FitchRatings

Sovereigns
Global

國家主權評等準則

主要準則

範圍

本報告將詳述惠譽分配新評等與現有評等予國家主權發行人的評等準則。惠譽所分配的國家主權評等，反映其專屬之國家主權評等模型 (SRM) 和定性覆蓋 (QO)。

國家主權發行人違約評等 (IDR) 和債券評等係對民間部門債權是否可獲全額和及時清債的能力和意願之前瞻性評估。國家主權被分配予兩個 IDR：本地貨幣 (LC) IDR 反映以國家主權貨幣發行 (並支付) 債務的違約可能性，外幣 (FC) IDR 則為以外幣發行債務相關信用風險的評估。本準則適用新與既有國家主權發行人與發行評等。

評等主要驅動因素

付款意願和能力：惠譽對國家主權風險的評估，係採定量和定性綜合分析，以瞭解國家主權履行債務之意願和能力。此外，國家主權活動和政策執行不僅會產生深遠影響，同時亦受整體經濟表現之影響。

- **分析支柱:**惠譽的國家主權評等分析方法,旨在評估反映國家主權信用品質的下列四項分析支柱:
- 導致國家主權容易或不易受到衝擊之經濟結構特質，包括金融業風險、政治風險和治理因素。
- **總體經濟表現、政策與前景，包括成長前景、**經濟穩定性及政策連貫性和可信度
- **公共財政**，包括預算餘額、公債和財政融資之結構與永續性，以及或有負債正式確立的可能性。以及
- **外部財政**，包括經常帳餘額和資本流量之永續性、外債（政府和民間）水準和結構。

支柱權重 ：結構特質攸關國家主權信用品質,鑒於它們對主權信用品質的重要性,結構特質在分析中通常具有最高權重,其在 SRM 中也是作為權重最高的支柱。另外三個支柱的權重一般較輕,但這種狀況仍可能改變,遭遇危機狀況時尤其如此。

國家主權評等模型：惠譽採用 SRM 做為分配國家主權評等的起點。SRM 複製這些評等準則的要素，產出可校準長期（LT）FC IDR 量表的分數，為多元化的回歸評估模型，而非違約模型的機率，並對 18 個主要變數採用了歷史、當前和前瞻性的資料。

定性覆蓋：惠譽瞭解不會有任何模型可充分解釋所有對國家主權信用品質的影響，故採取前瞻性 QO 調整個別評等中未被 SRM 產出所反映，或全然反映的因素。除非在特定情形下這些準則另有說明外，QO 包括適用於 SRM 產出的評等級距調節系統，上述四個分析支柱的個別潛在評等級距為 +2/-2，整體評等調整範圍為 +3/-3。

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.

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附錄 1：SRM 變數和定性覆蓋因素

This report replaces the *Sovereign Rating Criteria* dated 11 July 2022 .

Click on this link for an interactive version of the SRM and associated user guide.

Related Criteria

Country Ceilings Criteria (July 2020)

Third-Party Partial Credit Support Rating Criteria (June 2021)

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國家主權評等準則 – 概要

國家主權評等模型 (SRM)	結構特質	總體經濟表現、政策與前景	公共財政	外部財政資源	產出/級距調節
		分析支柱			
根據 18 個主要變數並複製惠譽國家主權評等準則的迴歸式特定時點評等模型	治理指標人均國內生產總值世界 GDP 份額 違約或重整事件迄今數廣義貨幣供給	實質 GDP 成長波動性消費者物價指數通貨膨脹率實質GDP成長	政府債務總額/GDP 一般政府利息支出(收入的 %) 一般政府財政餘額/GDP政府外幣債務/政府債務總額	儲備貨幣彈性主權外部資產淨額 (GDP 的 %)商品依存度外匯儲備(CXP 的月數) 外部利息支出 (CXR 的 %)經常帳餘額 + FDI (GDP的 %)	LT FC IDR 等值
定性覆蓋 (QO)	**結構特質**	**總體經濟表現、政策與前景**	**公共財政**	**外部財政資源**	**產出/級距調節**
對 SRM 未明確納入的主要準則因素提供主觀評估的前瞻性調整架構	政治穩定性與能力 金融業風險 商業環境與經濟彈性	總體經濟政策可信度及彈性 GDP成長展望(5年) 總體經濟穩定性	財政融通彈性 公債永續性 財政結構	外部融通彈性 外債永續性 受衝擊的脆弱性	
潛在的 QO 級距調節	+2 至 -2	+2 至 -2	+2 至 -2	+2 至 -2	+3 至 -3[a]
最終評等結果					**最終 LT FC IDR**

來源:惠譽評等

國家風險相對於國家主權風險

國家風險與國家主權信用風險具有相關性，但為不同概念。前者係指在特定國家經營事業之風險，國家主權信用評等則更集中強調政府國家主權對其債務之違約風險。經營業務之風險包括薄弱之財產權、無法預知之稅負和法律制度，以及動盪之經營環境。

國家主權當局對本國貨幣轉換為外幣之管制，以及控管償還外債義務之資金海外移轉，是與跨國投資和融資最直接相關之特定國家風險。獲得惠譽國家主權發行人評等之所有國家將被給予國家上限評等，其將明確顯示移轉和可兌 (T&C) 風險 (請參見惠譽國家上限準則。)

雖然國家主權信用和廣泛之國家風險具密切正相關性，但國家主權信用狀況之改善不一定需要改善商業環境。同樣地，國家風險狀況惡化並非一定代表國家主權信用品質惡化，雖然經常難以避免這種情形的發生。

國家主權是什麼?

以評等角度而言，國家主權發行人係指在公認管轄區實際執行主要財政權之政府當局（通常是國家或聯邦政府）。中央銀行，如同其他公共政策機構，為國家主權之代理人，但中央銀行之債務與國家主權債務之可能獲得不同評等。

因為國家主權是其所治理管轄區內之最高權威，有權執行其意願，若國家主權不能或不願履行債務，債權人可訴諸之法律或其他追索方式非常有限。即使是國際上亦常有如此情況，國際法有其限制性，難以對國家主權國家採取強制執行。因此無論是本國貨幣或外幣債務，國家主權信用風險分析必須考慮付款意願及財務能力。

國家主權債務及違約

國家主權違約事件

違約事件
• 由國家主權發行的公債證券，其票息或本金償還未履行。
• 獲國家主權明確、不可撤銷且無條件保證的公債證券，其票息或本金償還未履行。
• 若惠譽確信已發生違約事件，主權國家未能支付對私人債權人的債務（公共債務證券除外）。
• 受益於主權國家明確、不可撤銷和無條件擔保的第三方未能支付對私人債權人的債務（公共債務證券除外），前提是惠譽確信已發生違約事件。
• 債權人未獲得以原始發行貨幣及原始債務條款償還的選項，強制將國家主權債務以不同貨幣重新計價，除非此貨幣不復存在。
• 由公債證券主權發起之債務條款單邊或強迫變更，將導致條款大幅減少，即使不良債務交易（DDE）未發生亦然。

來源：惠譽評等

國家主權與居民與非居民實體保有廣泛的財務關係，諸如國外貨物供應商（如國防裝備）或本地服務提供者（如教師）。然而，國家主權 IDR 僅與積欠私人債權人的債務違約機率有關。上表列出了可能導致主權國家 IDR 降至「RD」的違約事件。

傳統付款違約

不良債務交易（DDE）定義為由主權發起以向債券持有人提出的交換提議、同意徵詢或單邊交換、債務中止或對現有工具的變更，且滿足以下兩個條件 ：

1. 條款的實質大幅降低可為以下任一情形或組合：
   - 本金減少；
   - 利息或費用減少；
   - 到期日展延；
   - 債務貨幣幣別的變動；
   - 由現金支付轉換為實物支付（PIK）、折扣，或其他非現金支付形式；
   - 僅在提出要約的債券持有人亦同意修正條款會嚴重影響非參與要約的持有人地位時，才會接受交換提議或現金交付；或

     當上述任何一項存在時，我們即推定條款已大幅縮減，除非可明確顯示債權人對於新舊條款可能不受影響。

2. 交易旨在避免傳統付款違約。適合陷入困境之發行人。這項測試旨在瞭解投資人是否真正需要在提出的條款與原始合約條款之間做出選擇，或債權人團體中大部分人未能接受要約收購是否導致發行人無法履行原始合約條款。

在評估 DDE 是否發生時，惠譽也可能會考量該交易的非參與者持有的合格債務工具是否依原始條款運作。此評估旨在排除主權發行人打算利用市場定價發展、流動性條件或其他因素以從事例行性負債管理的情況。惠譽不認為這些情況屬於 DDE。

包括將所有或重大比例之主權債務轉移至私部門及官方部門債權人的債務交換，即使私人債權人債務比例相對適中，也符合惠譽對 DDE 之定義。舉例來說，官方部門以私部門參與作為更廣泛重組條件之場合。

在傳統付款違約的情況中，一旦國家主權發行人公開其違約意願或是已超過還款期限，但仍在寬限期中，惠譽通常將下調該國家主權 IDR 至「C」，以顯示違約或是類違約之程序已經開始。如果在寬限期過後，超過還款期限的款項仍未支付，惠譽將下調該國家主權IDR 至「RD」。若透過支付款項或完成重整債務而補正違約，且惠譽認為該國家主權儘管有不履約債券，但與絕大多數的債權人保有正常關係，則該國家主權 IDR 將移出「RD」評等。

當惠譽得知曾有符合上述違約之事件，但已完成補正的情況時，為了記錄此違約事件，惠譽會先將該國家主權的評等列入「RD」，之後才將其評等由違約狀態中移出，提高至符合該國家主權當前信用基本面的評等。此方法僅適用於違約發生於前三年，且依惠譽《國家主權評等準則》判定為違約事件之場合。

貨幣聯盟的成員與美元化經濟體

惠譽會將貨幣聯盟成員的主權發行人以該聯盟貨幣發行的債務違約視為其本國貨幣 IDR 違約，其他債務的違約將被視為其外國貨幣 IDR 違約。然而，針對完全美元化經濟體，惠譽會將其美元化債務的違約視為主權國家外國貨幣 IDR 違約。

官方部門的債務

儘管通報未償還非公債證券的債務不視為國家主權違約事件（反映政府間財務關係的不透明，以及政治和非財務因素的影響），但對官方債權人的欠款，表示財務困境日益增加與/或缺乏支付意願，主權評等可能會受不利影響。此外，官方債權人可能會要求參照私人債權人的債權對待，做為債權重組的一部分，特別著名的是巴黎官方債權俱樂部。官方部門債權人的例子包括世界銀行集團、國際貨幣基金組織(IMF)、其他國際金融機構（IFI)、雙邊發展機關、出口信用保險及公有發展銀行。

不良債務交易

如上所述，若受評的國家主權之債務受 DDE（包括由該國家主權發起的單邊債務交換或債務延期償付）影響，或是相關條款明顯弱化而並未更換為新的工具，從而避免傳統的付款違約，則將分配予「RD」評等。

如原始合約條款有實質降低，且交易對於避免傳統付款違約屬必要，則惠譽會將針對債券持有人之交換提議，或由該國家主權發起的單邊交換或債務延期償付視為 DDE 並記錄為「RD」。這些原則也適用重整不會涉及到交換要約的銀行貸放國家主權借款人放款。

國家主權評等模型

惠譽採用其 SRM 作為分配該機構主權評等的起點。 SRM 產生一個根據「AAA」和「CCC+」之間的 LT FC IDR 等級進行校準的分數。 它是一個評等模型，而不是違約機率模型，並結合了歷史、當前和前瞻性數據。

模型的設計與衍生

針對 2000 年至 2017 年間所有獲得惠譽評等的國家主權，SRM 的估算方式，乃是針對本文提及的經濟與金融變項，應用普通最小平方法 (OLS)。變數係根據其在國家主權信用上的理由，與經濟理論符號 (+/-) 的一致性，以及統計學上的重要性而包含於 SRM 中。該模型使用實證資料，僅允許非常少數的分析師經過判斷後輸入(在初始校準之後)，旨在提供透明一致的架構，以比較位於不同地區和各種時空下的國家主權情形。OLS 回歸每年都會重新估計和覆核，以將額外資料納入估計期間，並測試新的潛在變數，以確保 SRM 根據惠譽的評等準則演進。

OLS 迴歸的輸出是一組係數和截距項 ，不因主權個體而改變。這些會套用至個體主權的資料，以決定模型輸出。

模型變數

SRM 中所包含的變數取決於主權信用理由、經濟理論的符號一致性 (+/-)，並遵循統計顯著性。惠譽運用集中三年平均 (因此整合了惠譽對目前年度的預測) 來處理更多動態變數，例如經常帳和財務餘額，以平穩波動對輸出的影響。

SRM 使用的 18 個變數是從各種來源取得，包括主權發行人自身、BIS、IMF 和世界銀行。每次評等審查時都會更新此資料，或至少每季更新。資料可用性的及時性可能因不同主權而有大幅差異 (請參閱 附錄 4：資料來源、限制及合理調查)。

SRM 的結構是使用本報告第一頁所述的四大分析支柱。模型中這些支柱的權重是由模型本身決定，而非分析干預所決定，且會定期審查，如下表所示。這些權重僅供說明之用。

主權分析支柱 – SRM 權重

分析支柱	結構特質	總體經濟表現、政策與前景	公共財政	外部財政
SRM 權重 (%)	53.5	10.1	18.5	17.9

資料來源：惠譽信評

其中並無主觀性判斷，估算係數或任一主權的模型輸出時並不使用這些權重。它們係由標準化係數推算而來，而標準化係數則是針對標準化數據，藉由普通最小平方 (OLS) 迴歸模型推算而來。相較於係數被使用於對 SRM產出的計算上，這些權重則是為了幫助理解的輔助項目。它們能直覺性地呈現預測評等間的差異，可以用單個變數與整組變數間的差異來解釋。

個別變數的係數和權重會在每個支柱的區段中引用。截距項可在附錄 1 中找到。

模型的產出和應用

SRM 的產出是根據惠譽的長期評等標準進行校準的分數，並與主權發行人的預測 LT FC IDR 線性對應（請參閱 SRM 對應表）。 惠譽的國家主權分析師使用 SRM 產出作為評等過程的起點，但應用 SRM 和 QO 的條件和例外情況中所述的情況除外。 SRM 綜合了歷史、當前和前瞻性數據（請參閱附錄 1）。

SRM 對照表

預測 LT FC IDR	SRM 分數（四捨五入）
AAA	16 或以上
AA+	15
AA	14
AA–	13
A+	12
A	11
A-	10
BBB+	9
BBB	8
BBB–	7
BB+	6
BB	5
BB–	4
B+	3
B	2
B–	1
CCC+	0 或以下

資料來源：惠譽信評

2 詳細資訊請參閱附錄 1。

3 SRM 係數和截距在此文件中顯示至小數點後三位。然而，功能上，SRM 使用 15 位有效數字（最多到小數點後 20位）。

定性覆蓋

惠譽瞭解任何模型皆無法全面掌握國家主權信用品質面臨的所有相關影響，因此針對 SRM 產出並未反映或充分反映的因素，惠譽也會在處理個別評等時運用 QO 進行調整。 QO 的用途在於針對這類評等準則中無法完全量化、SRM 未能充分考量或反映的關鍵因素，依據協調一致的準則與指導原則提出主觀評估。惠譽評估國家主權信用時應用的定性要素，可透過 QO化為形式。

