差風險因素})$$

貨幣風險 投資組合可能因為高度投資浮動利率金融工具，而同時具有極低的利率風險敏感度與大幅增加的利差曝險。鑒於浮動利率票據通常會每季重置利率，內含多數此類證券的投資組合將具有極低的利率風險 (精準而言，是指 90 天以內)，但這些金融工具的最終到期日可能較長，因此產生較高的利差風險。針對此類基金，特別是具有較高評等的投資組合，可能出現低市場風險因素的計算結果。惠譽針對市場風險因素計算保留適用質性調整的權利，以承認風險的槓鈴效應。

投資組合可能包括未避險且以多國貨幣計價的資產及/或負債。貨幣風險的影響評估是相對與投資組合標的使用的基準貨幣的。若惠譽認為基金具有重大外幣風險，其將針對市場風險因素進行質性調整。

如果投資組合由不同貨幣計價的證券匯集組成，並提供投資人選擇贖回貨幣和申購時同樣計價貨幣的機會，其不同的貨幣分類基金的市場風險敏感度評等可能不同。

不計入任何從基金計價貨幣換算為投資人自身特定基準 (或會計用) 貨幣的後續收益，此貨幣風險仍待相對應的對沖或不對沖。

惠譽也試圖辨識其他 NAV 可能具有敏感性的風險因素，且在處理這些因素時運用分析式判斷。例如，若惠譽相信投資人狀況與基金及 / 或資產狀況間有顯著錯配的情形，而可能增強基金對於流動性事件的敏感度，惠譽可能會對市場風險敏感性評等採取質性調整，以反映超乎正常的市場風險敏感性。此類調整將針對個案逐一為之，且惠譽將在各自評等行動評論中揭露此類評等驅動因素。

槓桿

投資組合可能採用槓桿方式，以達成其投資目的。許多衍生性工具或結構型證券可以創造出事實面或經濟面的槓桿作用，使投資人得以較低的投資預付金額取得較高的殖利率，並負擔較高的購買價格及總收益波動。在這類情況下，惠譽會將這類經濟面的槓桿作用納入分析。例如，基金可能使用利率交換或買進債券期貨，以提高投資組合對於利率變化的敏感度。在此情境中，由於這類衍生性工具的效果，惠譽會將高於投資組合實際持有期間的持續期間，作為市場風險因素計算基礎。惠譽考量上開「交易對手風險」一節所說明的交易對手品質。

投資組合也可能採用財務槓桿，以達成其投資目的。此通常可藉由證券借貸協議（特別是逆向附買回交易）、信貸額度、保證金融資或其他類債務融資。

當評估投資組合財務槓桿的影響時，惠譽會以線性乘數方式計算市場風險因素。以標準公式為基礎，市場風險因素計算將如下：

$$\text{市場風險因素} = [\text{持續期間} + (\text{利差持續期間} \times \text{利差風險因素})] \times \text{槓桿}。$$

壓力測試

除非被認定為無意義的執行，例如極為分散、高信用品質的積極管理型投資組合，否則惠譽會使用以原則為基準的壓力測試來補強整體投資組合分析架構。這些壓力測試著重於評估投資組合對負面信用轉移的敏感度（調降）。根據投資組合的特性或投資組合的基礎 WARF 及／或 MRF 計算所表示的評等緩衝空間，惠譽可能會進行一或多種廣泛類型的壓力測試，通常會在初始和持續進行評等審查，及／或因應市場發展時進行。壓力類型和其可能採用的形式範例包括但不限於下列項目。

集中度壓力：惠譽可能會依據特定發行人的曝險來開發假設性調降情境，尤其是發行人代表相對較大部分的（例如，若單一發行人在無擔保的情況下持有 5% 或以上的份額）基金持有部位及／或與到期期限較長之較大曝險相關。這類壓力測試的範例，是將最大、前三大和前五大發行人之曝險的信用評等向下調降一級。

「槓鈴式」信用風險的壓力：惠譽可能會依據評等配置來開發假設性調降情境，以反映出「槓鈴式」信用風險的影響。這類壓力測試的範例之一，是將所有低於（非壓力測試下）WARF 反映基金評等水準兩個以下評等類別的投資組合證券，均向下調降一級，並重新計算 WARF。

市場壓力：如果來自某個特定司法管轄區或某個特定產業的發行人遇到負面信用發展，則惠譽得針對來自該司法管轄區或產業的相關發行人來假設降級狀況（若考量多種壓力情境，程度可能會有所不同）。

轉變壓力：針對可能無法積極出售或移除遭調降的曝險日期，或潛在再平衡不足以對應信用轉移的被動管理型投資組合，惠譽可能會採用歷史轉變資料，來假設代表潛在評等調降變動之投資組合層級的調降情境。

若採用上述任何前述壓力，惠譽便會考量這些假設性調降，並重新計算該投資組合的 WARF 和 MRF 分數。評等委員會將會決定投資組合的基金信用品質評等和基金市場風險敏感度評等的重大程度，以判斷情境的適宜程度。委員會將會考量到施加之壓力的嚴重性，以及在不同情境下的結果（如果考量超過一個情境時）。惠譽將會在分析基金的風險和基金抗信用風險變化的能力的時候，考慮壓力測試結果。

針對 WARF 對於壓力測試反應特別敏感，或潛在再平衡不足以對應信用轉移的基金，惠譽可能會授予其較低的評等，包括透過基金信用品質之評等調節符號的適用（「+」及「-」），以反映評等類別內的基金相對風險。（根據一般做法，惠譽不會在發行的基金信用品質評等中套用評等調節符號 [「+」及「-」]，但在少數情況下可能會這麼做，例如因為疲弱的壓力測試結果，而反映基金在其評等類別中的相對劣勢，或是會在評等行動評論中揭露的其他原因 [即反映國家評等上限]。）這也適用於被動管理型策略，例如無法積極出售或移除遭調降曝險的追蹤指數型 ETF。同樣地，針對 MRF 對於壓力測試反應特別敏感的基金，惠譽可能調整評等，以反映相較 MRF 更高的市場風險敏感度。

此外，若惠譽的壓力測試結果指出基金信用狀況的實質性弱點，除有投資管理公司或其他減輕因素所規劃的補救方案外，惠譽可能會將基金評等置於負向評等觀察 (RWN)、負向評等展望 (RON) 或調降其評等。最後，評等委員會將決定任何特定壓力測試情境與評等結果的相關性。

監控

惠譽進行更新與維持評等的過程時，將檢視受評基金的最新與過往資訊。

惠譽要求受評基金定期提供基金投資組合的資訊。在大多數的情況下，惠譽要求基金至少每月提供這類資訊，法規限制導致資訊提供頻率降低的情況除外。若投資組合的過往成分以及基金架構與性質，足以證明基金具有穩定性（比如買入持有策略的養老金），惠譽可能會以較低頻率要求提供資訊。本機構將針對此類個案逐一評估。監督資訊的來源通常會是基金管理公司、保管銀行或管理機構。

惠譽要求提供投資組合持有部位的下列基本資訊：

- 證券名稱或相關辨識碼 (例如 ISIN 或 CUSIP 代碼，如適用)。
- 基金基準貨幣目前的市值曝險 (CDS 名目價值)。
- 惠譽亦可能要求提供其他資訊，以輔助分析作業，例如：
 - 預期到期日 (資產擔保證券的加權平均年限，投資人擁有賣權時則以賣出日期為準)。
 - 法定最終到期日。
 - 下一個重置日。
 - 目前的證券專屬評等 (包括評等觀察與評等展望，如適用)。
 - 貨幣。
 - 資產類別。

惠譽與受評基金經理人定期舉行會議時，將討論避險策略 (如適用)。

惠譽承認，在少數情況下，投資組合重要指標的變動，可能暫時略為超出惠譽已授予評等的評等準則範圍。例如，若標的資產的評等遭到調降或流出，可能導致投資組合的 WARF 略高於投資組合現有評等類別的上限。對於明顯及 / 或持續偏離評等準則範圍的情況，固然將導致評等受到影響，但若投資管理公司提出可信且可行的近期補救行動從而消除或減輕風險，惠譽通常可給予合理的寬限期。惠譽將針對這類個案逐一評估，以判定變動是否對於評等造成重大影響。

準則變動

惠譽之準則應與透過委員會程序執行之豐富經驗的分析式判斷一併使用。結合透明性準則、以個別交易或個別發行機構為基礎的分析式判斷，與透過評等評論的完整揭露，進而強化惠譽評等過程，同時有助於市場參與者瞭解評等背後的分析。

評等委員會可能調整這些準則的適用，以反映特定交易或實體的風險。此類調整稱為準則變動。所有變動均會在各自評等行動評論中揭露，包括揭露其對於評等的影響 (如適當)。

當與評等授予相關的風險、特性或其他因素及其適用方法皆納入於準則範疇內，但為強調特定交易或實體的特定因素，而有修改準則所述分析的必要時，評等委員會有權核准準則的變動。

限制

分析及評等決定是以相關公開及非公開資訊為基礎。本資訊主要來源為發行機構及 / 或基金管理機構與公眾領域。這包括公眾可取得與資金相關的資訊，例如稽核後及未經稽核 (例如期中)

財務報表及管制申報資料。評等過程可納入第三方來源提供的資訊。每份評等行動評論均會揭露對於評等結果具有重要性的相關資訊來源。

在特定證券或司法管轄領域可得來源範圍內，惠譽依據其評等方法，針對其所根據的事實資訊進行合理調查，並自獨立來源取得其對該資訊的合理驗證。發行機構得於任何時點選擇不與外部人士分享特定資訊，包括評等機構。儘管惠譽期盼同意參與評等過程的發行機構或其代理商，及時提供用以評估發行機構評等及所有相關證券的資料，但惠譽無權亦無意強迫任何發行機構或其代理商揭露資訊。

這份全球主要非信用準則報告，主要強調本機構的國際性及國內評等規模。本準則中的所有評等因素不一定適用在每一次的評等行動。每一次特定評等行動評論或評等報告，均將揭露與該個別評等行動最具關連性的因素。

本準則報告主要聚焦於債務證券的投資組合，例如債券及貸款基金、短期債券基金、LGIP、固定收益債務證券 ETF 及私人管理的固定收益債券組合。這些基金可能包含各種不同的債類工具，例如債券及貸款、銀行資本、主權債務及結構型金融證券。一般而言，惠譽會依據其「貨幣市場基金評等準則」對貨幣市場基金進行評等。