QO 主要具有前瞻性的性質，部分基於惠譽的經濟和財務預測，從而補充 SRM，其中包括歷史和前瞻性資料的混合(特定變項的 3 年中心平均值，已包含 1 個年度的預測值)。 QO 包含 SRM 產出所應用的評等級距調節系統，四個分析支柱(結構特質、總體經濟、公共財政與外部財政) 的潛在級距調節範圍皆為+2/-2，各項評等的整體級距調節範圍為+3/-3，上述特定狀況除外。

評等委員會將決定四項分析支柱中每項支柱的評等調整，主要是為了反映出 SRM 中未涵蓋的因素 (詳見下方定性覆蓋因素表)，之後相對應的章節中亦有詳細解釋。另外，QO 的評等調整亦可呈現並反映下列因素，這些因素包括但並不限於：

- 因無法量化而未包含在 SRM 中的關聯因素或變數，例如地緣政治風險，或是因某個變數無法被納入 SRM，例如該變數無法適用於所有國家主權，或是該變數在預測期間不具有顯著性，但仍有其關聯性。

- 某項變數的數據用於 SRM，但該數據具不確定性或是不完整。相關聯的分析支柱會針對數據的不完整性做出調整。調整數據不完整性通常有負面影響，但在某些案例中會有正面影響。

- SRM 假設變數與 SRM 產出之間為可定義的關係 (通常為線性)，但是當變數移出某個界線，則脆弱性增加的程度會大於 SRM 所呈現的程度。與此一現象有關聯性的範例為國家主權的一般性政府負債率，當該債務提高至一定程度時，對國家主權信用品質所造成的負面影響大於 SRM 所呈現的程度。

- SRM 所使用的變數數值與該變數在預測期間中可能出現的發展不同。

作為次要考量，任何建議的級距會考量發行人在 SRM 產出類別與評等類別 (如二者不同) 的同級發行人群組中的相對品質。雖然四個支柱的級距調節範圍皆為 +2/-2，SRM 產出的相對整體調節範圍則以 +3/-3 做為上限，意即各個支柱不能同步進行級距的最大調節。

在特定狀況下，惠譽的主權評等委員會可延伸整體調節範圍，解決 SRM 無法配合這類狀況迅速調整或因應這類狀況的問題。

這類狀況可能包括但不限於：

- 某國面臨危機，其中可能包括經濟嚴重衰退、銀行業危機、取得市場資金的能力受限，或是官方部門的外部資金遭到追索。
- 某國走出危機並逐漸復蘇 (定義如上)。
- 某國已經違約，而且過去 5 年的評為「D」或「RD」。
- 某國的評等已在過去 5 年內調降至少一個評等類別階層 (即三子級)。
- 某國出現易受未來衝擊的跡象。以及
- 相關評等委員會認為級距調節彈性應當增加的其他狀況。

SRM 與 QO 在應用時的條件與例外

QO 的應用受限於下列條件與例外：-

- 「CCC+」及以下：任何主權發行人其建議的 LT FC IDR 為「CCC+」或以下者，或在主權評等委員會決定指定「CCC+」或以下的情況，委員會將不運用 SRM 與 QO 來解釋該評等，而是直接根據惠譽「CCC+」或以下評等水準的評等定義進行說明。LT FC IDR 受評為「CCC+」或以下者，如果主權評等委員會決定「CCC+」或以下評等的定義不再適合該發行人，則能調升到「B」類別或以上。在這種情況下，將重新採用 SRM 和 QO 的組合來決定該發行人的 LT FC IDR。在 SRM 產出是「CCC+」但委員會決定運用 QO 調升級距屬合理的情況，QO 的應用將符合上述指引，以「CCC+」為起始點往上調升以決定 LT FC IDR。惠譽評等的定義包含從「AA」到「CCC」在內所有評等等級的 +/- 調節符號。

- **暫時移動：**此外，在 SRM 產出從一個評等級距移動到另一個，無論是往上或往下，但此移動卻導致 SRM 分數以差距微小落入不同評等級距水準的情況，如果這可能只是暫時的惡化或改善，則委員會能決定不採用 SRM 產出作為應用 QO 的起始點。一般來說，委員會決定不採用 SRM 產出作為應用 QO 起始點的時間限制，將以從初始移動到不同評等級距類別起算，最高二年為限，但評等委員會能自行判斷是否將期間延長。
-
- **SRM 重新估計：**國家主權評等委員會不採用 SRM 產出作為應用 QO 起始點的能力，也擴及產出變動係因 SRM 重新估計造成的情況，此重新估計是惠譽至少一年進行一次的流程。儘管 SRM 重新估計卻不採用 SRM 產出作為起始點的能力，一般而言是在一個國家的 SRM 分數變動很小，而且不清楚該國的信用基礎是否已實質改變的情況下啟動。
- **資料修改與限制：**在國家主權對現有發布的資料頒訂修改的情況，這部分 SRM 會反映在更新後的歷史與預測變數，而對評等的潛在影響（如果有），在分析團隊完整分析修改的影響後，將在下次評等覆核予以考慮。

  此外，在資料限制對評等結果可能有實質作用的情況，惠譽會考慮在相關分析支柱中對 QO 進行調整，例如若外部資產與負債的資訊有闕漏，則可能對 QO 的外部財政部分做負向的級距調節。如果惠譽認為這項資訊闕漏其重要性之高會使任何分析皆無法充分支持一項評等或評等動作，惠譽將不指定評等或將撤回現有的評等。

附錄 1 中的表格彙整惠譽在決定 QO 的級距水準時會考慮到的因素。在每一個分析支柱中，定性判斷主要是反映 SRM 尚未覆蓋的因素。作為次要考量，任何建議的級距會考量發行人在 SRM 產出類別與評等類別（如二者不同）的同級發行人群組中的相對品質。

定性覆蓋因素

QO 定義

變數	定義	SRM 產出的級距
總體經濟展望、政策與前景	• **總體經濟政策可信度及彈性**，包括貨幣和財政政策在一致性、彈性與可信度方面的連貫與穩健程度	
	• **GDP 成長展望**，指中期相對於同級	
	• **總體經濟穩定性**，指失衡水準、失業水準與趨勢、不同部門對經濟的成長貢獻	
	總體展望、政策與前景相對於 SRM 產出特別強勁	+2
	總體展望、政策與前景相對於 SRM 產出強勁	+1
	總體展望、政策與前景相對於 SRM 產出一般	0
	總體展望、政策與前景相對於 SRM 產出疲弱	-1
	總體展望、政策與前景相對於 SRM 產出特別疲弱	-2
公共財政	• **財政融通彈性**，包括：市場進入的記錄；以本國貨幣發行永續收益、長天期到期日的發行能力；償債記錄；本地資本市場深度；取用其他潛在融資來源（如多邊）；壓力情境下的預期發行能力；有龐大的國家主權存款/國家主權財富基金資源	
	• **公債永續性**，包括債務動態的預測高峰與軌跡，考量財政架構的可信度、基礎財政收支的融資成本（含取用優惠資金）與時限相關壓力、國家主權資產、國家主權資產負債表上可能透明化的潛在或有債程度與性質（如從銀行部門、國有企業或國際承諾）	
	• **財政結構**，著重在收入基礎的廣度、收入來源的集中/分散程度，與從當期支出來看的預算僵固程度	
	公共財政相對於 SRM 產出特別強勁	+2
	公共財政相對於 SRM 產出強勁	+1
	公共財政相對於 SRM 產出一般	0
	公共財政相對於 SRM 產出疲弱	-1
	公共財政相對於 SRM 產出特別疲弱	-2
外部財政	• **外部融通彈性**，反映經濟體外部融通來源的韌性與範圍（如本國借款人在國際市場的永續收益與長天期到期日發行的市場進入記錄、取用其他外部融通來源、可利用的明示或默示保證或其他外國政府或多邊機構支持的形式，與流動性部位）	
	• **外債永續性**，反映可能已形成的任何外部失衡的程度，與對外負債的水準、趨勢，與結構	
	• **受衝擊的脆弱性**，反映可能隨事件而透明化的外部財政結構劣勢	
	外部財政相對於 SRM 產出特別強勁	+2
	外部財政相對於 SRM 產出強勁	+1
	外部財政相對於 SRM 產出一般	0
	外部財政相對於 SRM 產出疲弱	-1
	外部財政相對於 SRM 產出特別疲弱	-2
結構特質	• **政治穩定性與能力**，包括政治風險的水準、基礎政權變革與/或軍事衝突的風險、廣大地緣政治風險、政治制度處理經濟與財政挑戰與支付意願的能力	
	• **金融部門風險**，係由我們可用的 BSI 及我們的 MPI 佐證，反映了金融業負債落於國家主權的風險、體系的金融穩定水準與金融業支持成長的能力。當 BSI 分數比國家主權 LT FC IDR 低一個或以上的評等類別時，評等委員 會將會考慮是否要在 QO 應用級距調降。當 MPI 分數是「2」或「3」，可能會在 QO 應用級距調降。	
	• **商業環境與經濟彈性**是指吸引投資的能力、監管環境、犯罪水準與主要產業的競爭水準	
	結構特質相對於 SRM 產出特別強勁	+2
	結構特質相對於 SRM 產出強勁	+1
	結構特質相對於 SRM 產出一般	0
	結構特質相對於 SRM 產出疲弱	-1
	結構特質相對於 SRM 產出特別疲弱	-2

來源：惠譽評等

FitchRatings

Sovereigns
Global

Sovereign Rating Criteria

Master Criteria

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This report replaces the *Sovereign Rating Criteria* dated 11 July 2022 .

Click on this link for an interactive version of the SRM and associated user guide.

Scope

This report details Fitch Ratings' criteria for assigning new and maintaining existing ratings to sovereign issuers and issues, and central banks and their issues. The assignment of Fitch's sovereign ratings reflects a combination of our proprietary Sovereign Rating Model (SRM) and a Qualitative Overlay (QO).

Sovereign Issuer Default Ratings (IDRs) and bond ratings are a forward-looking assessment of the capacity and willingness to honour debt obligations to private-sector creditors and public debt securities independent of ownership in full and on time. Sovereigns are assigned two IDRs: the Local-Currency (LC) IDR reflects the likelihood of default on debt issued (and payable) in the currency of the sovereign, while the Foreign-Currency (FC) IDR is an assessment of the credit risk associated with debt issued in foreign currencies.

Key Rating Drivers

Willingness and Capacity to Pay: Fitch's approach to sovereign credit risk analysis is a synthesis of quantitative analysis and qualitative judgements that capture the willingness as well as the capacity of the sovereign to meet its debt obligations in full and on time. The activities and policy actions of the sovereign have a profound effect on and are also influenced by the performance of the country's economy as a whole, which in turn affects sovereign creditworthiness.

Analytical Pillars: Fitch's approach to sovereign rating analysis is an assessment of the following four analytical pillars, which inform the creditworthiness of the sovereign:

- **structural features** of the economy that render it more or less vulnerable to shocks, including the risks posed by the financial sector, political risk and governance factors;
- **macroeconomic performance, policies and prospects,** including growth prospects, economic stability and the coherence and credibility of policy;
- **public finances**, including budget balances, the structure and sustainability of public debt and fiscal financing and the likelihood of the crystallisation of contingent liabilities;
- **external finances,** including the sustainability of current account balances and capital flows, and the level and structure of external debt (public and private).

Weighting of Pillars: Reflecting their importance to sovereign creditworthiness, structural features typically carry the highest weight within rating decision, as evidenced by their status as the highest-weighted pillar in the SRM. The weights of the other three pillars are typically lower, but this can vary, particularly in crisis situations.

Sovereign Rating Model: Fitch employs its SRM as the starting point for assigning sovereign ratings. The SRM replicates the principal elements of these rating criteria and generates a score calibrated to the Long-Term (LT) FC IDR scale. It is a multiple regression rating model rather than a probability of default model and employs historical, current and forward-looking data for 18 key variables.

Qualitative Overlay: Recognising that no quantitative model can fully capture all the relevant influences on sovereign creditworthiness, Fitch employs a forward-looking QO to adjust for factors not reflected or not fully reflected in the SRM output for any individual rating. The QO comprises a notch-adjustment system applied to the SRM output, with a potential notching range of +2/−2 for each of the four analytical pillars outlined above, and an overall notching adjustment range of +3/−3 for each rating, except in certain circumstances explained in these criteria.

Related Criteria

Country Ceilings Criteria (July 2020)

Third-Party Partial Credit Support Rating Criteria (June 2021)

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Sovereign Rating Criteria – Summary

Analytical Pillar					
Sovereign Rating Model (SRM)	Structural features	Macroeconomic performance, policies and prospects	Public finances	External finances	Output/ notching adjustment
Regression-based, point-in-time rating model based on 18 key variables designed to replicate Fitch's Sovereign Rating Criteria	Governance indicators GDP per capita Share in world GDP Years since default or restructuring event Broad money supply	Real GDP growth volatility Consumer price inflation Real GDP growth	Gross government debt/GDP General government interest (% of revenue) General government fiscal balance/GDP Foreign-currency government debt/ GGD[a]	Reserve-currency flexibility Sovereign net foreign assets (% of GDP) Commodity dependence FX reserves (months of CXP[b]) External interest service (% of CXR[c]) Current account balance + FDI[d] (% of GDP)	LT FC IDR equivalent ↓
Qualitative Overlay (QO)	Structural features	Macroeconomic performance, policies and prospects	Public finances	External finances	Output/ notching adjustment
Forward-looking adjustment framework to provide a subjective assessment of key criteria factors that are not explicitly included in the SRM	Political stability and capacity Financial sector risks Other structural factors	Macroeconomic policy credibility & flexibility GDP growth outlook (five years) Macroeconomic stability	Fiscal financing flexibility Public debt sustainability Fiscal structure	External financing flexibility External debt sustainability Vulnerability to shocks	↓
Potential QO notching adjustment	+2 to -2	+2 to -2	+2 to -2	+2 to -2	+3 to -3[e]
Final rating outcome					**Final LT FC IDR**

a: GGD = Gross Government Debt b: CXP = Current External Payments c: CXR = Current External Receipts

d: FDI = Foreign Direct Investment e: Except in certain circumstances when, at the judgement of the committee, notching can be extended

Source: Fitch Ratings

Country Risk Versus Sovereign Risk

Country risk and sovereign credit risk are related but distinct concepts. The former refers to the risks associated with doing business in a particular country, while sovereign credit ratings are more narrowly focused on the risk of a sovereign government defaulting on its debt obligations. Risks to doing business can include weak property rights, unpredictable tax and legal regimes, and a volatile operating environment.

A specific country risk that is especially pertinent for cross-border investment and lending is the risk of controls being imposed by the sovereign authorities on the conversion of local into foreign currency and on its transfer abroad to meet external debt service obligations. Transfer and convertibility (T&C) risk is explicitly addressed by the Country Ceiling that is assigned to all countries with Fitch-rated sovereign issuers (see Fitch's Country Ceilings Criteria).

Though there is a positive association between sovereign and broader country risk, the sovereign credit profile can improve without necessarily an improvement in the country risk profile. Similarly, deterioration in country risk conditions does not necessarily imply a worsening in sovereign creditworthiness, though often that will be the case.

What Is a Sovereign?

From a rating perspective, a sovereign issuer is the government (usually national or federal) that de facto exercises primary fiscal authority over a recognised jurisdiction.

Central banks, like other public-policy institutions, are agents of the sovereign, but as part of the macroeconomic policy framework are considered to be very closely linked to the sovereign. As such, Fitch typically rates central banks at the same level as the sovereign. Similarly, securities issued by a Fitch-rated central bank will be typically rated at the same level of the equivalent securities issued by the sovereign, albeit those liabilities are typically not included in Fitch's calculation of government debt (see *Public Finances* section). If rated by Fitch, the IDR of the central bank would typically be aligned with the relevant sovereign IDR.