本報告並未涵蓋依據 1940 年《投資公司法》及其後修正所規範的美國及非美國境內槓桿式封閉型基金。本機構準則報告中會具體指出這些基金：「封閉型基金與市值結構評等準則。」

基金信用品質評等僅在衡量投資組合的總和信用風險，且不會衡量基金本身的違約預期風險。基金一般不會有違約情形，但基金投資人可得的總收益及／或淨資產價值則會發生變化。

惠譽債券基金評等的另一限制包括事件風險。事件在此定義為無法預見的事件，在得知此事件前，現有評等均不會將之納入。基金的重大事件風險包括財務市場價格或流動性發生突發性、劇烈性及不可預期的變動、負面管制決定、訴訟及因上開因素造成的大規模贖回。評等可能已包括基金易受金融市場事件或管制壓力影響的合理假設，但事件細節及其效果須至事件發布或完成時方可得知，且事件對於評等的影響也在此時點獲得確認。惠譽並未針對投資人在開放型基金可能面臨的贖回風險提供意見。

額外限制：

- 評等並未預測投資組合在任一特定時點的績效水準或程度。
- 評等並未針對投資組合是否合於投資或其他目的提供意見。
- 除已投資的投資組合實際及潛在平均信用品質外，基金信用評等並未對投資組合相關品質提供意見。
- 基金市場敏感度評等僅針對特定事件提供意見，例如基於信用利差及利用變更，投資組合總收益對其敏感程度及 / 或淨資產價值的變動。此評等也提供其他市場風險參數相關的觀點，並考量槓桿作用的效果 (如適用)。
- 基金信用品質評等未就任何受評基金的贖回風險發表評論。因此，評等並不會考量受評基金可能暫停贖回或採用其他非常態性流動性管理措施的可能性。

基金市場風險敏感度評等不會針對此類市場條件的變動方向或程度進行預測，也因此並未預測任何特定基金或投資組合未來表現的好壞。基金市場風險敏感度評等並未衡量投資組合對極端風險的敏感度，這類風險可能源自次級市場流動性在特定時期內降低的情況，或以封閉型基金而言，則可能源自次級市場價格對於基金份額的影響。

若要瞭解基金信用品質評等及基金市場風險敏感度評等定義，請參考惠譽網站：https://www.fitchratings.com/creditesk/publicratings_definitions/index.cfm。

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Bond Fund Rating Criteria

Master Criteria

Scope

This criteria report applies to portfolios investing in debt and debt-like securities, including short- and long-term bond funds, loan funds, local government investment pools (LGIPs), debt security exchange-traded funds (ETFs) and privately managed pools. They may contain a variety of short- and long-term debt and debt-like instruments, such as commercial paper, certificates of deposits, bonds, loans, preferred securities, repurchase agreements, sovereign debt, structured finance securities and credit default swaps (CDS).

Bond Fund Ratings are assigned to a portfolio of assets, rather than an individual security. The rating is not assigned to debt issued by closed-end funds or investment trusts. Fitch Ratings has developed separate criteria for this analytical approach; see “[Closed-End Funds and Market Value Structures Rating Criteria](#).” However, the bond fund rating criteria can be used to rate closed-end fund and investment trust portfolios themselves.

Key Rating Drivers

Portfolio Credit Risk: The Fund Credit Quality Rating (denoted with an f suffix) measures vulnerability to losses as a result of credit defaults and is primarily influenced by a portfolio’s weighted average rating factor (WARF).

Asset-Level Rating Factors: The WARF of the portfolio of assets is derived from Fitch-defined credit risk factors applied to each asset and/or counterparty based on their public ratings, credit opinions or other comparable measures of default risk, and their maturity.

Investment Manager Assessment: Fitch reviews the portfolio manager’s capabilities to assess whether it is suitably qualified, competent and capable of managing the portfolio. Fitch will not rate portfolios from managers that fail to pass this assessment.

Legal and Regulatory Review: Portfolios must pass a legal and regulatory screening process, including the legal segregation and security of the portfolio’s assets.

Market Risk Sensitivity: In certain circumstances, subject to market relevance or regulatory demand, Fitch may also assign a complementary Fund Market Risk Sensitivity Rating to express an opinion on a portfolio’s sensitivity to market risk factors, such as interest-rate risk, spread risk, currency fluctuations and leverage.

Active Ratings Surveillance: Fitch requests periodic (typically monthly) portfolio holdings and relevant performance statistics to monitor the ratings.

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Analysts

EMEA

Abis Soetan
+44 20 3530 1311
abis.soetan@fitchratings.com

Minyue Wang
+44 20 3530 1406
minyue.wang@fitchratings.com

Latin America

Davie Rodriguez
+1 212 908-0386
davie.rodriguez@fitchratings.com

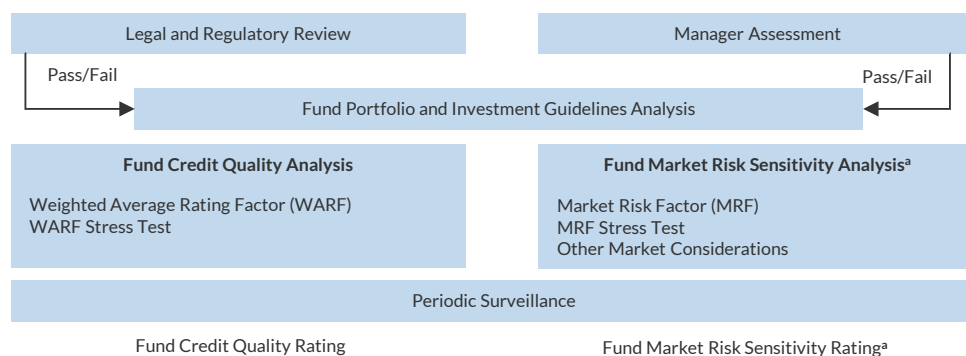
Juan Pablo P. Haro Bayardo
+52 81 4161 7005
juanpablo.harobayardo@fitchratings.com

North America

Peter Gargiulo
+1 212 612-7762
peter.gargiulo@fitchratings.com

Kimberly Green
+1 646 582-4042
kimberly.green@fitchratings.com

Global Bond Rating Criteria – Simplified Diagram



^aSubject to market relevance or regulatory demand.
Source: Fitch Ratings.

Global Bond Fund Rating Criteria Framework

Fitch’s global bond fund rating criteria are used to assign portfolios a Fund Credit Quality Rating. The ratings are expressed on the traditional ‘AAA’ scale, with the addition of an ‘f’ suffix to distinguish it from traditional credit ratings assigned to individual issues and issuers. In certain markets where there is market and/or regulatory demand, the criteria also may be used to assign a Fund Market Risk Sensitivity Rating. Fund Credit Quality and Fund Market Risk Sensitivity Ratings may be assigned alone or together to reflect the credit and market risks to which fund investors are exposed.

To qualify for International Scale Bond Fund Ratings, a fund or portfolio must demonstrate a minimum level of diversification, across five obligors or more, and no excessive concentration (>30%) with any of those obligors under these criteria, unless there are other relevant mitigating factors. These mitigants might include material exposures to high-quality sovereign, supranational and agency issuers, which are not covered by these diversification considerations.

Obligor exposures can be cash or synthetic, achieved through derivatives that reference a portfolio of securities or an index. For example, Fitch could assign Bond Fund Ratings to a portfolio or fund that engages in total return swaps (TRS), basing its analysis on the swap counterparty and the credit quality of the underlying portfolio of fixed-income securities referenced under the TRS. Limitations to Fitch’s bond fund rating criteria are presented at the end of this report.

In certain markets, Fitch assigns National Scale Ratings where the rating scale may be determined by the local regulatory authorities. For more information on how Fitch adapts the criteria for National Scale Ratings, see Appendix A: National Scale Bond Fund Ratings.

- Fund Credit Quality Rating:** an opinion on the overall credit profile and vulnerability to losses as a result of defaults within a fixed-income fund or portfolio. The ratings are based on the actual and prospective average credit quality of the underlying portfolio holdings. Fund Credit Quality Ratings have an element of rating momentum embedded and, therefore, address the likelihood that a portfolio maintains a given credit quality over time.
- Fund Market Risk Sensitivity Rating:** an opinion on the relative sensitivity of a portfolio’s total return and/or net asset value to assumed changes in credit spreads and interest rates as well as certain other market risk parameters, and taking into account the effects of leverage, where applicable. Fund Market Risk Sensitivity Ratings do not predict the direction or magnitude of changes in market conditions and, therefore, do not predict whether, or the extent to which, any particular fund or portfolio will perform favorably or adversely in the future. Fund Market Risk Sensitivity Ratings do not gauge the sensitivity of a portfolio to extreme risks that may result from reduced liquidity in secondary markets during certain periods.

Actively managed portfolios typically follow a set of investment guidelines. The agency considers whether investment guidelines that differ from the current portfolio should lead to more conservative ratings to reflect potential changes in the underlying portfolios over time. For example, Fitch may assign ratings to newly launched portfolios. In such cases, the initial portfolio may not be fully representative of the longer-term or target portfolio. Therefore, subject to a satisfactory legal and regulatory review and manager assessment, Fitch may base its ratings on a conservative analysis of the portfolio's investment guidelines and expected strategy based on discussions with the fund manager. In such cases, the agency may make additional adjustments in its analysis to better reflect potential risks that may affect the portfolio.

By comparison, passively managed portfolios are subject to a specific benchmark index's composition and rebalancing requirements. The agency considers the degree of replication, or optimization, for a given portfolio when assigning and monitoring ratings. In instances where new or existing portfolios seek to fully replicate a benchmark index, Fitch may couple its analysis of the portfolio holdings with either a concurrent or lookback analysis, or both, of the index. Conversely, Fitch's analysis for portfolios exhibiting a lesser degree of replication and more optimization, may focus more heavily on the current portfolio. In either instance, Fitch may base its ratings on a more conservative analysis of the portfolio and index's vulnerability to credit migration if monthly rebalancing does not remove underlying exposures below rating levels consistent with the current portfolio.