Because the sovereign is the highest authority and has the power to enforce its will in the jurisdiction it governs, creditors have very limited legal or other recourse if a sovereign is unable or unwilling to service its debt. This is also the case at the international level, given the limitations of international law and its enforceability with respect to sovereign nations. Consequently, whether in terms of local- or foreign-currency debt, the analysis of sovereign credit risk must take into account the willingness to pay, as well as financial capacity.

Sovereign Default Events

Sovereign Default Events

Default events
• Missed coupon or principal repayment on a public debt security issued by the sovereign.
• Missed coupon or principal repayment on a public debt security benefiting from an unequivocal, irrevocable and unconditional guarantee provided by the sovereign.
• Failure to pay debt obligations (other than public debt securities) owed to private creditors by the sovereign provided Fitch is satisfied that a default event has occurred.
• Failure to pay debt obligations (other than public debt securities) owed to private creditors by third parties that benefit from an unequivocal, irrevocable and unconditional guarantee from the sovereign, provided Fitch is satisfied that a default event has occurred.
• On execution of a distressed debt exchange (DDE; see below for more details).
• A forced redenomination of sovereign debt into a different currency, unless the old currency ceased to exist.
• A unilateral or forced change of debt terms initiated by the sovereign on a public debt security that constitutes a material reduction in terms even if a DDE does not occur.

Source: Fitch Ratings

Sovereigns have a wide range of financial relationships with resident and non-resident entities, whether foreign suppliers of goods (such as defence equipment) or local suppliers of services (such as teachers). The sovereign IDR, however, only relates to the probability of default on debt owed to private creditors and public debt securities independent of ownership. The table above provides a list of default events that would result in the sovereign's IDR being lowered to 'RD'.

Traditional Payment Defaults

Once a sovereign issuer announces its intention to default or misses a payment on a debt obligation that is still subject to a grace period, Fitch typically will downgrade the sovereign IDR to 'C'. If the missed payment has not been made by the end of the grace period, Fitch will downgrade the sovereign IDR to 'RD'.

Instruments that Fitch judges will be included in the default will also be downgraded to 'C' once the sovereign is downgraded to 'C'. At the end of the grace period, affected instrument ratings which grace period has elapsed will be downgraded to 'D'. The rating of individual instruments for which the grace period has not elapsed may be affirmed at 'C'. All affected instrument ratings including those for which the grace period has not elapsed will then be typically withdrawn if Fitch considers that they are not of interest to the market.

It is possible that sovereigns default selectively on instruments with the same seniority and currency, for example differentiating by the law under which instruments have been issued. In that case it is possible that non-defaulted securities could be rated higher than 'C' depending on their credit fundamentals. The rating of those instruments will be based on Fitch's rating definitions.

The sovereign IDR will be moved out of 'RD' when the default has been cured, either because payment has been made, or a debt restructuring has been completed and Fitch judges the sovereign to have normalised relations with a significant majority of creditors, even if there may be some outstanding non-performing securities for example due to protracted legal or other disputes.

In the event that Fitch becomes aware of a default event that is consistent with the above list but that has already been cured, Fitch will record the event by placing the sovereign's IDR to 'RD' before lifting the rating out of default to a level consistent with its current credit fundamentals. This approach will apply only to events of default that have occurred during the preceding three-year period, and that would have been considered as default events under Fitch's Sovereign Rating Criteria prevailing at the time the event occurred.

Distressed Debt Exchanges

A DDE is defined as an exchange offer to bondholders, consent solicitation, or a unilateral exchange, debt moratorium or changes to an existing instrument initiated by the sovereign that meets the following two conditions[1]:

1. There is a material reduction in terms that could be one or a combination of the following:
   - Reduction in principal amount;
   - Reduction in interest or fees;
   - Extension of maturity date;
   - Change in currency denomination of the debt;
   - Change from a cash-pay basis to pay-in-kind (PIK), discount basis or other form of non-cash payment;
   - Exchange offers or cash tenders that are accepted only if the tendering bondholder also consents to indenture amendments that materially impair the position of holders that do not tender; or

   Our presumption when any of the above is present is that there has been a material reduction in terms, unless it can be clearly shown that creditors would be likely to be indifferent between the old and new terms.
2. The exchange is designed to avoid a traditional payment default. This is more likely for a distressed issuer. This test is designed to understand whether investors face a genuine choice between the proposed terms and the original contractual terms, or if failure of a large part of the creditor group to accept the tender offer would call into doubt the issuer's ability to fulfil the original contractual terms.

In assessing whether a DDE has occurred, Fitch may also take into account whether eligible debt instruments held by non-participants in the exchange will continue to be serviced in accordance with the original terms. The assessment is designed to exclude situations in which sovereign issuers seek to take advantage of market pricing developments, liquidity conditions or other factors to engage in routine liability management. Fitch does not consider these situations as DDEs.

A debt exchange that includes a rescheduling of all or a material proportion of a sovereign's debt obligations to both private and official-sector creditors can meet Fitch's definition of a DDE even in situations where the proportion of debt to private creditors is relatively modest, for example because the official sector makes private sector participation a condition of a broader restructuring.

If an announced intention to make an exchange offer is made that in Fitch's opinion would constitute a DDE, the sovereign's IDR and the ratings of the securities subject to the exchange will be lowered to 'C'.

[1] These principles can also be applied to the restructuring of bank loans extended to a sovereign borrower or to secondary market operations, which will not involve an exchange offer.

On closing of the exchange offer and following confirmation that the exchange will be executed Fitch will place the IDR of the sovereign into 'RD'. The ratings of the tendered securities will be lowered to 'D' and will remain at that level for as long as the sovereign is rated 'RD'. The ratings of eligible securities that are not tendered and continue to be serviced will remain at 'C' until the exchange is completed and then rated according to the new credit fundamentals of the sovereign. Non-tendered, non-eligible securities will continue to be rated according to their fundamentals during the DDE process.

Following completion of the DDE, the sovereign IDR will likely be lifted out of 'RD' to a rating appropriate for its prospects on a forward-looking basis shortly after the effective date of the exchange, although the IDR will likely be constrained to the low speculative-grade range. However, if the securities not tendered in the exchange are non-performing, the 'RD' rating will likely be maintained until the default is cured, such as through a further exchange, or until Fitch judges the sovereign to have normalised relations with a significant majority of creditors despite any outstanding non-performing securities.

When Fitch understands that a sovereign issuer plans to exchange several debt instruments with a range of maturity dates for new debt securities as and when the existing obligations fall due, Fitch will lower the sovereign's IDR to 'RD' at the time the first of those instruments is exchanged.

Members of Currency Unions and Dollarised Economies

Fitch will treat default by a sovereign issuer that is a member a monetary union on debt issued in the currency of that union as a default on its LC IDR, while default on any other debt will be treated as a default on its FC IDR. However, for fully dollarised economies, Fitch would treat default on their dollarised debt as a default on the sovereign's FC IDR.

Official Sector Debt

Although reported failure to repay debt, other than a public debt security, owed to the official sector would not be judged a sovereign default event (reflecting the opacity of financial relations between governments and the influence of political and non-financial factors), if arrears to official creditors indicate growing financial distress and/or lack of willingness to pay, the sovereign rating could be adversely affected. Moreover, official creditors may seek comparable treatment for private-creditor claims as part of any restructuring of their own claims, notably by the Paris Club of Official Creditors. Examples of official sector creditors include the World Bank Group, the IMF, other international financial institutions (IFIs), bilateral development agencies, export credit agencies and publicly owned development banks.

Debt Relief

Fitch generally views agreed debt relief from IFIs under multilateral initiatives to restore debt sustainability as a positive development for sovereign creditworthiness and hence ratings over the longer term. However, the need for such relief will initially exert a negative influence on sovereign creditworthiness, and potentially on the rating, in the short-to-medium term as it will be treated as a restructuring event within Fitch's SRM.

Treatment of Long-Term and Short-Term IDRs in Default

The assignment by Fitch of a 'RD' rating on the ST FC IDR will also result in Fitch assigning a 'RD' rating to the LT FC IDR, irrespective of whether the sovereign has defaulted on any long-term debt obligations. The same approach will apply in the event of Fitch assigning a 'RD' rating to the sovereign's ST LC IDR. This reflects the status of the LT IDR as being the benchmark rating for recording default events within Fitch's rating definitions.

Conversely, it will be possible for Fitch to assign an 'RD' rating to a sovereign's LT FC or LC IDRs without assigning a 'RD' rating to the ST FC or LC IDRs if no default has occurred on the sovereign's short-term debt obligations.

Sovereign Rating Model

Fitch employs its SRM as the starting point for assigning the agency's sovereign ratings. The SRM generates a score calibrated to the LT FC IDR scale between 'AAA' and 'CCC+'. It is a rating model rather than a probability of default model and incorporates a combination of historical, current and forward-looking data.

Model Design and Derivation

The SRM has been estimated from the application of a multiple-regression Ordinary Least Squares (OLS) to 18 economic and financial variables referenced in Appendix 1 for all Fitch-rated sovereigns over a period from 2000 until the latest full year available, inclusive. The model uses empirical data, allows for very limited judgemental analyst input (following the initial calibration), and aims to provide a transparent, coherent framework for comparing sovereigns across regions and through time. The OLS regression is re-estimated and reviewed annually to incorporate additional data into the estimation period and to test for new potential variables, ensuring that the SRM evolves in line with Fitch's rating criteria.

The output of the OLS regression is a set of a coefficients and an intercept term[2] that do not vary by sovereign. These are applied to the data for an individual sovereign to determine the model output.

Model Variables

Variables are included in the SRM based on their sovereign credit rationale, consistency of signs (+/−) with economic theory, and guided by statistical significance. Fitch uses centred three-year averages (therefore incorporating Fitch's forecasts for the current year) for the more dynamic variables, such as the current account and fiscal balances, to smooth the impact of volatility on the output.

The 18 variables employed in the SRM are obtained from a range of sources, including the sovereign issuer itself, BIS, the IMF and the World Bank. This data is updated for each rating review and at least quarterly. The timeliness of availability of data can vary across substantially between sovereigns (see *Appendix 4: Data Sources, Limitations and Reasonable Investigation*).

The SRM is structured using the four pillars of analysis outlined on the first page of this report. The weights attributed to these pillars in the model, which are determined by the model itself rather than by analytical intervention, and are subject to periodic review, are shown in the table below. These weights are provided for illustrative purposes only.

Sovereign Analytical Pillars – SRM Weights

Analytical pillar	Structural features	Macroeconomic performance, policies & prospects	Public finances	External finances
SRM weights (%)	53.5	10.1	18.5	17.9

Source: Fitch Ratings

There is no subjective judgement involved and they are not used to estimate coefficients or when estimating the model output for a given sovereign. Rather, they are derived from standardised coefficients, which are, in turn, derived from an exactly equivalent OLS regression run on standardised data. Whilst the coefficients are used to calculate the SRM output, the weights are provided as an ancillary item to aid interpretation. They indicate, intuitively, how much of the variation in predicted ratings can be explained by variation in a given variable or group of variables.

The coefficients and weights of the individual variables are referenced in the section for each pillar. The intercept term is provided in Appendix1[3]

SRM Correspondence Table

Predicted LT FC IDR	Rounded SRM Score
AAA	16 or above
AA+	15
AA	14
AA−	13
A+	12
A	11
A−	10
BBB+	9
BBB	8
BBB−	7
BB+	6
BB	5
BB−	4
B+	3
B	2
B−	1
CCC+	0 or below

Source: Fitch Ratings

[2] See *Appendix 1* for further information.
[3] The SRM coefficients and intercept are presented to three decimal places in this document. However, functionally, the SRM uses 15 significant figures (up to 20 decimal places).

Model Output and Application

The output of the SRM is a score that is calibrated to Fitch's long-term rating scale and corresponds linearly to a predicted LT FC IDR for the sovereign issuer (see SRM Correspondence Table). Fitch's sovereign analysts use the SRM output as the starting point in the rating process, except in the cases described in *Conditions and Exceptions to Application of SRM and QO*. The SRM incorporates a combination of historical, current and forward-looking data (see *Appendix 1*).

Qualitative Overlay

As Fitch recognises that no quantitative model can fully capture all the relevant influences on sovereign creditworthiness, the agency also employs a QO designed to adjust for factors that are not reflected or not fully reflected in the SRM output for any individual rating. The QO is used to provide a subjective assessment, consistent with the criteria, of key factors within these rating criteria that are not able to be fully incorporated or reflected in the SRM. The QO is a formalisation of the qualitative elements that Fitch applies in assessing sovereign creditworthiness.

The QO is based partly on Fitch's economic and financial projections, thereby complementing the SRM, which includes a mix of historical and forward-looking data (one to two years of forecasts as part of three-year centred averages for certain variables). The QO comprises a rating adjustment system applied to the SRM output, with a potential notching range of +2/−2 for each of the four analytical pillars (structural features, macro, public finances and external finances) and an overall rating adjustment range of +3/−3 for each rating, except in certain circumstances as outlined below.

The rating committee decides on rating adjustments for each of the four analytical pillars – see *Qualitative Overlay Factors* table in *Appendix 1* – and explained further in the following corresponding sections of these criteria. Additionally, and to illustrate, a QO rating adjustment may be made to reflect any of the following, which is not an exhaustive list:

- Relevant factors/variables are not included in the SRM, because they are not quantifiable, such as geopolitical risk; or because the variable could not be incorporated into the SRM, for example because the variable is not available for all sovereigns or is not statistically significant in the estimation period but is nevertheless believed to be relevant.
- Data for certain variables are feeding into the SRM but there is uncertainty about the data or there are data gaps. Adjustments for data gaps would typically be made in the relevant analytical pillar. Adjustments for data are more likely to be negative, but in certain cases could be positive.
- The SRM assumes a defined relationship, linear in most cases, between the variables and the SRM output score but once variables move beyond a certain threshold the level of vulnerability can increase at a greater pace than indicated by the SRM. A relevant example of this phenomenon is the sovereign's general government debt ratio, in which increases in debt above certain levels can exert a greater negative impact on sovereign creditworthiness than is reflected in the SRM.
- The values feeding into the SRM for a variable are different from the likely development of the variable over the forecast horizon.

As a secondary consideration, any recommended notching takes account of the relative qualities of the issuer compared with a peer group of issuers covering both the SRM output category and the rating category (if the two are different). Although the notching range for each of the four pillars allows for +2/−2 notches to be applied, the overall maximum adjustment relative to the SRM output is capped at +3/−3, meaning that the maximum notching adjustments for each of the pillars cannot be applied simultaneously.

In certain circumstances, Fitch's sovereign rating committee may extend the range of overall notching to address the inability of the SRM to adjust rapidly to or deal with such circumstances.

These circumstances could include, but are not limited to:

- a country in a crisis situation, which could include a severe recession, banking sector crisis, constrained ability to access market financing, or recourse to external official sector financing;
- a country recovering from a crisis (as defined above);
- a country that has defaulted and been assigned an IDR of 'D' or 'RD' within the past five years;
- a country that has been downgraded by at least one rating category (i.e. three notches) within the past five years; and
- a country displaying signs of vulnerability to future shocks.