Fitch may impose qualitative caps on the Fund Credit Quality Rating and/or Fund Market Risk Sensitivity Rating, or elect not to rate portfolios that, in Fitch's opinion, use an excessive amount of leverage. Specifically, if a portfolio's Market Risk Factor (see: Criteria for Fund Market Risk Sensitivity Ratings, below) is well in excess of Fitch's upper bound due to leverage, then Fitch may decline to rate the fund. For example, if the calculated Market Risk Factor on a portfolio of five-year 'BBB' securities were 30, due to leverage (compared with around five without leverage), Fitch would judge the level of leverage excessive and would decline to rate the fund.

Legal and Regulatory Review

The legal frameworks in which funds and portfolio mandates are established are not uniform. Fitch reviews the legal environment in which a portfolio or fund operates as it relates to legal segregation of fund assets and valuation practices. This review considers the potential difficulties that may arise in identifying ownership of assets and, in particular, whether the assets are appropriately segregated and secure, such that the assets would be returned in a timely manner. Should Fitch identify material weaknesses in the segregation and security of a portfolio or fund's assets, it will not assign a rating.

Investment Manager Evaluation

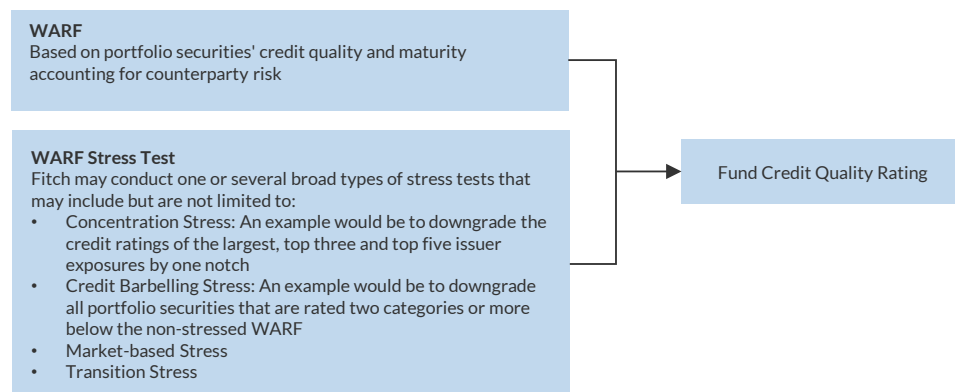
Fitch evaluates the investment manager responsible for managing portfolios. The agency seeks to establish that the investment manager is suitably qualified, competent and capable of managing the portfolio, with a distinct assessment between actively and passively managed portfolios. If this cannot be established, Fitch will not rate the fund. Multiple portfolios can be rated once the manager assessment process has been completed. Areas of focus include:

- The investment manager's business and financial stability, staffing and technology resources, controls and governance.
- Record in managing the asset class under review.
- The experience of key investment staff. For newly launched funds or investment managers, Fitch looks at the experience of such staff in managing comparable mandates or strategies.
- Risk controls in place, including for example exposure limits, stress testing, counterparty risk management (including authorized participants for ETFs), and/or compliance procedures.

Criteria for Fund Credit Quality Ratings

Fund Credit Quality Ratings are based on the actual and prospective weighted average credit quality of the underlying portfolio holdings. Fund Credit Quality Ratings are not point-in-time and, therefore, have an embedded element of rating momentum to address the likelihood that a portfolio maintains a given credit quality over time.

Fund Credit Quality Rating – Simplified Diagram



Source: Fitch Ratings.

Fund Credit Quality Ratings are principally driven by the WARF of the portfolio, factoring in securities on Negative Rating Watch where exposure is material, stress tests as defined in these criteria and other credit considerations, such as counterparty risk, concentration and derivatives. In addition, ramp-up periods for new funds and wind-down periods for finite life bond funds are rating considerations (see Appendix D for further detail).

Weighted Average Rating Factor

Fitch calculates the portfolio’s WARF as the primary driver of the Fund Credit Quality Rating. The Fund Credit Quality Rating is largely guided by the rating implied by the WARF calculation, as detailed in the table at the bottom of this section. A portfolio’s WARF is the market value-weighted sum of each portfolio security’s credit rating factor, which takes into account the maturity of the instrument, based on legal final maturity dates in most cases. In limited certain circumstances, Fitch may consider a maturity date shorter than a portfolio security’s legal final maturity date to determine each portfolio security’s credit rating factor. For example, if a security benefits from an investor demand feature, such as a put option, Fitch will consider the exercise date as the maturity date. For certain structured finance securities with the potential for prepayments options, Fitch will look to each security’s weighted average life (WAL), as this more accurately reflects the expected principal repayment.

Fitch will consider perpetual instruments on a case-by-case basis for those securities with a call option at the issuer’s option when deciding on maturity terms. Fitch will apply a standard 30-year maturity for perpetual instruments without put or call options.

Fitch’s rating factors can be found in the table below. They are derived from observed cumulative 10-year default frequencies, consistent with the approach taken in Fitch’s Portfolio Credit Model. These factors may be updated periodically.

The rating factors applied or the approach to determining the applicable rating factors may differ in certain national markets to reflect the specific characteristics of that market as detailed in Appendix A. A portfolio’s WARF is calculated based on the market value (notional for CDS or other comparable derivatives) of the portfolio’s underlying assets. Consequently, the contribution of individual securities to the overall portfolio WARF will change with those securities’ market values.

Short positions are not taken into consideration when calculating the agency’s WARF. For holdings where credit risk is fully hedged using derivatives (e.g. with a matched notional and

term), Fitch may calculate the position’s WARF using the market value of the derivative position and the credit quality of the derivative counterparty, if the counterparty is rated. Appendix B contains an example of the WARF calculation.

Fund Credit Quality Rating – Credit Risk Factors

(By Underlying Security Rating Category and Remaining Maturity)

Residual Maturity	AAA	AA	A	BBB	BB	B	CCC	CC and Below
0–90 days	0.00	0.02	0.14	0.6	3.2	11.8	23.7	100.0
91–397 days	0.01	0.05	0.3	0.9	4.5	19.6	50.0	100.0
398 days–3 years	0.05	0.2	0.6	1.4	5.8	23.7	50.0	100.0
> 3 years	0.14	0.6	1.6	3.2	11.8	23.7	50.0	100.0

Source: Fitch Ratings.

The WARF is calculated at the category level (e.g. BBB), rather than the notch level (e.g. BBB+), which results in wider WARF ranges and allows for normal portfolio turnover while promoting ratings stability. The WARF represents a portfolio’s average credit risk and helps in comparing intrinsic credit quality across different portfolios.

When calculating the WARF, Fitch assumes all securities subject to a Negative Rating Watch (or comparable nomenclature under other rating scales) are rated one notch lower than the assigned rating. This treatment only affects ratings on the cusp of falling into another rating category (for instance a AA- that could fall into the A category). No comparable adjustment is made for securities assigned a Positive Rating Watch or for securities subject to a Rating Outlook, whether Positive or Negative. For securities that only carry a short-term rating, Fitch uses the conversions detailed in the margin table on the left.

In cases of highly concentrated funds, or derivatives-based funds with a low number of counterparties, Fitch may credit-link the rating of the fund to that of the lowest rated obligor or counterparty. Specifically, if a fund has more than five but less than 10 obligor exposures, other than relating to high-quality sovereigns, supnationals and agencies, and any one of those exceeds 30% of the total portfolio, Fitch will credit link the Fund Credit Quality Rating to that of the lowest rated obligor or counterparty.

Fitch uses issue-specific ratings in its analysis, which take into consideration subordination and potential collateralization. Fitch starts with its own ratings, but where these ratings are not available, the lowest of other ratings assigned by recognized global agencies is applied. Where a fund materially invests in unrated diversified positions (such as CDS indices, funds or ETFs), Fitch will conduct a look-through analysis to the underlying exposures based on available information and use an estimate of the weighted-average rating (or WARF) of the position in its overall WARF calculation. If the diversified position is an unrated, regulated money market fund, Fitch will estimate the fund’s portfolio credit factor to determine the fund’s rating input in its WARF calculation. For a single name CDS, Fitch considers the rating of the reference entity.

For assets that are not publicly rated by any of the globally recognized rating agencies, Fitch will assume the asset is rated ‘CCC’ for the purpose of its WARF calculation. There are exceptions to this approach: first, if Fitch maintains, or asks the relevant analytical team at Fitch to provide a credit opinion, a privately monitored rating or an estimated minimum rating. Second, in limited circumstances, the agency may consider the fund manager’s own credit assessments, if the Fitch rating committee judges them to be comparable to the agency’s own internal credit assessment. This approach would, however, only be on a case-by-case basis, and the agency would expect securities with ratings obtained in this manner to make up in aggregate 10% or less of the portfolio. Third, Fitch may, in specific circumstances outlined in the appendices to this criteria and/or related bespoke criteria, impute reference ratings for unrated subsidiaries of rated parents, for the purposes of its WARF calculation.

Calculating WARF

(Factors Applied to Securities with Only Short-Term Ratings)

ST Rating	Factor
F1+	AA
F1	A
F2	BBB
F3	BBB

Source: Fitch Ratings.

Guideline WARF Ranges

WARF Range (>=, <)	WARF - Implied Fund Credit Quality Rating
0.0-0.3	AAA
0.3-0.9	AA
0.9-2.1	A
2.1-6.1	BBB
6.1-15.8	BB
15.8-32.4	B
32.4-100	CCC and below

Source: Fitch Ratings.

Counterparty Risk

Portfolios may be exposed to counterparty risk from different sources, including repurchase agreements, swaps or cash deposits. Non-cash counterparty exposures that are not subject to frequent margining and appropriate levels of collateralization are not eligible exposures in Fitch-rated funds. In the case of repurchase agreements where the fund is the lender, Fitch will employ the framework outlined below to evaluate a repurchase agreement based on the credit quality of the counterparty and underlying collateral.

(In repurchase agreements with unrated counterparties that are subsidiaries of rated financial institutions, Fitch will look to the ratings of the parent company, except in circumstances when the agency believes the credit profile of the unrated subsidiary would not be linked to its parent's rating.)