Conditions and Exceptions to Application of SRM and QO

The application of the QO will be subject to the following conditions and exceptions:

- **'CCC+' and Below:** For any sovereign issuer where the proposed LT FC IDR is 'CCC+' or below, or when the sovereign rating committee decides to assign a rating of 'CCC+' or below, the committee will not utilise the SRM and QO to explain the rating as it will instead be directly based on Fitch's rating definitions for the 'CCC+' and below rating levels. LT FC IDRs that are rated 'CCC+' or below can be upgraded to the 'B' category or above if the sovereign rating committee decides that the definitions for ratings of 'CCC+' and below are no longer appropriate for the issuer in question. In this situation, the combination of the SRM and QO will be re-adopted to determine the LT FC IDR of the issuer. In situations when the SRM output is 'CCC+' but the committee decides that upward notching using the QO is justified, the application of the QO will be consistent with the guidance outlined above, notching up from a starting point of 'CCC+' to determine the LT FC IDR. Fitch's rating definitions incorporate the +/- modifiers at all rating levels from 'AA' to 'CCC' inclusive.
- **Temporary Migration:** Additionally, in situations when the SRM output migrates from one rating notch to another – either up or down – but the migration results in the SRM score moving into a different rating notch level by a marginal amount, the committee can decide not to adopt the new SRM output as the starting point on which to apply the QO if it is deemed likely to be a temporary deterioration or improvement. Typically, the period for such a temporary deviation from the SRM output will be limited to a maximum of two years, although the rating committee can extend this period at its judgement.
- **SRM Re-estimation:** This ability for the sovereign rating committee not to adopt the SRM output as the starting point on which to apply the QO also extends to situations when a change in the output is caused by a re-estimation of the SRM, a process that Fitch undertakes on at least an annual basis. The ability not to adopt the SRM output as the starting point would typically be invoked when the change in a country's SRM score is marginal and when it is not clear that the credit fundamentals of the country have changed materially, notwithstanding the re-estimation of the SRM.
- **Data Revisions and Limitations:** In situations when sovereigns issue revisions to existing published data, these will be reflected in updated historical and projected variables in the SRM, and the potential impact on the rating, if any, will be considered at the next rating review following a full analysis of the implications of the revision by the analytical team.

  Additionally, in the event of data limitations that are potentially material to the rating outcome, Fitch will consider making an adjustment in the QO within the relevant analytical pillar, e.g. if there is a lack of information on external assets and liabilities, a negative notching adjustment could be made to the External Finances section of the QO. If Fitch believes that this lack of information is so significant as to render any analysis insufficiently robust to support a rating or rating action, Fitch will not assign a rating, or will withdraw an existing rating.

The table in Appendix 1 summarises the factors that Fitch considers to determine the level of notching in the QO. In each of the analytical pillars, the qualitative judgements reflect primarily factors not already captured in the SRM. As a secondary consideration, any recommended notching takes account of the relative qualities of the issuer compared with a peer group of issuers covering both the SRM output category and the rating category (if the two are different).

I. Structural Features

Structural features, reflected in governance quality, wealth and flexibility of the economy and political risk, carry the heaviest weight in Fitch's *Sovereign Rating Criteria*.

Key Criteria Factors

Governance quality	• Government effectiveness • Rule of law • Control of corruption • Voice and accountability • Business environment
Wealth and flexibility of economy	• GDP per capita • Resilience to shocks • Depth of financial system • Savings rate and openness
Political stability & capacity	• Political stability and capacity • Legitimacy of regime • Conflict/war risk • Debt payment record • Risk to economic policy
Financial sector risks	• Quality of regulatory and supervisory systems • Macro-financial instability risk • Contingent liability risk • Banking Sector Indicator (BSI) and Macro-Prudential Indicator (MPI)

Source: Fitch Ratings

SRM Rationale

SRM Variables	Measure	Impact	Weight (%)	Coefficient
Governance indicators	Latest	Positive	21.4	0.077
GDP per capita	Latest	Positive	12.4	0.038
Share in world GDP	Latest	Positive correlation with size	13.9	0.627
Years since default or restructuring event	Latest	Negative	4.6	-1.822
Broad money supply (% of GDP)	Latest	Positive	1.2	0.158
Overall weight in SRM			53.5	

Source: Fitch Ratings

The credit rationale for the inclusion of the above variables in the SRM is as follows:

- **Governance indicators** – Governance indicators are included to capture the capacity and willingness of the authorities to mobilise resources to fund debt payments and the risk that this might be disrupted by civil unrest, political instability or conflict, as well as the effectiveness of government and institutions in managing economic activity and absorbing adverse shocks. Therefore, they are also a proxy for many intangible and difficult-to-measure factors that enhance debt tolerance. The composite governance indicator is the simple average of a sovereign's percentile ranks for the six World Bank Worldwide Governance Indicators: "Rule of Law"; "Control of Corruption"; "Government Effectiveness", "Voice and Accountability", "Regulatory Quality" and "Political Stability and Absence of Violence". Each of the World Bank governance indicators is a statistical aggregation of perceptions of various aspects of governance from a range of public- and private-sector sources. Fitch uses the World Bank indicators in the criteria because of their comprehensiveness, methodological transparency, widespread use in other cross-country studies, and completeness of coverage geographically and over time.

- **GDP per capita** – High income per head implies that labour is engaged in high-value-added activities (though this is not necessarily the case for commodity producers) and hence that the economy is less vulnerable and better able to absorb adverse shocks. Fitch uses GDP per head both as a measure of income and as a proxy for the stock and quality of labour and capital and financial wealth and an indicator of overall development. This variable is calculated as the percentile rank of per capita GDP in US dollars at market exchange rates across all Fitch-rated sovereigns, such as that the Fitch-rated sovereign with the highest GDP per capita scores 100. A sovereign with a percentile rank of 2.5 would indicate that 97.5% of all Fitch-rated sovereigns have a higher per-capita income than that given sovereign.

  The rationale for using percentile ranks is to eliminate the impact on the SRM output of the positive trend in nominal per-capita income over the medium term for most countries. A market exchange rate estimate of per-capita income is preferred to a purchasing power parity (PPP) estimate because of the time lag in the availability of PPP-based estimates, possible errors in estimates of PPP and the difficulty of forecasting PPP per-capita income.

- **Share in world GDP** – This variable captures the relatively high vulnerability of small economies. For each country in each year, it is calculated as the natural logarithm of the share of the country's GDP in world GDP, measured in US dollar terms at market exchange rates. The rationale for this variable is primarily to incorporate the impact on the rating of exposure to shocks beyond those likely to be captured by the GDP volatility variable. The smaller a country, the higher the potential impact of an idiosyncratic natural disaster or severe exogenous shock on its economy and the less domestic economic agents, including the public sector, are able to hedge against such shocks. Typically, smaller economies are also less diversified, increasing the impact from sector-specific shocks, either domestic or exogenous in origin.

  For smaller economies, the low liquidity of their debt instruments can be a barrier to entering international markets and can increase the cost of cross-border risk diversification. Share in world GDP is measured in logarithms because of the non-linearity of the size effect: small countries are vulnerable, but the marginal benefit of being larger declines rapidly.

- **Years since default or restructuring event** – All else being equal, a recent episode of sovereign debt restructuring (which could include either default or non-default events) generally reveals weaknesses in a country's policy framework that allowed fiscal, economic or political conditions to develop along a trajectory culminating in the restructuring; such an event can sometimes also be a signal of a sovereign's lack of willingness to pay, which is otherwise difficult to measure directly. However, the influence on the rating of even recent episodes of restructuring can be moderated by qualitative factors in the QO (see below). Generally, series of official-sector restructurings will be treated in the model as a single reset event, with the reset day typically occurring at the time of the initial restructuring.

  Types of restructuring events that typically have been captured within this variable include any sovereign default event under these criteria (see *Sovereign Default Events*), including where we have adequate information to assess with reasonable confidence the occurrence of such an event prior to our rating coverage, international debt relief programmes including the Highly Indebted Poor Country (HIPC) Initiative, those administered by the G20, and Paris Club restructurings. Certain situations that appear to fulfil the criteria of a restructuring event may not be captured in this variable. For example, when a sovereign bilateral lender agrees to a mutually acceptable restructuring of a debt obligation owed by another sovereign (e.g. extending maturities on bilateral loans that form part of a broader trade and investment relationship) and Fitch does not assess this to be a DDE as outlined in these criteria, such an event would not be regarded as a restructuring event for the purposes of this variable.

  The SRM variable is a non-linear function of time since the event. It is one in the year of the event and zero if there has been no event after 1980. In the year of the event, proximity of default/restructuring deducts about 1.8 notches from the model output; for

each year that elapses since the event, its impact on the rating declines exponentially such that it halves in about 4.3 years.

- **Broad money supply** – The ratio of broad money to GDP is used as a proxy for the level of financial intermediation in the economy. The richer the country (measured in terms of monetary assets available in an economy), the higher the level of public debt that the economy can tolerate. In testing, the best specification of this variable in the model was in terms of natural logarithms, suggesting a non-linear relationship between money supply and creditworthiness.

QO Rationale

QO factors – relative to SRM data and output
• **Political stability and capacity**, including the level of political risk, the risk of fundamental regime change and/or military conflict, broader geopolitical risks, the ability of the political system to address economic and fiscal challenges and willingness to pay.
• **Financial sector risks** reflecting Fitch's assessment of the health of the banking system and the level of macro-prudential risks in the economy, as measured by Fitch's BSI and MPI rankings, as well as other relevant considerations.
• **Other structural factors** including the quality of the business environment and economic flexibility reflected in, among other factors, the ability to attract investment, the level of domestic savings, openness to international flows and the ability to respond to shocks. It will also be possible to reflect here items such as unrepresentative levels of GDP and similar issues that can affect the Structural Features variables in the SRM.

Source: Fitch Ratings

The rationale for the inclusion of these QO factors is as follows:

- **Political stability and capacity** – Political and geopolitical risks can have an important bearing on sovereign creditworthiness. A high degree of consensus on major social and economic issues is associated with stable and predictable economic policies. Conversely, in a country that is riven by divisions along the lines of income distribution, race, religion or regional differences, the government of the day may encounter numerous challenges to its authority and undermine its ability to conduct effective economic and financial policies. Account is also taken of powerful vested interests that may block essential structural reforms.
  - Geopolitical risks, meanwhile, can take many forms, including conflicts or tensions in neighbouring countries, the imposition of economic sanctions, security threats or actual occurrences and broader supranational relationships. To the extent they are relevant for an individual sovereign issuer, these factors could be reflected in notching in this area of the QO.
  - While political risk is to some extent reflected in the quantitative variables included in the SRM (notably under "Political stability and the absence of violence" in the World Bank Worldwide Governance Indicators), there are broader political risk factors that could affect sovereign creditworthiness. These would include risks that the sovereign authorities will lack the political capacity and will to address economic and fiscal challenges or to mobilise resources necessary to honour their financial obligations. There might also be cases when recent political events are not yet captured in the World Bank Worldwide Governance Indicators but are judged to exert a material impact on creditworthiness.
  - On occasion, the advent or aftermath of elections or other intense political pressures can lead to a marked detrimental shift in economic policy, such as a loosening in fiscal policy ahead of elections, or a change in the policy framework if a populist government comes to power, or policy paralysis in the event of an inconclusive election result.

- Other political risks relating to sovereign debt service that may need to be reflected by QO adjustments within this pillar include parliamentary or congressional approval or similar processes that may be needed to enable a sovereign government to issue new debt. In the event that such approval is not forthcoming, downward QO notching in this pillar may be appropriate to reflect increased risks to sovereign debt service.
- In relation to the "Years since default or restructuring event" SRM variable, the influence on the rating of even recent episodes of default/restructuring will be greatly moderated if Fitch judges that the event is not symptomatic of a continuing weakness in the political capacity and will of the sovereign authorities to mobilise resources to honour debt obligations. Conversely, while the SRM does factor in an impact from default/restructuring events in this way, in certain circumstances Fitch could also make an adjustment in the QO that goes beyond the standard +/−3 notch adjustment range to reflect a relatively recent event, particularly if the agency views the event as indicative of weakness in the capacity and/or willingness of the sovereign to honour its debt obligations.

- **Financial sector risks** – There are two principal risks posed to sovereign creditworthiness by the country's domestic financial sector: macroeconomic instability and contingent liability. Recapitalisation of financial systems has historically resulted in significant increases in the government's debt burden; this risk is typically captured in the Structural Features pillar, but the ultimate impact when it materialises is likely to be reflected in the sovereign's public finances pillar. The risks to macroeconomic stability arise from a weak financial system that amplifies rather than absorbs shocks to the economy, for example by exacerbating exchange rate over-shooting in response to an external shock due to (explicit or implicit) currency mismatches on its balance sheet. The failure of a single large entity can also result in a collapse in confidence in the system as a whole, prompting deposit and capital flight and disrupting the ability of the sovereign to finance itself in domestic and international financial markets.
  - ***BSI measures system strength*** – An important starting point for the analysis of banking system risk in the context of these criteria is Fitch's Bank Systemic Risk (BSR) indicators, which are updated and published at least annually. One of the BSR measures is the Banking System Indicator (BSI), which aims to measure a banking system's standalone financial quality or strength and is a simple weighted average of bank Viability Ratings for a critical mass of a country's banks. The typical developed-country banking system is scored 'a', whereas the typical EM system is in the range 'bbb'/'bb'/'b'. Financially weak systems with substantial liabilities (eg indicated by a high ratio of private credit to GDP) could imply large contingent liabilities for the sovereign and hence will be a negative rating factor. Conversely, financially strong bank systems that do not represent a material contingent liability and are efficient in attracting and allocating savings to investment projects represent a positive rating factor. In the event that the BSI score is a rating category or more below the Sovereign LT FC IDR, the rating committee will consider whether downward notching should be applied in the QO.
  - ***Intervention can impair sovereign creditworthiness*** – Sovereign intervention in the banking system typically occurs through supervision and regulation, but can also take the form of financial support, including the "socialisation" of bank liabilities so as to ensure the solvency of the system, although recent developments in the context of bank resolution regulations have reduced the propensity of sovereigns to provide direct financial support. The capacity of the sovereign to intervene in support of the banking sector without materially impairing its own creditworthiness is a function of the credibility and capacity of the central bank as a lender of last resort and the capacity of the government to absorb domestic banking and financial-sector liabilities without threatening its own solvency and financing capacity.

- ***Foreign ownership typically positive*** – Other indicators of financial system soundness reviewed in the sovereign rating analysis include the ratio of non-performing to total loans, capital adequacy ratio (based on Basel definition when available) and relative shares of public and foreign ownership. Qualitative judgements are also made in conjunction with Fitch's Financial Institutions Group on the effectiveness of supervision and regulation. Fitch takes some comfort from high levels of foreign ownership, which is often associated with the transfer of more sophisticated financial management and technology that reduces the risk of bank failure; also, the foreign parent rather than the sovereign is the principal source of finance in the event of distress. In contrast, publicly owned banks have historically been subject to political interference and engaged in quasi-fiscal operations that have undermined financial soundness and often required substantial fiscal resources to resolve.
- ***MPI ranking*** – The other BSR measure is the Macro-Prudential Indicator (MPI), which ranges from '3' – high potential vulnerability to financial stress over the medium term based on trends in credit expansion, equity and property prices and real exchange rates – to '1' – low likelihood (see *Appendix 3: Macro-Prudential Indicator Model*). This indicator can provide an early-warning signal of potential financial distress that, in the most adverse circumstances, could result in macroeconomic instability and/or large contingent liabilities being realised by the sovereign. The MPI measures the extent to which these indicators have increased over a given time period and the potential level of overvaluation that could lead to financial instability in the economy and liabilities for the sovereign. When the MPI score is '2' or '3', indicating a relatively higher likelihood of vulnerability to potential stress, a downward notching adjustment may be applied in the QO. An MPI score of '1' in itself typically does not warrant a positive notching adjustment.