Where the repo contract is fully backed by liquid collateral of higher credit quality than the counterparty (i.e. highly rated government securities), where there is substantial visibility on the collateral composition and the composition of the collateral is expected to remain consistent, and the repo contract is governed by a legal regime under which there is only a remote risk of any stay (as defined by standard developed-market convention; the ISDA U.S. Stay Protocol, for example) on repo collateral in the event of counterparty failure, then Fitch may look to the credit quality of the underlying collateral in its WARF and Market Risk Factor (MRF) calculations.

The table below illustrates Fitch's framework on repurchase agreements. Fitch will use either the collateral rating when the collateral is rated higher than the counterparty, or the counterparty rating when the collateral is rated lower. Similarly, Fitch will look to the maturity of the repo contract when the counterparty is investment grade, or the maturity of the underlying collateral when the counterparty is below investment grade or unrated.

Matrix of Assumed Credit Quality and Maturity for Repurchase Agreements

Collateral Credit Quality	Counterparty Ratings	
	Investment-Grade Counterparty, or Deemed Equivalent	Non-Investment-Grade Counterparty, or Deemed Equivalent
Higher than Counterparty	Credit: Collateral Rating Maturity: Repo Contract	Credit: Collateral Rating Maturity: Collateral
Lower than Counterparty	Credit: Counterparty Rating Maturity: Repo Contract	Credit: Collateral Rating Maturity: Collateral

For non-fixed-income collateral, a 'CCC' rating factor and duration of 30 years is applied to the WARF and MRF calculations.

Repo transactions not collateralized by high-quality collateral rated higher than the counterparty or exposed to the risk of a stay in bankruptcy are treated as direct unsecured credit exposure to the counterparty.

Cash

Funds may have cash balances, held in bank deposits or invested in money market instruments. Fitch treats such exposures as it would any other exposure in its rating analysis. For example, Fitch would use a rating factor of 0.01 for a 60-day time deposit with an ‘A’ rated bank.

Some funds may be able to leave cash uninvested at the fund’s custodial bank. For such cases, Fitch uses the rating factor corresponding to the bank credit quality in its portfolio WARF calculation, unless there is full segregation of uninvested cash balances at the fund’s custodian, and where such cash is legally and operationally ring-fenced from other bank creditors, such as under UCITS V legislation. In these cases, a rating factor of 0 is applied for the purpose of WARF calculation where Fitch has information to support such segregation.

Other funds, such as U.S. LGIPs, may sometimes invest in deposit programs sponsored by a given U.S. state and intended to allow public-sector entities to invest in collateralized or credit-enhanced deposits. Fitch will assess the credit quality of these programs based on their terms, which may include features like overcollateralization of deposits or joint and several guarantees amongst deposit institutions. In the case of joint and several guarantees, Fitch will impute a rating for the program based on the ratings of the two highest-rated banks participating in the program as shown in the following table. This imputed rating allows for a cushion relative to the banks’ ratings in case the banks guaranteeing the deposits are downgraded or move out of the program. Fitch will periodically reassess the terms of these deposit programs and the participating banks.

Assumed Credit Quality for Joint and Several Deposit Programs

		Highest Rated Bank							
		AAA	AA+	AA	AA-	A+	A	A-	BBB+
Second Highest Rated Bank	AAA	AA+							
	AA+	AA	AA						
	AA	AA	AA-	AA-					
	AA-	AA	AA-	A+	A+				
	A+	AA	AA-	A+	A	A			
	A	AA	AA-	A+	A	A-	A-		
	A-	AA	AA-	A+	A	A-	BBB+	BBB+	
	BBB+	AA	AA-	A+	A	A-	BBB+	BBB	BBB

For deposit programs that benefit from a guarantee or a letter of credit (LOC) that is payable to the fund, Fitch will look to the rating of the guarantor and the stated maturity of the deposit. In other instances where a guarantee is not provided but deposits are collateralized, and the fund or a custodian has direct access to the collateral, Fitch will consider the rating of the deposit bank as well as the collateral, using the same criteria as described for repo agreements above.

Criteria for Fund Market Risk Sensitivity Ratings

Fitch may assign Fund Market Risk Sensitivity Ratings in certain instances, subject to market relevance or regulatory demand, in addition to the Fund Credit Quality Rating. Fund Market Risk Sensitivity Ratings are primarily based on an analysis of a fund portfolio’s interest rate duration (modified/effective duration) and spread duration, and adjusted for the effects of leverage (where applicable), as measured by Fitch’s market risk factor detailed below. Fund Market Risk Sensitivity Ratings are expressed on a scale ranging from ‘S1’ (very low sensitivity to market risk) to ‘S6’ (very high sensitivity to market risk).

Market Risk Sensitivity Ratings

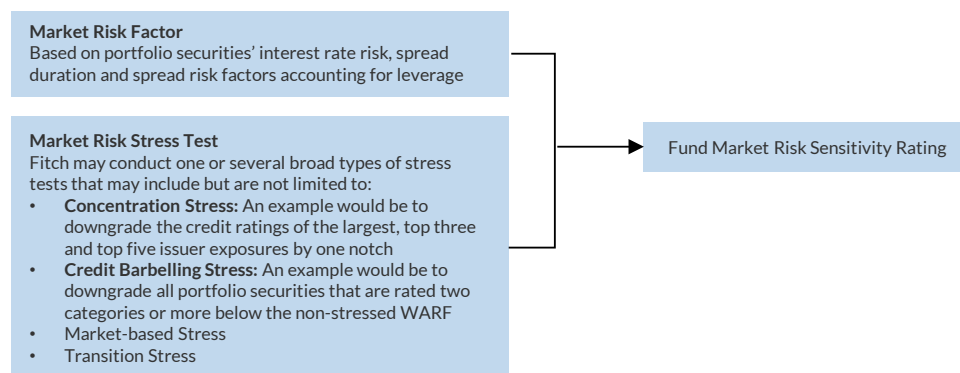
Market Risk Sensitivity	Market Risk Sensitivity Rating	Market Risk Sensitivity Factor ^a (>=, <)
Very Low	S1	<2.0
Low	S2	2.0–4.0
Moderate	S3	4.0–7.5

Market Risk Sensitivity Ratings

Market Risk Sensitivity	Market Risk Sensitivity Rating	Market Risk Sensitivity Factor ^a (>=, <)
Moderate to High	S4	7.5–12.5
High	S5	12.5–17.5
Very High	S6	>17.5

^aDifferent cutoff points may be applied in certain national markets to reflect regulatory and structural characteristics of that specific market as detailed in Appendix A.
Source: Fitch Ratings.

Fund Market Risk Sensitivity Rating – Simplified Diagram



Source: Fitch Ratings.

Market Risk Analysis: Fitch's Market Risk Factor

An analysis of the portfolio's market risk factor serves as the primary tool used in assigning Fund Market Risk Sensitivity Ratings.

A portfolio's market risk factor is calculated by combining the portfolio interest rate duration and risk-adjusted spread duration of the securities in the portfolio, and adjusting the result for the effect of any leverage. The weight of a security is the proportion of the market value of a portfolio represented by that security. As a rule, the higher the portfolio's market risk factor, the higher the sensitivity to interest rate, spread and other market risk variables.

Other market risk factors that Fitch may factor into its analysis include concentration risk, currency risk, hedging strategies and other risks.

Interest Rate Risk

Fitch's primary measure of interest-rate risk is modified duration (i.e. the sensitivity of market value to changes in the levels of interest rates, assuming a parallel shift in the yield curve). Fitch evaluates interest-rate risk by analyzing modified duration at the individual security and portfolio levels. The agency may also calculate a portfolio's weighted-average maturity to interest-rate reset date (WAM) in its interest-rate risk analysis as a conservative proxy for modified duration. In cases where a fund's underlying holdings include securities with embedded options, such as mortgage-backed securities, Fitch may use effective duration to more accurately measure interest-rate risk. Where a fund invests in diversified positions (such as CDS indices, funds or ETFs), Fitch will conduct a look-through analysis to the underlying exposures and use the estimated weighted average duration and credit ratings of the position in its MRS calculation.

Spread Risk

Spread risk considers the portfolio's market value sensitivity to changing credit spreads. Credit spreads reflect a risk premium demanded by the market for holding securities of a "lesser" quality than "the highest quality" (usually government) securities – for credit, liquidity or technical reasons.

Spread risk can be measured by calculating a portfolio’s spread duration (sensitivity to changing credit spreads) and adjusting that calculation according to a spread risk factor. Fitch may also calculate a portfolio’s WAL in its spread risk analysis as a conservative proxy for spread duration. *(In the case of fixed-rate bonds and notes, the spread duration is the same as the first duration metric.)*

Fitch’s spread risk factors, detailed in the table below, are based on the historic volatility of credit default swap (CDS) spreads, combined with an analysis of observed fixed-income index return volatility at each rating level as the breadth and availability of CDS spread data can vary. The analysis supporting the development of these factors therefore considers both the sensitivity to spread movements — as measured by the fund’s spread duration — as well as the relative level of spread volatility observed historically.

Fitch applies no spread risk factor to “the highest quality” securities, i.e. those rated ‘AAA’, and an incremental spread risk factor at the ‘AA’ level. Fitch’s spread risk factors increase as credit quality decreases.

Spread Risk Factors^a

	AAA	AA	A	BBB	BB	B	CCC and Below
Spread Risk Factor	0.0	0.1	0.2	1.0	2.0	4.0	7.0

^aBased on an analysis of Fitch Solutions non-financial corporate CDS spread volatility for the 2007 - 2022 period and Bank of America Merrill Lynch global fixed-income market index total return volatility for the 1997 -2022 period. Spread risk factors are based on volatility of observed CDS spreads relative to those observed at the ‘AA’ level. Source: Fitch Ratings.

Spread risk is accounted for by multiplying the security’s spread duration by the spread-risk factor corresponding to the credit quality of the security. This calculation is performed at an individual security level. An example of this calculation is presented in Appendix B.

Fitch recognizes that some asset classes may have spread risk sensitivities that differ from the assumptions incorporated in its core spread risk factors. Accordingly, as part of its rating analysis, Fitch reviews the asset class, geography and security type exposures of funds it rates. Should Fitch determine that the fund has more than approximately a quarter of the portfolio in securities for which the absolute and/or relative spread risk sensitivity exhibits markedly different volatilities from those observed in CDS spreads and fixed-income index volatilities from which the spread-risk factors are derived, then the agency will either apply a qualitative adjustment to the Market Sensitivity Rating implied from its core spread risk factors or adjust the spread-risk factors used in its rating analysis.