- **Other Structural Factors** – This includes the quality of the business environment, the quality of human capital, the ability to attract investment, the level of domestic savings, openness to international flows and the ability to respond to shocks. Fitch uses the UN's Human Development Index to determine the quality of human capital. The quality of the business environment can be important in influencing the level of investment in the economy, both domestic and foreign, which is typically a prerequisite for sustainable economic growth. Fitch uses a range of sources to assess the quality of the business environment. It will also be possible to reflect here items such as unrepresentative levels of GDP and similar issues that can affect the Structural Features variables in the SRM. Countries where GDP data are unrepresentative of the economy's underlying fundamentals may consequently benefit disproportionately in the SRM score; an appropriate adjustment can be reflected here.

II. Macroeconomic Performance, Policies and Prospects

Record of macroeconomic stability, underpinned by a credible policy framework, has a material positive influence on sovereign creditworthiness and ratings.

Key Criteria Factors

Policy framework	• Coherence and credibility • Robustness and resilience to shocks
GDP growth	• Level • Volatility and sustainability
Inflation	• Level and stability • Dollarisation/indexation
Real effective exchange rate	• Consistency with policy framework • Vulnerability of fixed/pegged regimes

Source: Fitch Ratings

SRM Rationale

SRM variables (%)	Measure	Impact	Weight (%)	Coefficient
Real GDP growth volatility	Latest	Negative	4.6	-0.728
Consumer price inflation	3-year centred average	Negative	3.4	-0.067
Real GDP growth	3-year centred average	Positive	2.0	0.065
Overall weight in SRM			**10.1**	

Source: Fitch Ratings

The credit rationale for the inclusion of the above variables in the SRM is as follows:

- **Real GDP growth volatility** – Macroeconomic volatility constrains savings and investment, distorts the development of the financial sector, and hinders long-term business decision-making. It also adversely affects the capacity of the sovereign (as well as the broader public and private sectors) to tolerate a given level of indebtedness. Protracted periods of economic instability render the economy and public finances much more vulnerable to shocks and hence prone to interruptions in sovereign debt service. An exponentially weighted standard deviation of historical annual percent changes in real GDP is used by Fitch to assess GDP growth volatility, such that the most recent annual percent change accounts for 15% of the volatility calculation. This means, for example, that the most recent 10 years' data account for 80% of volatility calculation and the most recent 20 years account for 96% of volatility calculation.

- **Consumer price inflation** – Sovereigns underpinned by economies that have benefited from a record of low inflation and stable economic growth will tend to be rated more highly than those that have (or have experienced in the recent past) chronic high inflation and severe economic cycles. The legacy of previous episodes of high and volatile inflation can persist for several years. The longer the period that low-to-moderate inflation is sustained, the greater the confidence that it will remain so. Economies with a long history of high inflation often exhibit high degrees of indexation and dollarisation, as foreign currency becomes the chief store of value and the exchange rate the key reference price for the economy. The SRM specification for this variable has been adjusted to reduce the positive influence of persistently low inflation, which – in Fitch's view – is not necessarily positive for sovereign creditworthiness. The updated inflation variable has been set to a minimum of 2% and a maximum of 50% (the latter to reflect a threshold for hyper-inflation).

- **Real GDP growth** – Economies with sustained high rates of economic growth are typically better able to absorb adverse shocks, and the volatility of public finances is correspondingly lower. In addition, the maintenance of consistent strong growth rates over an extended time period will eventually lead to a country's average income and wealth levels increasing towards those of higher rated peers, thereby enhancing creditworthiness (see *Structural Features*).

QO Rationale

QO factors – relative to SRM data and output
• **Macroeconomic policy credibility and flexibility**, including coherence and robustness in terms of consistency, flexibility and credibility of monetary and fiscal policies.
• **GDP growth outlook** over the medium term relative to peers.
• **Macroeconomic stability** reflected in, among other factors, the level of imbalances, unemployment levels and trends, and contributions to growth of different sectors of the economy.

Source: Fitch Ratings

The rationale for the inclusion of these QO factors is as follows:

- **Macroeconomic policy credibility and flexibility** – Fitch considers a credible policy framework to be one in which responsible monetary and fiscal policies work in tandem towards a sustainable long-term growth path while minimising the impact on output and inflation of adverse economic shocks. Countries that have benefited from a long period of sound macroeconomic policies are likely, other things being equal, to enjoy stable and higher non-inflationary growth, leading to higher income levels and greater resilience to shocks.
  - ***Fixed or pegged exchange rates can increase vulnerability*** – Sovereign debt crises have often been preceded by a currency collapse and financial crisis due to inappropriate exchange-rate policies that have failed to adjust to shocks and/or are inconsistent with other economic policies, and in particular fiscal policy. Although a fixed exchange-rate regime may be the optimal arrangement for countries with certain characteristics, the experience of economic and sovereign debt crises since the mid-1990s suggests that fixed and in particular pegged exchange-rate regimes can be especially damaging to the economy and sovereign creditworthiness if they fail. Consequently, in the rating analysis of sovereigns that operate fixed or managed exchange-rate regimes, particular attention is given to the consistency and sustainability of the macroeconomic policy framework, as well as to the robustness of the financial sector, balance-of-payments trends and the level of international reserves and other foreign assets relative to liquid foreign-currency and external liabilities.
  - ***Foreign demand for domestic assets increases policy flexibility*** – The greater the depth of demand for sovereign and local-currency assets, the greater the flexibility of monetary and fiscal policies in responding to adverse shocks. Shallow demand for local-currency assets is typically reflected by a high degree of dollarisation, low level of financial intermediation (measured by the ratio of private credit to GDP) and under-developed domestic capital markets. The less price-elastic the demand for local-currency assets, the weaker the capacity of the central bank to act as a credible lender of last resort to the financial sector, while the government has less scope to incur and fund large budget deficits. Countries with currencies that exhibit reserve-currency characteristics enjoy exceptionally strong financial and policy flexibility.
  - ***Fiscal policy key in monetary unions*** – Monetary and exchange-rate policies figure less prominently in sovereign assessments of countries in a currency union, such as the eurozone, or that are fully dollarised (in contrast to economies that are partially dollarised and still have a local currency). In these instances when monetary and exchange-rate policies are not under the direct control of the sovereign authorities, greater emphasis is placed on appropriate fiscal and structural adjustment policies and the competitiveness and flexibility of the economy.

- ***Dollarised economies limit monetary policy*** – A large stock of foreign-currency deposits in a banking system can quickly become a drain on the system's foreign assets (including central bank international reserves) and a source of capital flight. The ratio of foreign currency to total deposits – the dollarisation ratio – is one of the relative factors within this pillar. Dollarisation and indexation of contracts (debt as well as wages) limit the capacity of monetary and exchange rate policies to contain and manage shocks, while also reducing the scope to monetise local-currency sovereign debt obligations while containing inflationary pressures.
- ***Macro data outturns may mask weakness*** – While the quality of the policy framework will to some extent be reflected in the quantitative variables included in the SRM, any recent changes in policy direction will take time to be observed in the data out-turns. Also, stronger or weaker policy frameworks may not translate into materially divergent economic performance until a crisis occurs, but Fitch believes that it is important to factor such differences into its sovereign ratings throughout the cycle.

- **GDP growth outlook** – Although the SRM GDP growth variable captures an element of forward-looking analysis by incorporating one year of projections within the three-year centred average calculation, it does not take account of the medium-term growth outlook for the economy, which is relevant for macroeconomic performance and also for the future trajectory of public finances. In assessing this factor in the QO, Fitch typically focuses on the five-year outlook for GDP growth relative to both the issuer's past performance and rating category peers.
- **Macroeconomic stability** – The SRM variables do not include any specific quantitative measures of certain macroeconomic factors, such as unemployment levels or developments in sectors of the economy such as real estate that have a propensity for generating instability. While GDP volatility and inflation could provide evidence of macroeconomic imbalances or instability, Fitch will analyse other potential sources of instability as part of this qualitative assessment, including a forward-looking view on whether such imbalances could affect the sovereign's credit profile.

III. Public Finances

The level, structure and projected trajectory of public debt combined with the consistency and prudence of fiscal policy are the main factors in the analysis of public finances.

Key Criteria Factors

Government debt	• Gross general government debt/GDP • Debt tolerance • Maturity, interest rate and currency mix • Financing flexibility and market access • Fiscal assets • Contingent liabilities
Fiscal balance	• General government balance/GDP • Budgetary flexibility/rigidity • Breadth of revenue base
Debt dynamics	• Sustainability of public debt • Scenario analysis based on forecasts for primary balance, GDP growth and interest costs
Fiscal policy	• Consistency, prudence and transparency of fiscal rules and framework

Source: Fitch Ratings

SRM Rationale

SRM variables	Measure	Impact	Weight (%)	Coefficient
Gross general govt debt/GDP	3-year centred avg.	Negative	8.9	-0.023
General govt interest (% of revs)	3-year centred avg.	Negative	4.5	-0.044
General govt fiscal bal./GDP	3-year centred avg.	Directional	2.4	0.044
FC govt debt/gross govt debt (%)	3-year centred avg.	Negative	2.7	-0.007
Overall weight in SRM			**18.5**	

Source: Fitch Ratings

The credit rationale for the inclusion of the above variables in the SRM is as follows:

- **Gross general government debt to GDP** – A heavy government debt burden will, other things being equal, be associated with a higher risk of default. However, the level at which the public debt burden ceases to be sustainable varies across countries and over time, and hence there is no simple linear relationship between the stock of government debt relative to GDP on one side and sovereign creditworthiness and ratings on the other. This reflects the reality that more highly rated countries with developed capital markets usually have higher debt capacity than countries with more limited financing options. Debt tolerance is therefore also typically higher for developed-economy countries at higher rating levels than for less developed countries.

- The principal measure of sovereign indebtedness that Fitch has adopted is gross general government debt relative to GDP. In Fitch's opinion, gross government debt is the most relevant and comprehensive measure of sovereign indebtedness and the one that best lends itself to cross-sovereign comparative analysis. The general government's net debt position (gross general government debt less its deposits with financial institutions) is also an important indicator of indebtedness and can be more closely aligned with the government's ongoing budgetary financing and liquidity needs.

  For a number of sovereigns, general government data are not available or are only published with long time lags. In those cases, Fitch may decide to use central government data if it believes that the central government data are a sufficiently close proxy to the general government. This applies to all public finance variables in the SRM.

- **General government interest payments to government revenue** – The cost of servicing government debt (expressed as a percentage of revenues) is an important consideration in the context of the public finances. The cost of borrowing is one of the key variables assessed and projected as part of Fitch's debt sustainability analysis and helps to determine the future trajectory of government debt. High and/or rising interest burdens erode sovereign solvency and limit the sovereign's flexibility in the management of public finances, potentially constraining its ability to implement counter-cyclical fiscal policy to provide stimulus during periods of macroeconomic weakness.
- **General government fiscal balance to GDP** – The general government fiscal balance reflects the net balance of revenues accrued and expenditures incurred on an annual basis. Typically, sustained high fiscal deficits (as a percentage of GDP) will tend to be indicative of loose fiscal policy management and, other things being equal, are likely to lead to rising indebtedness.
- **Foreign-currency government debt to total government debt** – Foreign-currency-denominated (or indexed) debt, expressed as a percentage of gross general government debt, can be thought of as capturing what is known as "original sin" – the limited ability of the government to borrow at longer maturities in its own currency. This issue is also related to reserve-currency flexibility (see *External Finances* section): governments located in large and sophisticated economies with a history of relative macroeconomic (and especially price) stability can typically raise funds predominantly in their own currency, at home as well as abroad. For fully dollarised economies, this ratio is always set at 100%.

  Governments that borrow substantially in foreign currency create currency risk on their balance sheets as revenues (usually from domestic taxes) are typically denominated in local currency. In the event of a devaluation or depreciation of the local currency, a sovereign will typically see its foreign-currency-denominated debt increase as a share of GDP and revenues. Furthermore, this currency risk can materialise at – and exacerbate – times of economic and financial stress as this is often when devaluations occur. The presence of "original sin" can even precipitate or accelerate crises or stress if lenders fearing future problems become reluctant to roll over debt. In addition, sovereign borrowers in foreign currency are usually more reliant on foreign investors, who may be a less stable source of funding than domestic investors with a "home bias", and therefore are more vulnerable to sudden stops in capital flows. In contrast, reserve-currency flexibility confers huge advantages in terms of fiscal and monetary policy flexibility.

QO Rationale

QO factors – relative to SRM data and output
• **Fiscal financing flexibility**, including the record of market access, ability to issue at sustainable yields and long maturities in domestic currency, the depth of local capital markets, access to other potential sources of financing (eg multilateral), expected ability to issue in a stress scenario, presence of large sovereign deposits or other resources.
• **Public debt sustainability**, including projected peak and trajectory of debt dynamics, taking into consideration the credibility of the fiscal framework, the cost of financing (including access to concessional funding) and ageing-related pressure on the primary balance, sovereign assets, and the extent and nature of contingent liabilities that could crystallise on the sovereign balance sheet.
• **Fiscal structure**, focusing on the breadth of the revenue base, the concentration/diversification of revenue sources and the level of budgetary rigidity in terms of current spending.

Source: Fitch Ratings

The rationale for the inclusion of these QO factors is as follows:

- **Fiscal financing flexibility**
  - ***Market access record and ability to issue in a stress scenario*** – The ability of a sovereign issuer to retain market access and to fund itself at sustainable yields is an important consideration, especially during periods of market stress or dislocation. This means that the analysis of a sovereign's public finances becomes materially more important during periods of market dislocation. Sovereigns that

have lost market access in previous periods of stress may be subject to a negative notching adjustment in the QO, although such lost market access could alternatively be reflected in an adjustment in the *External Finances* section of the QO to reflect a broader loss of external market access than just the Sovereign. In those circumstances, only one adjustment would be made to avoid double-counting.

- ***Debt structure and depth of capital markets*** – Fitch examines the maturity, interest rate and currency composition of government debt, which informs its judgement on the extent of market-based risk faced by the government. A sovereign can gain additional financing flexibility and an ability to sustain relatively high levels of debt if it has a well-regulated, liquid domestic government debt market that is underpinned by a broad range of investors (local institutional investors such as pension and other savings funds), willing and able to provide a range of financing alternatives (including long-maturity and fixed-rate funding), and is resilient to all but extreme economic and political shocks. A government debt stock that is characterised by long maturity and duration materially reduces refinancing and interest rate risks. Similarly, extensive hedging of foreign exchange and interest rate exposures in relation to a sovereign's debt structure can mitigate these risks. Conversely, a prevalence of short-term or unhedged debt renders the government balance sheet much more vulnerable to market-based risk.

  The availability of concessional financing (see *Relationships with official sector creditors* below) would also be considered in the context of our debt structure analysis.

- ***Sovereign deposits and other fiscal assets*** – Fitch also takes into account the government's liquid financial assets, such as unencumbered deposits, which could be drawn down to finance its budget deficit in the event of difficult market access. When assets are material and Fitch is able to establish that they are liquid, unencumbered and can be used to refinance or repay government debt, their presence can result in positive QO notching.

- ***Relationships with official sector creditors*** – Relations with the international community, including with IFIs (i.e. the IMF and development banks) and major global or regional powers, may also influence the assessment of financing flexibility. Unwillingness for political or other reasons to secure policy-conditional financing from the IMF and other IFIs reduces the sovereign's financing options in a distress scenario.

  Conversely, a well-designed, credible and internationally funded economic programme can stabilise local financial markets, normalise the flow of private capital, and lay the basis for sustained recovery. Nonetheless, emergency financial support from the IFIs is a sign of distress, and it is likely that the sovereign credit profile and rating will have deteriorated over the months preceding receipt of external assistance.

- **Public debt sustainability**

  - ***Public Debt Trajectory*** – The sustainability of a given level of government debt is also a function of direction. When debt levels are rising significantly, particularly if there is weak credibility that fiscal policies will be sufficient to adjust the primary budget balance (i.e. the budget balance excluding net interest payments) to establish and sustain the debt ratio on a downward path over the medium to long term, the SRM variable for the current level of general government debt/GDP may not fully capture the risks to long-run solvency of the government.

  - ***Non-Linearities Associated with High Debt*** - On occasion, a very high level of government debt/GDP may warrant a negative adjustment in the QO if, for example, it is judged that the SRM does not capture sufficiently the non-linearity associated with risks surrounding a modest increase in the debt ratio that could be better tolerated if the debt level were lower.

Fitch's proprietary Debt Dynamics Model (DDM) is usually employed to assist the rating committee in judging the sustainability of a given debt level and current fiscal policy settings. The DDM output is a projection for government debt/GDP typically across a five-year horizon. This is based on assumptions, also across a five-year horizon, for the input variables – general government primary balance, general government interest payments, GDP deflator, real GDP growth, the exchange rate and stock flow adjustments. Fitch may extend DDM projections beyond five years when considered relevant for the rating assessment.

Several alternative projections for government debt/GDP are produced when running the DDM, based on alternative sets of input assumptions. This provides sensitivity analysis of the output with respect to shocks (such as fiscal slippage, increase in the cost of borrowing, economic recession or currency depreciation) in the input variables, relative to the baseline assumptions.

In determining whether to apply a QO adjustment, the rating committee will consider the trajectory of general government debt/GDP according to baseline input assumptions (for example, summarised by the peak and the overall percentage point change in general government debt/GDP over the projection period), the likelihood of this outcome, the results of the sensitivity analysis and the government's record on fiscal policy.

Fitch does not employ its DDM for countries with negligible or zero public debt burdens, as it would not produce any meaningful output on which to base its analysis of the public finances. Additionally, Fitch may decide not to employ its DDM for sovereign issuers in distress situations when the medium-term trajectory of the debt profile is less relevant than near-term financing and repayment capacity considerations.

- ***Government assets*** – Fitch will take into account the sovereign's financial assets, such as deposits or portfolio investments in sovereign wealth funds, to the extent that its net debt and overall solvency position is materially stronger than indicated by its gross debt position (which feeds into the SRM). Fitch does not typically consider illiquid assets, including government stakes in state-owned enterprises, as potentially sources of liquidity for debt service in the near term even if they are large, as they tend to be difficult to liquidate in a crisis scenario. However, in some cases they can be liquidated over time to support solvency and debt sustainability.

- ***Size and potential crystallisation of contingent liabilities*** – Contingent liabilities for the government are myriad, ranging from explicit guarantees on other entities' debt to future liabilities arising from unfunded pension commitments and potential support for the domestic banking sector or the private sector more generally.

  Analysis of contingent liabilities is hampered by a lack of comprehensive and consistent data across countries. In assessing the extent to which contingent liabilities affect the sovereign's creditworthiness, Fitch takes into account both the size of the explicit and (when measurable) implicit contingent liabilities and the likelihood of them crystallising on the sovereign's balance sheet. If the materialization risk of financial sector contingent labilities is already captured in the QO of the Structural Features pillar, it may not need to be captured here.

  In Fitch's view, debt measures that include the liabilities of the broader public sector, such as state-owned or controlled entities, can obscure the underlying state of government finances and the analysis of any fiscal adjustment that may be required to underpin confidence in the long-term solvency of the sovereign. Consequently, Fitch does generally not assess the debt obligations of state-owned enterprises as sovereign debt liabilities for the purpose of calculating the sovereign's gross general government debt stock, even though their credit profile may be closely linked to that of the sovereign.

That said, Fitch may include the financial liabilities of a public-sector entity as part of government debt if there is an explicit and full guarantee from the government for those liabilities and Fitch judges that the guarantee is almost certain to be called, but these situations are likely to be extremely rare.

Fitch will also take account of the potential adverse impact on budget deficits and debt levels from adverse demographic trends such as an ageing population and rising old age dependency ratio (population 65 years and older relative to those of working age). Fitch will reflect demographic pressures in ratings as a product of their proximity and severity, taking account of the likelihood of reforms to mitigate their effects.

Fitch also takes into account other sovereign financial obligations, which in some cases can include obligations under public-private partnerships (eg guarantee or grantor payments), but these would typically only be included in our sovereign debt ratio calculations when there is a clear legal obligation and they are deemed likely to crystallise.

- **Fiscal structure** – The degree of budgetary rigidity is also a factor that influences Fitch's analysis of the vulnerability of public finances to shocks, as well as the sustainability of a given debt burden. This analysis focuses on the breadth of the revenue base, the concentration/diversification of revenue sources, and the level of budgetary rigidity in terms of current spending.

IV. External Finances

The composition and stock of foreign assets and liabilities, as well as the capacity of the economy to generate foreign exchange, are taken into account in assessing external finances.

Key Criteria Factors

Balance of payments	• Current account balance • Commodity or sector dependence • Structure and volatility of capital flows • External debt service
External balance sheet	• Sustainability of external debt • Stock of external assets and liabilities • Net foreign asset position • Focus on net rather than gross external debt • Maturity and currency structure • Official sector versus market debt
External liquidity	• International liquidity ratio • Willingness of non-residents to extend credit and purchase domestic assets • Reserve-currency flexibility

Source: Fitch Ratings

SRM Rationale

SRM variables	Measure	Impact	Weight (%)	Coefficient
Reserve-currency flexibility	Latest	Positive	7.3	0.509
Sovereign net foreign assets (% of GDP)	3-year centred avg.	Positive	7.4	0.011
Commodity dependence	Latest	Negative	1.2	-0.004
Foreign-exchange reserves (months of CXP)[a]	Latest	Positive	1.5	0.029
External interest service (% of CXR)	3-year centred avg.	Negative	0.4	-0.007
Current account balance + net inward foreign direct investment (% of GDP)	3-year centred avg.	Directional	0.1	0.001
Overall weight in SRM			**17.9**	

[a] Only for countries without RCF
Source: Fitch Ratings

The credit rationale for the inclusion of the above variables in the SRM is as follows:

- **Reserve-currency flexibility** – The variable for RCF captures the reality that countries whose currencies have a significant role in global official foreign-exchange reserve portfolios are less likely to experience funding stress, reflecting stable demand for assets denominated in their currency. For countries (such as the US) with exceptionally strong reserve-currency flexibility, these assets tend to be a destination for safe-haven capital flows in times of market stress. RCF benefits fiscal as well as external financing flexibility as the majority of reserve assets are government bonds and RCF therefore tends to increase external demand for a country's sovereign debt, but Fitch categorises the variable in its External Finances section of the SRM. The RCF indicator is based on hard data (from the IMF COFER database) so as to avoid subjective judgements.[4]
- **Sovereign net foreign assets (SNFAs)** – A measure of the government's financial position with respect to the rest of the world is the net foreign asset/debt position of the sovereign. Sovereign net foreign assets are defined as official central bank foreign-exchange reserves plus other sovereign external assets less sovereign external debt. Other sovereign external assets include sovereign-controlled external assets (for

[4] In assessing reserve-currency characteristics, Fitch uses data from the IMF's COFER database (updated quarterly with a four-month lag) to determine the share of currencies in global reserve portfolios. This currently includes eight currencies: the US dollar, euro, yen, pound, Canadian dollar, Australian dollar, the Swiss franc and the Chinese yuan. Fitch gives each country in the eurozone the same RCF score in the SRM (which only includes hard data), but can make adjustments in the QO to recognise that not all countries in the eurozone have the same degree of RCF. The agency does not attribute RCF to countries that are simply dollarised or euroised rather than being members of currency areas with benefits, such as access to central bank liquidity.

example held by sovereign wealth funds or public pension funds) that are sufficiently liquid and could support fiscal and current account funding. Such equity, debt or other assets would normally be included only if data on holdings over time are available from official sources or can reasonably be estimated by Fitch. Sovereign external debt would include liabilities held by non-residents issued by the government, the central bank and other sovereign entities (including sovereign wealth funds (SWF)).

- **Commodity dependence** – The greater the reliance on commodities for export receipts, the greater the vulnerability to terms-of-trade or other shocks and, other things being equal, the weaker is sovereign creditworthiness. This is particularly the case when the country depends mainly on a single commodity (or service such as tourism) rather than a basket of commodities that offers more diversification. This variable is calculated as the proportion of current external receipts that are non-manufactured goods. Following the World Bank definition, in which such data are available, Fitch uses Standard International Trade Classification (SITC) Revision 3 data and we define manufactured goods as categories 5 (chemicals) plus 6 (basic manufactures, excluding 68 - non-ferrous metals), 7 (machinery & transport equipment), and 8 (miscellaneous manufactured articles). When such data are available, re-exports are excluded from the calculation for non-manufactured goods exports in order to focus on commodity endowments.
- **Foreign-exchange reserves** – The level of international foreign-exchange reserves accumulated by the country's central bank represents an important buffer or measure of resilience to shocks for countries that do not benefit from RCF. Expressed as the number of months of cover of import payments, this variable highlights the extent to which the economy can continue to finance its imports in the absence of access to external funding. It is also instructive with respect to assessing a country's ability to meet its external debt service in foreign currency. In terms of the country's exchange rate, the level of international reserves can also be an important factor in determining exchange rate policy, as managed or pegged exchange rates will require a certain level of foreign-exchange reserves to be credible.
- **External interest service** – Substantial external debt servicing and refinancing needs increase the vulnerability of the balance of payments and economy to external shocks, such as episodes of volatility in international capital markets. They may also imply a high or costly external debt burden and that the economy will require a surplus on its trade in goods and (non-factor) services to service its debt. Fitch also assesses the sustainability of the external debt burden through the debt service ratio (repayments of principal on medium- and long-term external debt plus gross interest payments on all external debt relative to Current External Receipts (CXR)).
- **Current account balance + net inward foreign direct investment** – A large current account deficit (relative to the size of the economy and CXR) can be a source of risk to macroeconomic stability. This is particularly the case if it is financed by potentially volatile capital flows, such as portfolio capital and short-term debt, and international borrowing that can lead to a rising external debt burden rather than equity foreign direct investment (FDI). A "sudden stop" in financing for a current account deficit can precipitate a currency devaluation or recession, which might have a negative impact on creditworthiness. The current account of the balance of payments is a record of a country's current transactions with non-residents. FDI is typically a less risky form of financing as it is equity (rather than debt) or inter-company loans (which are typically rolled over) and is often associated with investment that increases a country's productive capacity rather than consumption.
- Fitch examines the underlying drivers and main components of the current account (such as exports and imports of goods and services, income payments and private transfers including remittances) to identify strengths and weaknesses. When remittances are an important source of external receipts, Fitch will assess their volatility and potential vulnerability to shocks. It will also consider the current account balance from the perspective of national savings and investment balances, competitiveness, and whether a current account deficit reflects public- or private-sector deficits.

QO Rationale

QO factors – relative to SRM data and output
• **External financing flexibility**, reflecting the resilience and range of external financing sources for the economy, eg record of market access by domestic borrowers in international markets at sustainable yields and long maturities, access to other sources of external financing (including assets held in sovereign wealth funds), availability of explicit or implicit guarantees or other forms of support by foreign governments or multilateral institutions and the liquidity position.
• **External debt sustainability**, reflecting the extent of any external imbalances that may have developed and the level, trend and structure of external debt and assets.
• **Vulnerability to shocks**, reflecting the potential for events to crystallise weaknesses in the structure of external finances.

Source: Fitch Ratings

The rationale for the inclusion of these QO factors is as follows:

- **External financing flexibility**
  - ***Record of market access*** – Fitch assesses the record of market access by a country's borrowers in international markets as a qualitative indicator of the resilience of its external debt service capacity, particularly at times of severe stress. It will consider whether the yield, maturity, currency and holders of external borrowing give rise to or indicate vulnerability to sustained market access. It will also consider the potential availability of alternative sources of financing such as from multilateral institutions. When a country (either the sovereign and/or parts of the private sector) has lost market access in the past or is judged to have relatively weak financing flexibility, Fitch makes an adjustment in the QO. This is particularly the case for countries in the eurozone, which benefit from the common eurozone RCF in the SRM. Fitch will consider potential downward notching in situations in which the sovereign has limited or no market access, although the propensity to notch down for this reason will be lower for low non-investment-grade sovereigns, where market access may naturally be more limited.
  - ***Resilience of external financing flows*** – For those countries with managed exchange rate regimes and which are already heavily indebted (and hence likely to be credit constrained), Fitch will put additional emphasis in its rating analysis on the resilience of external financing flows (e.g. the likelihood of policy-conditional funding from the IFIs) and whether ex ante external financing needs are likely to be met. The availability of explicit or implicit guarantees or other forms of support by foreign governments or multilateral institutions will also be considered here. Moreover, previous episodes of private capital flight will weigh negatively on the rating analysis.
  - ***Support between sovereigns*** - Fitch will reflect support from other sovereigns into the rating when it is judged to be sufficiently likely and provided that the impact is sufficiently material. Likelihood of timely support will typically depend on factors such as the strength of commitment made by the donor, and its capacity and incentive to provide or continue to provide support. The materiality of the impact on the rating will depend on the magnitude of support and how effectively it is used. Each potential case will have specific circumstances and a different counter-factual (including whether it is already captured in the SRM, and whether it serves to improve creditworthiness or prevent deterioration).
  - ***International liquidity ratio*** – A good measure of an economy's vulnerability to external financing shocks arising from maturity mismatches on its external balance sheet is Fitch's International Liquidity Ratio (ILR). The ILR expresses the stock of the banking system's liquid foreign assets (including the central bank international reserves) relative to liquid foreign liabilities, including non-resident holdings of local-currency debt irrespective of maturity, as well as external debt with a residual maturity of less than one year. An ILR of greater than '1' (expressed in Fitch sovereign credit research as 100%) implies that the stock of

short-term and liquid external liabilities is exceeded by the stock of short-term and liquid foreign assets, providing a cushion against temporary closure of international capital markets.

- ***Sovereign wealth funds*** – Fitch can make an adjustment in its QO when it considers external assets held by SWF or pension funds to be sufficiently large and liquid to provide a benefit to external financing flexibility beyond that captured in the reserve coverage variable, or when insufficient data prevent their incorporation in the SNFA variable, but Fitch is able to make an acceptable approximation of the size of the assets.