This treatment will be disclosed in the associated rating action commentary. Fitch will utilize the standard spread risk factors in markets where it is unable, because of a lack of data, to reliably determine that spread risk sensitivity is different.

$$\text{Market Risk Factor} = \text{Duration} + (\text{Spread Duration} \times \text{Spread Risk Factor})$$

Portfolios may be constructed with very low sensitivity to interest-rate risk and materially greater exposure to spread risk by heavily investing in floating-rate instruments. Given that floating-rate notes typically reset quarterly, a portfolio composed largely of such securities will have very low interest-rate risk – 90 days or less to be precise – but the final maturity of these instruments may be longer, resulting in higher spread risk. The market risk factor calculated for such funds, therefore, can be low, particularly for higher-rated portfolios. Fitch reserves the right to apply qualitative adjustments to its market risk factor calculation to recognize this barrelling of risks.

Currency Risk

Portfolios may include unhedged multicurrency assets and/or liabilities. The impact of currency risk is assessed relative to the base currency of the portfolio in which the investment is made. If Fitch considers a fund to have material foreign-currency risk, it may apply a qualitative adjustment to the market risk factor.

A portfolio composed of a pool of securities denominated in different currencies but which offers investors a choice of the currency in which their participation is denominated, may have different Market Risk Sensitivity Ratings for each currency class.

Any subsequent translation of returns into investors' own particular base (or accounting) currency from the currency in which the fund is denominated is not accounted for, and this risk remains for them to hedge – or not – accordingly.

Hedging

Some portfolios have the ability to use derivative instruments to hedge market risk or manage their risk exposures more dynamically. In its assessment, Fitch distinguishes between systematic hedging and discretionary trading/adjustment. Recognition for systematic hedging may be given in the Fund Market Risk Sensitivity Rating if the manager can demonstrate its ability to structurally reduce market risk sensitivity through these positions.

For example, a fund may use interest-rate swaps (or other instruments) to reduce a portfolio's sensitivity to interest-rate risk. If the manager in this example can demonstrate to Fitch that the hedging strategy is both effective and consistently applied and that the manager has proven hedge management capabilities, then Fitch will factor the results into its analysis. In this example, Fitch would base its market-risk-factor calculation on a lower duration than implied by the portfolio's actual holdings due to the effectiveness of the interest-rate hedging mechanism. Fitch considers counterparty quality as outlined in the Counterparty Risk section above.

Leverage

Portfolios may employ leverage to achieve their investment objectives. Many derivatives or structured securities can create *de facto* or economic leverage, offering investors higher yields with lower upfront investment, at the expense of greater price and total return volatility. In such cases, Fitch will factor such economic leverage into its analysis. For example, a fund may use interest rate swaps or long bond futures to increase the portfolio's sensitivity to changes in interest rates. In this scenario, Fitch would base its market-risk-factor calculation on a higher duration than implied by the portfolio's actual holdings due to the effect of such derivatives. Fitch considers counterparty quality as outlined in the Counterparty Risk section above.

Portfolios may also employ financial leverage to achieve their investment objectives. This is done typically through securitized lending arrangements (notably reverse repurchase agreements), bank lines, margin financing or other debt-like facilities.

When evaluating the impact of financial leverage on portfolios, Fitch applies a multiplier to its market risk factor in a linear manner. Building on the standard formula, the market risk factor calculation can be as follows:

$$\text{Market Risk Factor} = [\text{Duration} + (\text{Spread Duration} \times \text{Spread Risk Factor})] \times \text{Leverage}.$$

Stress Tests

Unless it is judged to not be a meaningful exercise, such as in the case of a highly granular, high credit-quality, and actively managed portfolio, Fitch complements its overall portfolio analysis framework with principles-based stress tests. These stress tests focus on assessing portfolio sensitivity to negative credit migration (downgrades). Depending on the characteristics of a portfolio or the ratings headroom implied by a portfolio's base WARF and/or MRF calculations, Fitch may conduct one or several broad types of stress tests, typically at the time of initial and ongoing rating reviews and/or in response to market developments. The types of stresses and examples of the forms they may take include, but are not limited to, the following.

Concentration Stress: Fitch may develop assumed downgrade scenarios based on specific issuer exposure(s), particularly where the issuer(s) represent(s) a relatively large share (5% or more for one issuer, if uncollateralized, for example) of the fund's holdings and/or in relation to larger longer-dated exposures. Examples of such stress tests would be to downgrade the credit ratings of the largest, top three and top five issuer exposures by one notch.

Credit Barbell Stress: Fitch may develop assumed downgrade scenarios based on the ratings distribution in order capture the effect of credit "barbelling". An example of such a stress test

would be to downgrade all portfolio securities that are rated two categories or more below the (non-stressed) WARF-implied fund rating level by one notch and recalculate the WARF.

Market-Based Stresses: If issuers in one particular jurisdiction, or from one particular sector, are experiencing adverse credit developments, Fitch may assume downgrades (potentially of differing magnitudes if considering multiple stress scenarios) to relevant issuers in that jurisdiction or sector.

Transition Stresses: Fitch may assume portfolio-level downgrade scenarios representing potential downward ratings migration, informed by historical transition data, for passively managed portfolios, which may be unable to actively sell or remove downgraded exposures date, or where potential rebalancing would not sufficiently address credit migration.

Upon applying any of these stresses, Fitch would then recalculate the portfolio's WARF and MRF scores taking into consideration these assumed downgrades. Individual rating committees will judge the appropriateness of the scenarios in determining materiality to a portfolio's Fund Credit Quality Rating and Fund Market Risk Sensitivity Rating. The committee will take into consideration the severity of stresses applied and the results under different scenarios (if more than one is considered). Fitch will use the stress test results as an input into its overall assessment of the risk of a fund's portfolio and ability of fund management to mitigate credit migration risk.

In the case of funds whose WARFs are particularly sensitive to the stress tests, or where potential rebalancing would not sufficiently address credit migration, Fitch may assign lower ratings, including through the application of rating modifiers (+ and -) to the Fund Credit Quality Rating to reflect the relative risk of the fund within the rating category. *(As a general practice, Fitch does not apply rating modifiers [+ and -] in issuing Fund Credit Quality Ratings, but may do so in limited circumstances such as to reflect the relative weakness of a fund within its rating category due to weak stress test results, or other reasons [i.e. to reflect a country rating ceiling], which will be disclosed in Rating Action Commentaries.)* This would also apply to passively managed strategies, such as index-tracking ETFs, which may be unable to actively sell or remove downgraded exposures. Similarly, in the case of funds whose MRFs are particularly sensitive to the stress tests, Fitch may adjust the ratings to reflect higher market risk sensitivity than otherwise implied by the MRF.

Additionally, where the results of Fitch's stress testing suggest material weakness in a fund's credit profile, Fitch may place the ratings of the fund on Rating Watch Negative (RWN) or Rating Outlook Negative (RON), or downgrade it, barring any remedial action planned by the investment manager or other mitigating factors. Ultimately, individual rating committees will determine the relevance of any given stress testing scenario and results to ratings.

Surveillance

Fitch reviews current and historical information on rated funds as part of its process for updating and maintaining its ratings.

Fitch requires rated funds to provide the agency with periodic information on the fund's holdings. In most cases, Fitch requires this information at least monthly, barring situations in which regulatory restrictions mean that the frequency of information provision is reduced. If the historical composition of the portfolio and the framework and nature of the fund provide evidence of stability (e.g. pension funds with buy and hold strategies), Fitch might require information less frequently. The agency will evaluate such instances on a case-by-case basis.

The source of surveillance information can be the fund manager, a custodian or an administrator typically.

As a minimum, Fitch requires the following portfolio holdings information:

- Security name and relevant identifiers (such as ISIN or CUSIP numbers, where applicable).
- Current market value exposure (notional for CDS) in fund's base currency.
- Fitch may also request additional information to aid its analysis, such as:
 - Expected maturity (WAL for ABS, put date if put held by investor).

-
- Legal final maturity.
 - Next reset date.
 - Current issue-specific ratings (including Rating Watches and Outlooks, where applicable).
 - Currency.
 - Asset type.

At its periodic meetings with managers of rated funds, Fitch will discuss hedging strategies where applicable.

Fitch recognizes that, in limited circumstances, changes in key portfolio metrics may moderately and temporarily move outside the agency's rating criteria for its assigned ratings. For example, an underlying asset downgrade or outflows may moderately increase the portfolio's WARF above the limit for the portfolio's current rating category. While material and/or continuous deviations from rating criteria will have rating implications, there is often a reasonable basis for a short grace period, provided the investment manager has proposed credible and achievable near-term remedial actions to resolve or mitigate the risks. Fitch will evaluate such instances on a case-by-case basis to determine whether the changes are material to the ratings.

Variations from Criteria

Fitch's criteria are designed to be used in conjunction with experienced analytical judgment exercised through a committee process. The combination of transparent criteria, analytical judgment applied on a transaction-by-transaction or issuer-by-issuer basis, and full disclosure via rating commentary strengthens Fitch's rating process while assisting market participants in understanding the analysis behind our ratings.

A rating committee may adjust the application of these criteria to reflect the risks of a specific transaction or entity. Such adjustments are called variations. All variations will be disclosed in the respective rating action commentaries, including their impact on the rating where appropriate.

A variation can be approved by a ratings committee where the risk, feature, or other factor relevant to the assignment of a rating and the methodology applied to it are both included within the scope of the criteria, but where the analysis described in the criteria requires modification to address factors specific to the particular transaction or entity.

Limitations

Analysis and rating decisions are based on relevant public and non-public information. The main sources of this information are the issuer and/or fund administrator and the public domain. This includes publicly available information pertaining to the fund, such as audited and unaudited (e.g. interim) financial statements and regulatory filings. The rating process may incorporate information provided by third-party sources. The relevant source of information material to the rating is disclosed in every rating action commentary.