- **External debt sustainability**
  - ***External solvency*** – A heavy external debt burden will be, other things being equal, associated with a greater risk of default, balance-of-payments crisis or exchange rate crisis. However, what constitutes a sustainable external debt burden varies across countries and over time, and hence there is no simple linear relationship between it and sovereign creditworthiness and ratings (this is why it is not statistically significant and not included in the SRM). Nonetheless, Fitch believes it is an important factor affecting creditworthiness so includes it in the QO.
  - ***Net external debt*** – A principal measure of external solvency is based on the concept of net external debt (i.e. the difference between gross external debt and residents' debt claims on non-residents) relative to GDP and CXR. The emphasis on net rather than gross measures of external debt is because as economies become more internationalised, the stock of foreign assets and liabilities, including debt, may increase. As such, high and rising gross external debt does not necessarily imply a deterioration in the country's overall external position if matched by a corresponding increase in foreign assets. Fitch also looks at the country's net international investment position (IIP), which includes equity as well as debt investments. When there are no official IIP data available, alternative data proxies and sources may be used.
  - ***External debt sustainability factors*** – As well as the level of net external debt, Fitch will consider its dynamics, drivers and structure. A rapidly rising net external debt ratio poses more risks than a stable one, particularly if trends in the current account or its financing do not suggest a stabilisation on current policies or in the foreseeable future. Fitch can make an adjustment in its QO when large sovereign external assets, for example in SWFs or pension funds, provide a level of confidence on external debt sustainability beyond what is captured in the SNFA variable.

- **Vulnerability to shocks**
  - ***Balance-sheet structure can increase vulnerability*** – The structure of the country's external balance sheet in terms of its currency, maturity and distribution by sector of the economy or the concentration or exposures of its creditors can make it more susceptible and vulnerable to shocks.
  - ***Exogenous shocks*** – Adverse shocks to key industries (not captured already in commodity dependence), trade partners, creditors, capital markets or unforeseen events can affect the resilience of a country's balance of payments and capacity to meet its external debt service obligations. If these are material and not captured elsewhere in its analytical framework, Fitch will make an adjustment in the QO to reflect their impact or risk.

Sovereign FC and LC Ratings

Fitch assigns LT FC and LC IDRs to sovereigns and ratings to specific debt instruments issued by sovereigns according to its published rating definitions.

Local-Currency Versus Foreign-Currency IDRs

In Fitch's view, the LC and FC credit profiles for any given sovereign are typically indistinguishable at investment-grade level, i.e. 'BBB-' and above. Consequently, subject to the guidance below, we typically expect to equalise LC and FC IDRs and associated debt obligation ratings for investment-grade sovereigns. For non-investment-grade sovereigns, the potential for divergent credit profiles is greater, particularly for sovereigns that are in or approaching distress, i.e. at the 'CCC+' level and below.

The table below summarises the range of potential relationships between the LC and FC ratings assigned to sovereign issuers.

Local-Currency Versus Foreign-Currency Sovereign Ratings – Summary

- LC rating typically equal to the FC rating.
- LC rating could be 1-2 notches higher in certain circumstances (see table below).
- FC rating **rarely** could be higher than LC rating.
- Notching (in either direction) can increase in distress/default situations, particularly when it is clear that FC will likely default without LC defaulting or vice-versa.

Analytical factor	Key/ supporting	LC = FC	LC > FC	LC < FC
Existing and expected future public finance fundamentals relative to external finance fundamentals	Key	Average/weak	Strong	Exceptionally weak
Expectations about different treatment of LC and FC creditors	Key	No expectation of preferential treatment of LC	Expectation of preferential treatment of LC	Expectation of preferential treatment of FC
Domestic capital market/banking sector	Supporting	Shallow/illiquid/short maturities/expensive	Deep/liquid/long maturities/ affordable	Shallow/Illiquid
Inflation	Supporting	Volatile/indexation	Low/stable	High/volatile
Foreign-exchange regime	Supporting	Currency board/peg/currency union/dollarised	Free float/own currency	n.a.
LC vs FC debt burdens	Supporting	-	Low or neutral LC burden vs FC debt	Heavy LC debt burden vs FC debt

Source: Fitch Ratings

Factors Affecting LC Versus FC Notching

As indicated above, the factors that have an influence on the level of notching, if any, of the LC IDR relative to the FC IDR fall into the following broad categories. These particularly apply in situations in which the primary constraint on the sovereign ratings stems from vulnerabilities in external finances or when Fitch judges that the sovereign is likely to extend preferential treatment to LC creditors.

- **Strong existing and expected public finance fundamentals** relative to external finance fundamentals is a key factor supporting notching of an LC IDR above the FC IDR.

- **Fitch's expectations of likely preferential treatment of LC or FC debt** is a key factor. This might reflect the sovereign's debt repayment record or an otherwise strong rationale for either LC or FC creditors to be preferred.
- **An established domestic capital market** that is an ample and reliable source of fiscal funding in local currency at relatively low cost and medium-to-long maturities is a supporting factor in notching an LC IDR above the FC IDR.
- **An established record of low and stable inflation**, reflected in the absence of inflation indexation and relatively high levels of monetisation, supports monetary flexibility and hence is a supporting factor in notching the LC IDR above the FC IDR.
- **The degree of flexibility a sovereign maintains in managing its exchange rate** may affect the notching of its LC IDR. Sovereigns with a currency board arrangement, that are members of a common currency area or use the currency of another country, for example, would receive no LC IDR uplift. Freely floating, own-currency regimes, meanwhile would represent a supporting factor in notching the LC IDR above the FC IDR.
- **LC v FC debt burdens** will influence the extent to which either LC or FC IDRs can be notched higher than each other. A proportionately higher LC debt burden compared with the FC debt burden will tend to lead to lower notching for the LC IDR and vice-versa. This would be a supporting factor.

Extent of Potential Notching

LC Versus FC Notching

LC IDR vs FC IDR	Rationale/conditionality
LC IDR = FC IDR	Baseline position.
LC IDR +1 notch	Either or both of the **key factors** are present.
LC IDR +2 notches or more	Rarely – would expect either/both of the **key factors** and a majority of **supporting factors to be present** or in distress/default situations where we judge it likely that FC debt will default but LC debt will continue to perform.
LC IDR −1 notch	Rarely, when LC debt burden is much higher than FC debt and/or Fitch judges that FC creditors are likely to be preferred to LC creditors. Also, would typically expect domestic capital markets to be shallow/illiquid and inflation high/volatile.

Source: Fitch Ratings

Other considerations within the criteria in the context of assigning LC and FC ratings are as follow:

Ability to default selectively – Compared with non-sovereign entities that are subject to the bankruptcy and legal regimes in the jurisdiction(s) in which they operate, the sovereign has much greater scope to default selectively. The most relevant distinction from a sovereign credit perspective is between foreign and local obligations in terms of currency denomination of debt (see above), though the market in which it is issued and the predominance of holder (ie resident versus non-resident) are also factors that can result in differences in the ratings assigned to debt instruments in the same currency. Consequently, though the same obligor, there can be a rating distinction between debt denominated and payable in foreign and local currency.

Sovereign access to foreign currency dependent on economy – Sovereigns typically receive nearly all of their income (taxes, charges) in local currency; the exceptions are commodity producers and dollarised economies. Consequently, for external debt servicing they must purchase foreign currency in the foreign-exchange market (or from the central bank) or borrow it. The government's access to foreign currency therefore depends on the economy's (rather than the sovereign's) capacity to generate foreign currency and the willingness of market participants to exchange it for local currency – and, if unwilling, the government's capacity to expropriate it.

Local-currency debt not immune to default – In contrast, not only are tax and other receipts in local currency, but most sovereign governments through the central bank have ultimate control over the domestic money supply and in theory could print currency to fund themselves, albeit not indefinitely and at the cost of high inflation. Although many sovereigns have preferential access to domestic capital markets, which can be a more reliable source of funding than international capital markets, especially during periods of distress, it remains entirely feasible for sovereigns to default on local-currency debt, and there have been numerous examples of such defaults in the past two decades (see the latest Sovereign Transition and Default Study).

Sovereign Short-Term Ratings

Similar to other Corporate Finance ratings, Fitch's ST IDRs or obligation ratings for sovereigns are based in all cases on the short-term vulnerability to default of the rated entity or security and relate to the capacity to meet financial obligations in accordance with the documentation governing the relevant obligation, using a scale between 'F1+' and 'D'. Short-term ratings are assigned to obligations whose initial maturity is viewed as short-term based on market convention.

Short-Term Local- and Foreign-Currency Ratings

ST IDRs and issuance ratings are relevant for and assigned to debt whose initial maturity is viewed as short-term based on market convention, typically of 13 months or less. Both ST LC and FC IDRs are rated on Fitch's short-term rating scale.

Mapping from Long- to Short-Term Ratings

For sovereigns, ST ratings are determined from LT ratings according to Fitch's standard rating correspondence table. ST FC IDRs are determined from LT FC IDRs, and ST LC IDRs are determined from LT LC IDRs. The factors that are relevant for differentials between LC and FC LT ratings are also often relevant for ST ratings, so it does not necessarily make sense to always equalise FC and LC ST ratings.

Fitch would not as a matter of course rate all ST LC IDRs at 'F1+' for the same reason that it does not rate all LT LC IDRs at 'AAA': sovereigns can and do default on local-currency debt[5].

The rating correspondence table in the sidebar margin provides two possible options for ST ratings at five LT rating levels: 'A+' (to 'F1' or 'F1+'), 'A' (to 'F1' or 'F1+'), 'A–' (to 'F2' or 'F1'), 'BBB+' (to 'F2' or 'F1') and 'BBB' (to 'F3' or 'F2'). According to Fitch Rating Definitions, the Fitch Rating Correspondence Table is "a guide only and variations from this correspondence will occur"[6]. However, Fitch would expect variations to be rare in the case of sovereign ratings. At 'RD'/'D' LT rating levels there are three possible options that include 'C' to capture the event described in the section *Treatment of Long-Term and Short-Term IDRs in Default* above.

In order to foster transparency, predictability and consistency, Fitch has introduced some simple guidelines for the 'mapping' from LT to ST ratings when there is this option, set out below.

Mapping for Local-Currency Ratings

Fitch will choose the higher of the two options for all ST LC ratings.

ST LC ratings are inherently about liquidity and financing flexibility. A sovereign's powers of money creation and capacity to ensure preferential market access (for example through regulation and "financial repression") mean its financing flexibility and short-term creditworthiness will typically be high relative to other entities (such as banks and corporates) at similar LT LC IDRs.

Rating Correspondence Table

Long-term rating	Short-term rating
AAA	F1+
AA+	F1+
AA	F1+
AA–	F1+
A+	F1 or F1+
A	F1 or F1+
A–	F2 or F1
BBB+	F2 or F1
BBB	F3 or F2
BBB–	F3
BB+	B
BB	B
BB–	B
B+	B
B	B
B–	B
CCC+	C
CCC	C
CCC-	C
CC	C
C	C
RD/D	C/RD/D

Source: Fitch Ratings

[5] Even if a sovereign has its own currency and a compliant central bank and could print enough money to service its debts, it may not do so as hyperinflation is a costly option.

Mapping for Foreign-Currency Ratings

Fitch will choose the higher of the two options, if:

- The sovereign has an RCF score greater than zero. Countries with reserve currencies enjoy comparatively strong financial and policy flexibility and the authorities would be able to exchange local currency for other major currencies to meet any FX debt service due; or
- Fitch assesses that the sovereign has a robust international liquidity position. The main indicator that we will use to make that assessment is the Fitch International Liquidity Ratio (ILR). We will typically assess the liquidity position as sufficiently robust if the ratio is at least 100% for the current year. This implies that the stock of liquid external assets exceeds the stock of short-term external liabilities, providing confidence about the sovereign's ability to meet its external payment obligations even in the event of a temporary closure of international capital markets.

Otherwise, we will choose the lower of the two options.

Fitch may also take into account other indicators in its assessment of the robustness of a country's international liquidity position. This would particularly be the case if the liquidity ratio was close to 100% or there were gaps in the data. For example, a sovereign rating committee might decide to affirm a country's ST FC IDR if its liquidity ratio moved just above or just below the 100% mark from one rating review to the next (rather than upgrade or downgrade it), particularly if the change was expected to be temporary, for example owing to an unusually heavy/light amortisation schedule that year or to valuation effects related, for example, to official foreign exchange reserves (the liquidity ratio is calculated in US dollars).

Given that the ILR is a variable that on occasion can be estimated based on certain assumptions and/or subject to fluctuations from year to year, it is possible that the implementation of this guidance could introduce a somewhat higher level of volatility into short-term sovereign ratings. In view of the nature of short-term ratings, the agency feels that this is not an unreasonable outcome.

Rating Through the Cycle

Fitch aims for its sovereign ratings to be consistent through time as well as across countries. In terms of the former, Fitch distinguishes in its analysis of public and external finances between "cyclical" and "structural" developments and trends, for example by taking account of estimates (if available) of cyclically adjusted budget balances. This is consistent with our approach of rating through the economic cycle.

Peer Analysis

Quantitative indicators – Variables relating to sovereign creditworthiness are compared across countries and over time. Measures of quantitative indicators of sovereign creditworthiness by rating category (e.g. the 'BBB' category would consist of 'BBB-', 'BBB' and 'BBB+') are regularly updated.

Importance of qualitative factors – It is evident, however, that there is not a simple linear relationship between sovereign ratings and every metric that Fitch considers in its rating analysis. In part, this merely reflects the multivariate nature of the analysis such that the relationship between, for example, the government debt burden and the sovereign rating is conditioned on a range of other variables, such as income per head. But it also in part reflects qualitative factors that influence the ability and willingness of a sovereign to honour its financial obligations.

These "intangible" influences on sovereign creditworthiness in part explain why "advanced economies" are able to sustain a much higher debt burden, even after taking into account per capita income. The importance of these qualitative factors explains the relevance of Fitch's QO used in tandem with the SRM to arrive at the sovereign's LT FC IDR. These factors, together with the quantitative variables contained in the SRM, are set out in detail in each of the sections above covering the four analytical pillars (structural features, macroeconomic, public finances, external finances).

Variations from Criteria

Fitch's criteria are designed to be used in conjunction with experienced analytical judgement exercised through a committee process. The combination of transparent criteria, analytical judgement 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 when appropriate.

A variation can be approved by a ratings committee when 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 when the analysis described in the criteria requires modification to address factors specific to the particular transaction or entity.

Disclosures

Fitch discloses the following information in each of its published Sovereign Rating Action Commentaries (with the exception of FC IDRs rated 'CCC+' and below):

- SRM output in the form of an LT FC IDR;
- QO rating adjustment to arrive at the final published LT FC IDR; and
- details of situations in which Fitch decides not to adopt the SRM output as the starting point for its rating assignment in line with the provisions in these criteria outlined under *Conditions and Exceptions to Application of SRM and QO*.

Rating Assumption Sensitivity

Fitch's opinions expressed in its sovereign ratings are forward-looking and reflect the agency's views on current and potential future credit developments. Sovereign ratings can be subject to positive or negative rating actions based on, but not limited to, the factors set out below, which reflect the core pillars of these rating criteria and are the primary sensitivities that can influence the ratings and/or Outlook. Such rating actions can be informed by the Sovereign Rating Model or the Qualitative Overlay or a combination of both.

Structural Features: Changes in the structure of the economy that render it more or less vulnerable to shocks, including the risks posed by the financial sector, political developments and risks, governance quality and institutional strength.

Macroeconomic Performance, Policies and Prospects: Changes in a country's macroeconomic performance, particularly in its ability to generate robust and stable growth without creating imbalances, or changes in the quality and credibility of its policy framework.

Public Finances: Changes in the robustness of a country's public finances, reflected in the evolution of its fiscal balance, the structure and sustainability of government debt and fiscal financing, and the likelihood of crystallisation of contingent liabilities.

External Finances: Changes in the robustness and sustainability of external balances and flows, including current account balances, foreign-exchange reserves and capital flows, and the level and structure of the country's external debt.