Fitch conducts a reasonable investigation of the factual information it relies on, in accordance with its rating methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or jurisdiction. Issuers may choose not to share certain information with external parties, including rating agencies, at any time. While Fitch expects each issuer that has agreed to participate in the rating process, or its agents, will supply promptly all information relevant for evaluating both the ratings of the issuer and all relevant securities, Fitch neither has, nor would it seek, the right to compel the disclosure of information by any issuer or any agents of the issuer.

This is a global master non-credit criteria report addressing the agency's international and national rating scales. Not all rating factors in these criteria may apply to each rating action. Each specific rating action commentary or rating report will discuss those factors most relevant to the individual rating action.

The primary focus of this criteria report is on portfolios of debt securities, such as bond and loan funds, short-term bond funds, LGIPs, fixed-income debt security ETFs and managed pools of fixed-income debt securities. These funds may contain a variety of debt instruments, such as bonds and loans, bank capital, sovereign debt and structured finance securities. In general, Fitch rates money market funds under its “[Money Market Fund Rating Criteria](#).”

This report does not address the ratings of debt issued by U.S. and non-U.S. leveraged closed-end funds regulated under the Investment Company Act of 1940, as amended. These funds are specifically addressed in the agency’s criteria report: “[Closed-End Funds and Market Value Structures Rating Criteria](#).”

Fund Credit Quality Ratings measure the aggregate credit risk of a portfolio and do not measure expected risk of default for a fund itself. Funds generally cannot default but, rather, experience changes in their total return and/or net asset value available to fund investors.

Another limitation to Fitch’s bond fund ratings includes event risk. This is defined as an unforeseen event, which, until the event is known, is not included in the existing ratings. Prominent event risks for funds include sudden, dramatic and unexpected changes in financial market prices or liquidity, adverse regulatory decisions, litigation and massive redemptions, driven by the abovementioned factors or otherwise. Ratings may already include a reasonable assumption that a fund is vulnerable to financial market events or regulatory pressures, but the specifics of the event and its effect will not be known until the event is announced or completed, at which point the effect on ratings can be ascertained. Fitch does not give an opinion on the redemption risk investors may face for open-ended funds.

Additional limitations:

- The ratings do not predict a specific level or range of performance of a portfolio over any given time.
- The ratings do not offer opinions on the suitability or otherwise of a portfolio for investment or any other purposes.
- Fund Credit Quality Ratings do not provide an opinion on any quality related to a portfolio other than the actual and prospective average credit quality of the invested portfolio.
- Fund Market Risk Sensitivity Ratings only offer opinions on certain matters such as the sensitivity of a portfolio’s total return and/or changes in net asset value to assumed changes in credit spreads and interest rates. They also give views on certain other market risk parameters, and take into account the effects of leverage where applicable.
- Fund Credit Quality Ratings do not opine on the redemption risk of any rated fund. Accordingly, the ratings do not consider the possibility that rated funds may suspend redemptions or apply other extraordinary liquidity management measures.

Fund Market Risk Sensitivity Ratings do not predict the direction or magnitude of changes in such market conditions and, therefore, do not predict whether, or the extent to which, any particular fund or portfolio will perform favorably or adversely in the future. Fund Market Risk Sensitivity Ratings do not gauge the sensitivity of a portfolio to extreme risks that may result from reduced liquidity in secondary markets during certain periods or, in the case of closed-end funds, the effects of secondary market prices on the fund’s shares.

For Fund Credit Quality Rating and Fund Market Risk Sensitivity Rating definitions, refer to the Fitch Ratings website: https://www.fitchratings.com/creditdesk/public/ratings_defintions/index.cfm.

Appendix A: National Scale Bond Fund Ratings

Fitch assigns National Scale Bond Fund Ratings to funds operating in countries where, for some rating factors, a comparison with international ratings may not be applicable. In such instances, those factors are evaluated relative to local market features. Each national rating scale is unique and is defined to serve the needs of its local market. Comparisons between different national scales, or between an individual national scale and the international rating scale, are inappropriate and potentially misleading.

Consequently, National Bond Fund Ratings are identified by the addition of a special identifier for the country concerned, such as 'AAf/S1(mex)' for National Bond Fund Ratings in Mexico. In certain countries, the national bond rating scale may follow specific market standards as defined by the local regulator. Fitch publishes these rating scales on local Fitch websites to serve those specific markets. Linked here are the websites where local scales and rating definitions can be found for [Brazil](#), [Colombia](#) and [Mexico](#).

National Fund Credit Quality Ratings

For National Scale Fund Credit Quality Ratings where funds may invest cross-border, the portfolio or fund's credit quality is evaluated on the basis of country-specific fund credit quality rating factors to derive the WARF. These country-specific factors are derived by mapping the international fund credit quality rating factors to national scale equivalencies, according to the National Ratings Correspondence Tables.

Conversely, in jurisdictions where funds are domestic only, Fitch applies the international scale factors directly to the national market in question. For example, in Taiwan, China, Fitch would use the same 'AA' 91-397 day factor as it would use for International Scale Ratings (0.1); however, the Fund Credit Quality Rating itself is expressed on the Taiwan national rating scale, which anchors the 'AAA(twn)' point at the level of the Taiwan sovereign.

Additionally, when providing Fund Credit Quality Ratings on a national scale — and when Fitch or other globally recognized rating agency ratings are not available for securities within a portfolio — Fitch may consider credit ratings provided by local credit rating agencies in assessing portfolio credit risk. Fitch may adjust such ratings if Fitch considers it to be appropriate taking into consideration a review of the track record and outputs of the agency in question, when possible, and/or taking into account differences in rating methodologies with those of Fitch to ensure a consistent assessment of credit risk across the portfolio. Fitch would expect, however, that the majority of the assets within a portfolio would be rated by a globally recognized rating agency, and that a minority of the portfolio would be subject to this treatment.

Minimum portfolio size: in local markets where, as a result of regulation or standard market practice, fund structures are commonly used as pass-through structures, Fitch will not apply the minimum number of assets required for International Scale Ratings, and instead apply the standard WARF calculations on a look-through basis.

When considering repurchase agreements in the context of National Scale Ratings, Fitch applies the treatment outlined in the Counterparty Risk section within the "Matrix of Assumed Credit Quality and Maturity for Repurchase Agreements" table by considering the National Scale Ratings of the underlying collateral relative to the National Scale Rating of the repurchase agreement counterparty.

National Scale Market Risk Factors

Fitch adjusts the market-risk-factor ranges at each rating level for National Scale Ratings to account for factors specific to national markets, such as independent interest-rate movements, the range of investment options in terms of duration, or the stage of capital market development. To make full use of the rating scale in national markets, the ranges for each market risk factor level are tighter than for International Scale Ratings. An example is provided below.

Fund Market Risk Sensitivity Ratings

Market Risk	Market Risk Sensitivity Rating	Market Risk Factor (>=, <)
Very Low	S1	<0.6
Low	S2	0.6–1.0
Moderate	S3	1.0–2.25
Moderate to High	S4	2.25–3.5
High	S5	3.5–6.0
Very High	S6	>6.0

Note: Market Risk Factor levels may vary by country.
Source: Fitch Ratings.

Liquidity and Other Risk Factors

The spread risk factors used to calculate the Market Risk Sensitivity Factors already reflect a risk premium for liquidity, credit and technical reasons that are inherent to the individual securities. However, in certain national markets, regulators require the assessment of additional variables not mentioned in the body of this methodology to be included in the analysis of funds. For example, Fitch may be required to address specific aspects of liquidity. In such cases, Fitch complements its analysis with other elements that could impact the overall liquidity profile of a fund, such as investor concentration, fund structure, the percentage of the portfolio invested in short-term assets, among other variables.

This assessment can result in an adjustment to the Market Risk Sensitivity Rating to reflect greater market risk sensitivity if Fitch perceives any one element, or a combination of elements, to be contributing to greater liquidity risk relative to the investment objective of the fund.

As another example, Fitch may be required to review the historical returns of a fund in its overall assessment. In all such cases, Fitch will consider the additional required factors as part of its methodology for ratings in that particular country and make adjustments to the Fund Credit Quality Rating or Fund Market Risk Sensitivity Ratings as appropriate. Fitch will detail these rating adjustments in Fitch’s communications with the market, such as rating action commentaries and/or rating reports.

Fitch Fund Credit Quality and Market Risk Sensitivity ratings do not incorporate an opinion about the probability of extraordinary liquidity management measures nor redemption risk.

Non-Fixed Income Investments

While the scope of this methodology is to rate debt portfolios, in certain jurisdictions or regulatory frameworks, pension funds are also rated under these criteria. In such cases, the Fund Credit Quality Rating reflects only the portion of the portfolio in debt and excludes other investments. Fitch shall disclose in its communications when this practice is applied. In all other cases, Fitch expects the exposure to such investments that are not debt to be small. Apart from such cases, where the portion of assets that is not debt exceeds 10%, Fitch will consider not rating the portfolio under this methodology.

Fitch will reflect the small exposure to non-debt securities in the Fund Market Risk Sensitivity Rating by assuming that the proportion of investments that is not debt to be subject to the highest market risk factor range, treating such exposure as 30 year duration, and including this in the overall calculation of the Fund Market Risk Sensitivity Rating.

Appendix B: Example Calculations

Fund Credit Quality Rating

Sample Portfolio 1: Diversified Long-Term Portfolio

Credit Quality	Residual Maturity	Market Value % in Portfolio	Related Rating Factor
AAA	> 3 years	30	0.2
AA	> 3 years	30	0.6
A	> 3 years	30	1.6
BBB	> 3 years	10	3.2

Source: Fitch Ratings.

WARF: $[(30\% \times 0.2) + (30\% \times 0.6) + (30\% \times 1.6) + (10\% \times 3.2)] = 1.01$

- This falls within the 'A' WARF guideline range of 0.9–2.1.
- Indicative Fund Credit Quality Rating category: 'A'.

Sample Portfolio 2: Diversified Short-Term Portfolio

Credit Quality	Residual Maturity	Market Value % in Portfolio	Related Rating Factor
AAA	91 to 397 days	20	0.01
AA	91 to 397 days	20	0.05
A	91 to 397 days	30	0.3
BBB	91 to 397 days	30	0.9

Source: Fitch Ratings.

WARF: $[(20\% \times 0.01) + (20\% \times 0.05) + (30\% \times 0.3) + (30\% \times 0.9)] = 0.37$

- This falls within the 'AA' WARF guideline range of 0.3 – 0.9.
- Indicative Fund Credit Quality Rating category: 'AA'.

Fund Market Risk Sensitivity Rating

Market Risk Factor = {Duration + Spread Duration x Spread Risk Factor} x Leverage

Sample Portfolio 3: Diversified, Long-Term Portfolio

Credit Quality	Security Type	Residual Maturity	Market Value % in Portfolio	IR Duration	Spread Duration	Spread Risk Factor
A	Fixed-rate bonds	3 years	10	3	3	0.2
BBB	Floating-rate bonds	4 years 6 months to reset	40	0.5	4	1.0
BBB	Fixed-rate bonds	4 years	40	4	4	1.0
BB	Fixed-rate bonds	4 years	10	4	4	2.0

Source: Fitch Ratings.

Weighted average interest rate duration:

$[(10\% \times 3) + (40\% \times 0.5) + (40\% \times 4) + (10\% \times 4)] = 2.50$

Risk-adjusted weighted average spread duration:

$[(10\% \times 3 \times 0.2) + (40\% \times 4 \times 1.0) + (40\% \times 4 \times 1.0) + (10\% \times 4 \times 2.0)] = 4.06$

Market Risk Factor = weighted average interest rate duration + risk adjusted weighted average spread duration.

Market Risk Factor = 2.50 + 4.06 = 6.56

Indicative Fund Market Risk Sensitivity Rating: 'S3' (Range: 4.0 to 7.5)

Appendix C: Rating Process Description

The rating process goes through the following stages:

1. Initial contact between the fund manager and Fitch.
2. Initial information request and preliminary review of the requested information.
3. Initial meeting with relevant personnel.
4. Analysis of all information, preparation and distribution of committee package.
5. Rating committee decision and assignment of rating.
6. Communication of the rating decision and rationale to the fund manager.
7. Dissemination of the rating in the case of public ratings.
8. Surveillance and monitoring of the rating, except for point-in-time ratings.

This last stage is characterized by regular portfolio surveillance and communication with the fund manager. Fitch holds a formal meeting with each fund manager periodically, where topics such as long-term plans or strategies are discussed.

Appendix D: Fund Risk Analysis and New Funds or Changes in Investment Objective, and Finite Life Funds

Fitch performs a prospective analysis to ensure that the ratings provide a forward-looking view and exhibit stability over time. As part of this analysis, Fitch considers other risk factors inherent to the fund, specifically how the composition of the fund may vary according to market conditions, taking into account the risk limits stipulated in its prospectus.

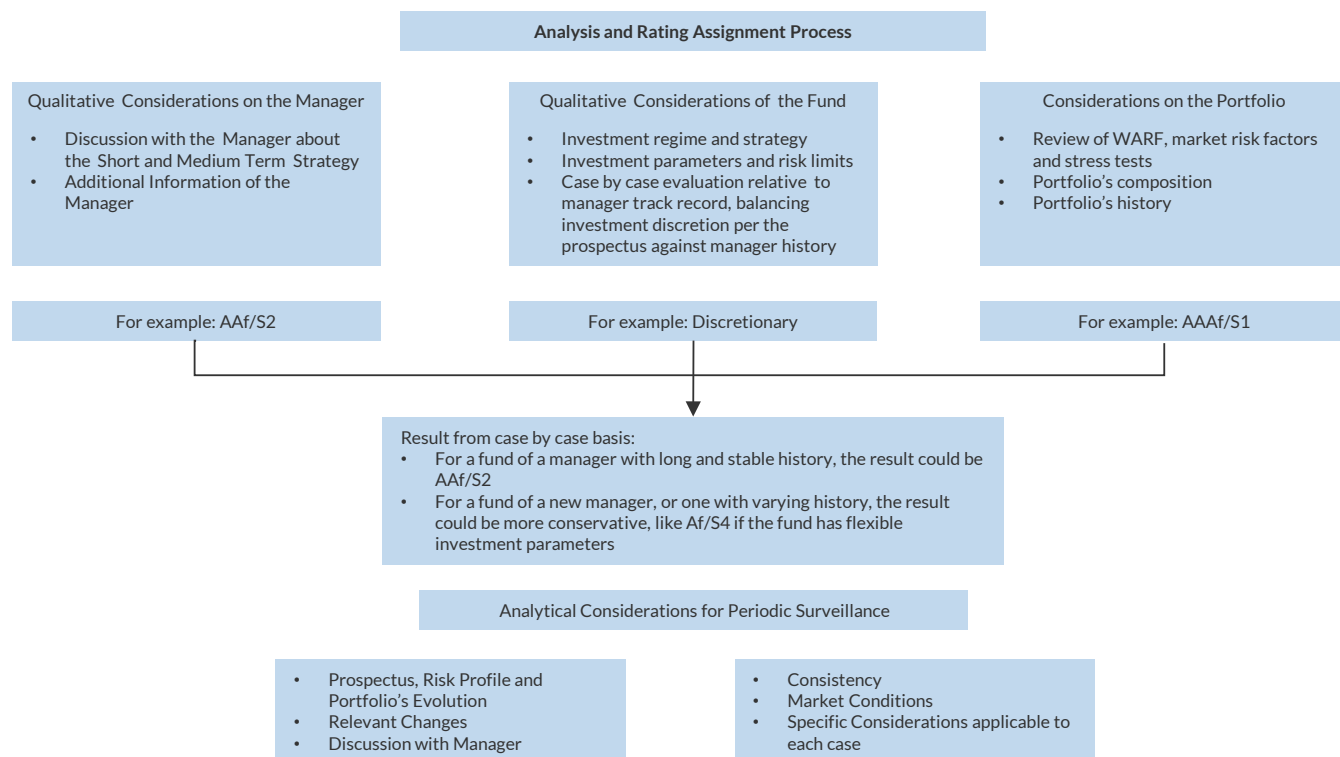
Fitch also takes into account the fund’s record (if applicable), as well as its investment regime and strategy as discussed with fund management, along with any changes or shifts in these strategies relative to market conditions. These elements inform the possible qualitative adjustments that could apply to the quantitative indicators of the actual or model portfolio. The magnitude of the qualitative adjustments depends on each case.

To ensure that ratings maintain a prospective view, Fitch maintains regular contact with managers to understand the development of the fund’s investment strategy, and to gather information on relevant changes in the composition of the portfolio that may affect key rating elements as part of its surveillance process. Fitch will take rating actions to reflect new information when necessary. The Rating Action Commentary will contain all specific considerations applicable to the ratings in each case.

New Funds or Changes in Investment Objectives

An understanding of the fund management’s intended strategy is particularly important in the case of new funds or where funds have changed their investment objective. When evaluating such funds Fitch requests:

- A current or model portfolio that reflects the strategy (or new strategy) to be applied.
- A draft prospectus.
- A discussion with relevant personnel on future strategy, plans, projections and other aspects.
- Manager information (for new funds).



Source: Fitch Ratings.

In evaluating such funds, Fitch takes into account the current or model portfolio, fund limits and incorporates information learned on the investment strategy from discussions with the fund's management to reflect these elements.

For example, a new fund (or a fund that has widened its investment objective) may have a very high quality and short-term investment portfolio that would otherwise be consistent with 'AAA' WARF or an S1 market risk sensitivity factor. However, if the new investment mandate indicates that the manager has substantial flexibility on the composition of the portfolio, and if fund management indicates to Fitch that it intends to use this flexibility, then the rating assigned to the fund may be adjusted to indicate a higher credit risk and market risk sensitivity than that implied by the current portfolio alone. For example, the fund may be rated 'AA'/'S2'.

Finite Life Funds

Fitch may be asked to rate funds with defined, finite lives (i.e. a fund with a scheduled termination date by which point assets will all have matured or been liquidated and proceeds returned to investors). Such funds will typically have ramp-up, stable state and wind-down periods. Conceptually, Fitch can rate such funds with the Bond Fund Rating Criteria; but the fund lifecycle provokes additional analytical considerations, notably relating to concentration risk and potential for WARF volatility during the ramp-up and wind-down periods.

Factors enabling a rating on such a fund would include factors that support the likelihood of achieving the targeted portfolio composition in a smooth and reasonable timeframe, such as committed capital from high quality investors.

Conversely, Fitch will not rate funds with extended ramp up periods or material indication that the target portfolio will not be readily achieved. In rating such a fund at inception, Fitch would take into account a target or model portfolio, as well as the fund's investment policy and risk limits. A case-by-case analysis would be required to determine the appropriate level of qualitative adjustment to account for the execution risk of achieving the targeted portfolio composition, and the concentration risk that the portfolio will experience during the ramp up phase.

Fitch will similarly take into account any execution and concentration risk related to the wind-down phase, which may also include concentration of cash positions with a custodian, and could ultimately create a credit linkage between the fund's rating and the concentrated positions. Fitch will detail additional rating considerations for such funds in the associated rating action commentary.

Non-Bond Portfolios

Fitch may rate portfolios comprising fixed income interests other than the bonds or loans considered in the core rating criteria framework. For example, the agency may rate portfolios of mortgages (residential or commercial) or portfolios of trade finance or supply chain receivables (see Appendix F). Conceptually, such portfolios may be addressed under the Bond Fund Rating Criteria alone, or in conjunction with other rating criteria maintained, for example, by Fitch's applicable Structured Finance rating groups. Any such enquiry will be addressed on a case-by-case basis and will likely be addressed through criteria variations or bespoke rating criteria.

Appendix E: Assigning Ratings Based on a Portfolio Including International and Nationally Rated Securities

Criteria for assigning new International Scale Bond Fund Ratings to funds that invest in a mixture of securities rated on an international rating scale and securities rated on national rating scales.

Indian Bond Fund Rating Criteria

Bespoke Credit risk Factors: Fitch uses the following bespoke Credit Risk Factors for securities rated 'AAA' on a national scale in India by domestic rating agencies it has identified as meeting consistent minimum rating standards. The bespoke 'AAA' India national scale credit risk factors correspond to Fitch's international scale 'BBB' category' (relating to entities rated BBB+, BBB and BBB-) credit risk factors included in this criteria.

The bespoke credit risk factors are based on an analysis of the transition and default (T&D) performance of Indian National Scale Ratings compared with Fitch's transition and default studies for International Scale Ratings. Fitch will periodically review these factors, particularly if the India sovereign rating changes. These factors are expected to be updated if and when the 'BBB' category credit risk factors are updated to ensure consistency with the global criteria. In the event a fund holds securities rated below 'AAA' on a national scale, Fitch will adopt conservative risk factors aligned with the 'BB' category and lower rating factors.

Fund Credit Quality Rating – Bespoke Credit Risk Factors

Rating/Residual Maturity	0–90 days	91–397 days	398 days–3 years	>3 years
AAA (India national scale)	0.6	0.9	1.4	3.2

Source: Fitch Ratings.

Consistent Minimum Rating Standards: Fitch uses ratings provided by domestic rating agencies in India that consistently satisfy Fitch's minimum rating standards. These domestic rating agencies have a large and established market presence within India, have practices that are consistent with accepted international standards, and are affiliated with companies that have a global presence and are subject to global regulation.

In addition, T&D rating performance data should support the use of National Scale Ratings published by eligible rating agencies in India. T&D data will support the use of national ratings when these data demonstrate: 1) a ratings distribution that is broadly consistent with international norms and that Fitch does not consider aggressive; 2) ratings stability; and 3) default experience that compares well with Fitch's own experience. Fitch has determined that India Ratings, CRISIL and ICRA meet these standards. Fitch will treat securities rated only by other local rating agencies as 'CCC' for the purpose of its rating analysis.

Country Ceiling: Fitch applies its Country Ceilings criteria to Indian bond funds rated on the international scale. The relevant Country Ceiling is that of India, irrespective of the fund's domicile, given that these funds are mainly exposed to economic conditions in India. Moreover, the Country Ceiling incorporates foreign-currency transfer and convertibility risk present in bond funds that have share classes denominated in currencies other than the Indian rupee.

Rating Sensitivities Ratings of Indian bond funds assessed using these bespoke criteria face an asymmetric sensitivity to changes in India's Country Ceiling. If the Country Ceiling is lowered, Fitch would expect to downgrade rated Indian bond funds to no higher than the applicable Country Ceiling. Conversely, Fitch would not expect to upgrade the ratings if the Indian Country Ceiling is upgraded, unless changes are warranted to the agency's applicable bespoke credit risk factors.

The ratings are also highly likely to be sensitive to the Indian sovereign rating, both to the extent that changes in the sovereign rating and Country Ceiling are likely to be correlated, and because Indian bond funds may have significant exposure to Indian government bonds.

All other rating sensitivities described in these global criteria also apply.

Appendix F: Assigning Ratings to Trade Finance Funds

Additional analytical considerations which may be relevant when assessing trade finance funds include the use of trade credit insurance, exposure to unrated obligors and structures with notes backed by trade finance assets.

The Bond Fund Rating Criteria is only applicable to trade finance funds where there is full recourse to the obligor, for example 'accepted' invoices. Trade finance assets that are subject to performance or dilution risk are not addressed in this criteria.

Trade Credit Insurance

Trade finance funds commonly use trade credit insurance contracts to hedge against the risk of losses due to non-payment by the underlying obligors.

For a given exposure covered by trade credit insurance, Fitch will recognize the protection provided by an insurer (via the insurer's Insurer Financial Strength rating) to determine the exposure's credit rating factor, subject to a qualitative review of policy terms and other conditions that can affect the enforceability of the insurance contract.

The qualitative review will consider:

- The ultimate beneficiary of the policy
- The maximum liability of the policy
- The expected timing for claim pay-outs
- Any relevant policy exclusions
- The fund manager's underwriting and legal review process with respect to insurers and policy terms
- The track record of the insurer in the asset class
- The degree of the fund manager's and insurer's visibility into the underlying obligor exposures (frequency of disclosures and granularity of information)

Trade finance asset exposures will be split between those covered by insurance and those where the risk relates to the underlying obligor. Fitch will treat the former portion as credit exposure to the insurance company if the insurer is rated higher than the obligor.

For example, in a hypothetical portfolio in which an insurance company assumes 80% of the risk of non-payment, Fitch will apply the insurer's IFS rating for 80% of the WARF calculation and the weighted average rating of the underlying obligors for the remaining 20% of the WARF calculation.

Unless the policy states otherwise, Fitch will adopt this treatment up to the maximum policy liability amount stated in the insurance contract, assuming the exposures with the lowest credit quality are covered by the insurance first.

Example Portfolio with Trade Credit Insurance:

Assumptions

- Insured portion of the portfolio: 80% [of each individual obligor default]
- Maximum Policy Liability amount: EUR 350m
- Maximum expected claims pay-out timing: 0.5years
- Insurer Financial Strength rating: 'AA'

Obligor credit quality	Insurer credit quality	Residual maturity (years)	Maturity including pay-out	Market value (EUR)	Portfolio weight	Insured amount (EUR)	Uninsured amount (EUR)	Insurance Adjusted Credit Risk Factor	Weighted Credit Factor	Market Risk Factor	Weighted Market Risk Factor
AA	AA	0.08	N/A	400m	40%	0m	400m	0.01	0.004	0.09	0.036
BBB	AA	0.32	0.82yrs	400m	40%	190m	210m	0.57*	0.228	0.77**	0.308

BB	AA	0.74	1.24yrs	100m	10%	80m	20m	2.16	0.216	1.67	0.167
B	AA	0.08	0.58yrs	100m	10%	80m	20m	4.08	0.408	0.65	0.065
Portfolio Level Factors (Sum)										0.856 ('AAf')	0.576 ('S1')

*Credit Risk Factor Calculation for 'BBB' rated obligation = ('AA' risk factor * insured portion) + ('BBB' risk factor * uninsured portion) = (0.1 * (190m/400m)) + (1.0 * (210m/400m)) = (0.1 * 47.5%) + (1.0 * 52.5%) = 0.5725

Insured portion calculated as:

'BBB' obligor insured portion = (Maximum Policy Liability – 'B' obligor insured amount – 'BB' obligor insured amount) / market value of 'BBB' obligor = (350 – (80% of 100) – (80% of 100)) / 400 = (350 – 80 – 80) / 400 = 190 / 400 = 47.5%

**Market Risk Factor Calculation for 'BBB' rated obligation = ((Insured duration + (Insured spread duration x Insured spread risk factor)) * insured portion) + ((Duration + (Spread Duration x Spread Risk Factor)) * uninsured portion)
Market Risk Factor = (0.82yrs + (0.82yrs * 0.1) * 47.5%) + (0.32 + (0.32 * 0.6) * 52.5%) = 0.77

Insured duration calculated as: duration + maximum expected claims pay-out timing = 0.32yrs + 0.5yrs = 0.82yrs

Changes in the net asset value available to fund investors are sensitive to, among other things, any time lag between when an obligation is first due and when an insurer may pay out a claim should the obligor default. For the insured portion of an exposure Fitch will add the expected timing for a claim pay-out to the maturity date to reflect the additional market risk sensitivity of the insured exposure.

Unrated Obligors

Trade finance funds may have receivables exposure to unrated subsidiaries of rated entities. In such circumstances, and for the purposes of WARF and MRF calculations, Fitch may apply a credit rating factor to the unrated subsidiary of three notches below the parent's rating provided:

1. The parent is rated by a nationally recognized statistical rating organization,
2. The subsidiary is at least 75% owned by the parent, and
3. The parent and subsidiary have shared branding

In limited circumstances where the above conditions are met, but Fitch deems that the business carried out by the subsidiary is not strategically important to the parent, this treatment will not apply.

Fitch will use its Issuer Default Rating of the parent for the WARF and MRF calculations. If the parent is not rated by Fitch, then the lowest equivalent rating from other nationally recognized statistical rating organizations may be used.

Fitch will limit any such exposure to unrated obligors to 5% of the fund's net asset value per obligor. In addition, Fitch will not apply a rating higher than the Country Ceiling for the country where the subsidiary is domiciled to reflect potential transfer and convertibility risk.

For example, if a wholly owned subsidiary of an 'A' rated entity with shared branding accounts for 7% of a fund's net asset value, Fitch will apply the 'BBB' credit rating factor (i.e. three notches below the parent rating) for 5% of the fund's net asset value, and the standard assumption for unrated exposure of a 'CCC' credit rating factor for the remaining 2% of the fund's net asset value related to the exposure.

Structures with Notes Backed by Trade Finance Assets

For trade finance funds which invest in unrated notes backed by trade finance assets, as opposed to the trade finance assets themselves, Fitch may look through to the underlying trade finance assets and associated obligors for the purposes of its WARF calculation.

The look-through treatment is subject to a review of documentation addressing whether the economic gains and losses of the underlying assets are effectively transferred to the fund through the note (i.e. the note cannot default, but rather can only experience changes in value equivalent to the net asset value of the receivables backing the transaction). In addition, Fitch

will review the benefit assignments, applicable laws, legal opinions and the forms of receivable.

If, on the other hand, the note is rated by a nationally recognized statistical rating organization, Fitch will simply apply the rating to its WARF and MRF calculations.

Counterparty Risk in Trade Finance Funds

Fitch will reference its Structured Finance and Covered Bonds Counterparty Rating Criteria, and consult its Structured Finance group to classify the level of linkage between a trade finance fund structure and a counterparty, into one of four categories: Direct linkage, high dependency, moderate dependency or immaterial.

Counterparty risk is assessed across a continuum, with direct linkages at one end, including structures reliant on guarantees, or where there is infrequent margining or transfer of collected funds. At the other end of the continuum, counterparty risk may be deemed immaterial to a structure, for example where a counterparty acting as collection agent for trade receivables transfers collections to the fund within two business days.

The highest achievable FCQ rating, as a function of the degree of counterparty risk linkage, is set out in the table below:

Counterparty Risk Linkage	Highest FCQ Rating	
Direct Linkage	Assume counterparty credit rating for WARF calculation	
High dependence	Highest FCQR	Minimum counterparty Rating
	AAAf	A or F1
	AAf	A- or F1
	Af	BBB or F2
	BBBf	BBB- or F3
	BBf	BB-
Moderate dependence	Highest FCQR	Minimum counterparty Rating
	AAAf	BBB or F2
	AAf	BBB or F2
	Af	BBB or F2
	BBBf	BBB- or F3
	BBf	BB-
Immaterial	Bf	B-
	No impact on FCQR	

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