Appendix 1: SRM Variables and Qualitative Overlay Factors

Sovereign Rating Model – Explanatory Variables

Variable	Description
Structural features	
Composite governance indicator	Simple average percentile rank of World Bank Worldwide Governance Indicators: "rule of law"; "government effectiveness"; "control of corruption" and "voice & accountability"; "regulatory quality"; "political stability & absence of violence".
GDP per capita	Percentile rank of GDP per capita in US dollars at market exchange rates.
Share in world GDP	Natural logarithm of % share in world GDP in US dollars at market exchange rates.
Years since default or restructuring event	Non-linear function of the time since the last event; the indicator is zero if there has been no such event after 1980. For each year that elapses, the impact on the model output declines.
Money supply	Natural logarithm of broad money (% of GDP).
Macroeconomic performance	
Real GDP growth volatility	Natural logarithm of an exponentially weighted standard deviation of historical annual percent changes in real GDP.
Consumer price inflation	Three-year centred average[a] of the average annual % change in consumer price index (CPI), truncated between 2% and 50%.
Real GDP growth	Three-year centred average[a] of the average annual % change in real GDP.
Public finances, general government	
Gross general govt debt	Three-year centred average[a] of gross (general) government debt (% of GDP).
Interest payments	Three-year centred average[a] of gross government interest payments (% of general government revenues).
General govt fiscal balance	Three-year centred average[a] of general government (budget) balance (% of GDP).
General govt foreign-currency debt	Three-year centred average[a] of general government foreign-currency-denominated (and indexed) debt (% of general government debt).
External finances	
Reserve-currency flexibility	Reserve-currency flexibility based on the natural logarithm of the share of that country's currency in global foreign-exchange reserve portfolios (plus a technical constant), as reported by the IMF in its COFER database (updated quarterly with a four-month lag).
Commodity dependence	Non-manufactured merchandise exports as a share of CXR.
Official international reserves for non-reserve-currency sovereigns	Year-end stock of international reserves (including gold) expressed as months' cover of current external payments (CXP). This variable is set to zero for all sovereigns with a reserve-currency flexibility score above zero.
Sovereign net foreign assets	Three-year centred average[a] of sovereign net foreign assets (% of GDP).
Current account balance plus net inward foreign direct investment	Three-year centred average[a] of current account balance (CAB) plus net inward FDI (% of GDP).
External interest service	Three-year centred average[a] of external interest service expressed as a share of CXR.
Intercept term	This is a fixed value (+4.759) that is not related to any individual variable. The value is an output of the OLS regression that aids the overall model fitting in accompaniment with the coefficients for the variables listed above. It does not have any intrinsic meaning and should not be interpreted on a standalone basis. In particular, it does not represent the starting point for a rating.

Note: For expanded definitions of Sovereign indicators, please refer to the "Definitions and Sources" section of Fitch's Sovereign Data Comparator
[a] Three-year centred averages are centred on the previous year for rating committees in January-June, and on the current year for rating committees in July-December. For other variables, a single year data point is used – this would be the previous year for rating committees in January-June, and the current year for rating committees in July-December
Source: Fitch Ratings

Qualitative Overlay Factors

Analytical pillar	Definition	Notching from SRM output
Macroeconomic outlook, policies and prospects	• **Macroeconomic policy credibility and flexibility**, including coherence and robustness in terms of consistency, flexibility and credibility of monetary and fiscal policies.	
	• **GDP growth outlook** over the medium term relative to peers.	
	• **Macroeconomic stability** in terms of the level of imbalances, unemployment levels and trends, and contributions to growth of different sectors of the economy.	
	Exceptionally strong macro outlook, policies and prospects relative to SRM data and output.	+2
	Strong macro outlook, policies and prospects relative to SRM data and output.	+1
	Average macro outlook, policies and prospects relative to SRM data and output.	0
	Weak macro outlook, policies and prospects relative to SRM data and output.	-1
	Exceptionally weak macro outlook, policies and prospects relative to SRM data and output.	-2
Public finances	• **Fiscal financing flexibility**, including: record of market access; ability to issue at sustainable yields and long maturities in domestic currency; debt service record; the depth of local capital markets; access to other potential sources of financing (e.g. multilateral); expected ability to issue in a stress scenario; presence of large sovereign deposits/sovereign wealth fund resources.	
	• **Public debt sustainability**, including projected peak and trajectory of debt dynamics, taking into consideration the credibility of the fiscal framework, the cost of financing (including access to concessional funding) and ageing-related pressure on the primary balance, sovereign assets, the extent and nature of potential contingent liabilities (e.g. from the banking sector, state-owned enterprises or international commitments) that could crystallise on the sovereign balance sheet.	
	• **Fiscal structure**, focusing on the breadth of the revenue base, the concentration/diversification of revenue sources and the level of budget rigidity in terms of current spending.	
	Exceptionally strong public finances relative to SRM data and output.	+2
	Strong public finances relative to SRM data and output.	+1
	Average public finances relative to SRM data and output.	0
	Weak public finances relative to SRM data and output.	-1
	Exceptionally weak public finances relative to SRM data and output.	-2
External finances	• **External financing flexibility**, reflecting the resilience and range of external financing sources for the economy (e.g. record of market access by domestic borrowers in international markets at sustainable yields and long maturities, access to other sources of external financing, availability of explicit or implicit guarantees or other forms of support by foreign governments or multilateral institutions, and the liquidity position).	
	• **External debt sustainability**, reflecting the extent of any external imbalances that may have developed and the level, trend and structure of external indebtedness.	
	• **Vulnerability to shocks**, reflecting the potential for events to crystallise weaknesses in the structure of external finances.	
	Exceptionally strong external finances relative to SRM data and output.	+2
	Strong external finances relative to SRM data and output.	+1
	Average external finances relative to SRM data and output.	0
	Weak external finances relative to SRM data and output.	-1
	Exceptionally weak external finances relative to SRM data and output.	-2
Structural features	• **Political stability and capacity**, including the level of political risk, the risk of fundamental regime change and/or military conflict, broader geo-political risks, the ability of the political system to address economic and fiscal challenges and willingness to pay.	
	• **Financial sector risks**, as evidenced by our **BSI** and our **MPI** when available, reflecting the risk of financial sector liabilities falling on the sovereign, the level of financial stability in the system and the ability of the financial sector to support growth. When the BSI score is a rating category or more below the Sovereign LT FC IDR, the rating committee will consider whether downward notching should be applied in the QO. When the MPI score is '2' or '3', a downward notching adjustment may be applied in the QO.	

QO Definitions (Cont.)

Analytical pillar	Definition	Notching from SRM output
	• **Other structural factors**, including the quality of the business environment and economic flexibility reflected in, among other factors, the ability to attract investment, the level of domestic savings, openness to international flows and the ability to respond to shocks. It will also be possible to reflect here items such as unrepresentative levels of GDP and similar issues that can affect the Structural Features variables in the SRM.	
	Exceptionally strong structural features relative to SRM data and output.	+2
	Strong structural features relative to SRM data and output.	+1
	Average structural features relative to SRM data and output.	0
	Weak structural features relative to SRM data and output.	-1
	Exceptionally weak structural features relative to SRM data and output.	-2

Source: Fitch Ratings

Appendix 2: Sovereign Debt Instruments

Fitch would expect to rate senior unsecured bonds that constitute a direct, general, unconditional and unsubordinated obligation of the sovereign and rank pari passu with other senior obligations of the issuer at the same level as the issuer IDR, except for guaranteed bonds, or in the cases described in the section *Sovereign Default Events*.

In addition to global notes, there are different types of senior unsecured debt instruments issued by sovereigns that typically carry the same rating as the issuer on a local- or foreign-currency basis. See the table below for examples.

Fitch does not assign Recovery Ratings to sovereign debt instruments.

Examples of Sovereign Debt Instruments

- Inflation-linked bonds: These are indexed to inflation so that the principal and/or interest payments can rise and fall with the rate of inflation. They will generally carry the rating of the LC IDR even when there are no principal protection mechanisms in place to safeguard principal payments against deflation.
- Deferrable notes: The terms of these bonds, expected to be issued only by lowly rated sovereigns, allow for interest and/or principal deferral. They may carry the issuer IDR if the deferrals are triggered by a set of pre-defined events (for example linked to catastrophic events such as natural disasters), andthe amounts deferred are expected to accrue interest and no haircut of face value is contemplated. Fitch would also expect that the deferral period does not significantly extend the final maturity.
- Green or sustainability-linked bonds: Proceeds are used for eligible green projects or positive social outcomes that may carry step-up or down coupon payments linked to the achievement of predetermined enviromental goals.
- Dual-currency structures: These are bonds denominated in local currency but their repayment is specified in foreign currency so that the market exchange rate risk is borne by the bondholder. Fitch will assign an FC rating as the sovereign's capacity (and willingness) to make payments in foreign currency is the same as if the debt was denominated in foreign currency. Similarly, debt issued in local capital markets but denominated and payable in foreign currency is assigned an FC rating. Conversely, bonds denominated in foreign currency but repayable in local currency are assigned an LC rating.
- Global depositary notes: An LC international rating will be assigned in cases where the underlying issuance is denominated in local currency but the terms and conditions allow for repayment/settlement in foreign currency at the prevailing exchange rate at the time of repayment.
- Guaranteed debt instruments: As mentioned above, Fitch does not assign Recovery Ratings to sovereign debt instruments. However, occasionally, sovereign issuances may incorporate a third-party guarantee. In those cases, the rating of the instrument can incorporate an uplift from the sovereign's IDR based on recovery prospects from the guarantee. Those instruments will be rated in conjunction with the *Third-Party Partial Credit Support Rating Criteria*, where the notching approach for recoveries is described. Guaranteed obligations of a defaulted sovereign are typically rated in the 'CCC' to 'C' rating categories in line with the rating definitions for corporate finance obligations and depending on their recovery prospects determined by the *Third-Party Partial Credit Support Rating Criteria*.

Source: Fitch Ratings

Appendix 3: Macro-Prudential Indicator Model

MPI Score Definition

Fitch's MPI score provides an indicator of the build-up of potential stress in banking systems that could materialise up to three years after an early warning is first indicated. The score, which is on a scale from 1 to 3, is an output from the agency's Macro-Prudential Indicator Model.

The model contains separate modules for Emerging Markets (EMs) and Developed Markets (DMs). In both cases, four input variables are used – private-sector credit, real effective exchange rate (RER), real equity prices and real property prices. Scores defined as follows:

- **MPI 1** indicates low vulnerability to potential systemic stress, meaning private-sector credit data are below trigger thresholds.
- **MPI 2** indicates moderate vulnerability, triggered by excessive real private-sector credit growth (for EMs) or private-sector credit/GDP levels (for DMs) alone. None of the RER, real property price or real equity price indicators is above trigger thresholds.
- **MPI 2*** indicates moderate vulnerability (as above), accompanied by severe data limitations that may hide latent risks. If the missing data were available, the higher MPI 3 score might be triggered. The asterisk denotes that at least two data series are unavailable.
- **MPI 3** indicates high vulnerability, triggered by excessive real credit growth (for EMs) or credit/GDP levels (for DMs), and at least one further trigger (either RER, real equity prices or real property prices).

Model Limitations

The success rate of the model can, in part, be measured by the number of crises correctly anticipated in the model estimation period. This is over 70% for DMs and 50% for EMs.

However, this type of early warning analysis inevitably gives rise to some false positives and false negatives. The calibration of the trigger thresholds is intended to minimise these errors while maintaining an acceptable success rate. Likewise, the setting of the input time horizon is designed to be long enough to take into account the time it can take for banking system stress to emerge, but not so long as to reduce the indicator's analytical usefulness. The ratio of correct signals to false alarms is 50%. The resulting MPI scores can therefore only be a starting point for Fitch's in-depth country and banking system analysis.

All the data, especially for EMs, are subject to sometimes major revisions, can be volatile and are difficult to forecast. Consequently, scores are subject to change as data are revised and forecasts are firmed up.

The scope of the model covers only one potential source of banking crises, namely those associated with excessively fast credit growth.

Deviations Model for Developed Markets

For DMs (equivalent to the IMF's "Advanced Economies"), the MPI score is derived from the deviation of key variables from trend. Here, the four input variables are the ratio of private-sector credit/GDP and indexes for the RER, real equity prices and real property prices. Trends are derived from as long a time series as is available, using a Hodrick-Prescott filter, but are sensitive to the development of actual data and will change over time. Due to the need to review actual data against stable long-term trends, Fitch does not include RER, equity price or house price data when less than 15 years' data is available. The assessment is based on three years of annual data.

High vulnerability to potential systemic stress is designated MPI 3 and is defined as:

- a ratio of private-sector credit/GDP more than 5pp above trend in a single year; and
- at least one of the asset price or exchange rate indicators triggering:
  - real property prices more than 17% above trend in the same year; or
  - real equity prices more than 50% above trend (two years previously); or
  - RER more than 15% above trend in the same year.

Moderate vulnerability (MPI 2) occurs when the credit/GDP ratio is above its trigger value, whatever the other indicators may show. An MPI score of '1' denotes low potential vulnerability.

Changes Model for Emerging Markets

For EMs, the focus is on real-terms percentage changes in the key variables. This primarily reflects our prior finding that percentage changes yielded a greater success rate for MPI signals than the deviation from trend methodology. In addition, EMs often have less reliable time series data that are available over shorter periods, in particular with respect to property and equity prices. This makes the data less amenable to the trend analysis used in the deviations model. Although data coverage has improved considerably, absence of longer time series data for historical periods impedes the assessment of success rates on past crises.

Here, the four input variables are private-sector credit growth, RER growth, real equity price growth and real property price growth. The assessment is based on three successive pairs of annual data. A trigger in any two-year period is relevant to a country's MPI score.

High vulnerability to potential systemic stress is designated MPI 3 and is defined as:

- real private-sector credit growth exceeding an average 15% a year over two years; and
- at least one of the asset price or exchange rate indicators triggering:
  - real property price growth of more than 5% each year in the same period; or
  - real equity price growth of more than 17% each year (in the preceding two years); or
  - real effective exchange rate appreciation of more than 4% each year in the same period.

Moderate vulnerability (MPI 2) occurs when real private-sector credit growth exceeds the trigger 15%, whatever the other indicators may show. An MPI score of '1' denotes low potential vulnerability.

Appendix 4: Data Sources, Limitations and Reasonable Investigation

Data Sources

These criteria, Fitch's sovereign analysis and rating decisions are based on relevant information available to its analysts. The sources of this information are the issuer and the public domain. This includes relevant publicly available information on the issuer, such as financial and economic data published by national authorities and international agencies, as well as regulatory filings. Data used in both Fitch's Rating Action Commentaries (RACs) and Rating Reports (RRs) will be correct as at the time of publication, albeit potentially subject to subsequent revision in the event that data are adjusted ex-post. The rating process can also incorporate information provided by third-party sources. If this information is material to the rating or a specific rating action, Fitch will disclose the relevant source in its written commentary with respect to such rating or rating action.

While key data and information are subject to critical review by Fitch, such as cross-checking with third-party sources when available, the agency relies on the accuracy and reliability of information published by national authorities and international agencies, as well as the veracity of the information provided directly by representatives of the sovereign. Moreover, for some countries, broad economic and financial data that is typically incorporated in Fitch's sovereign credit and rating analysis have material shortcomings in terms of reliability and coverage. Such data limitations, when judged to be material, are noted in Fitch's sovereign RACs and FRRs and are taken into account by the rating committee when assigning sovereign ratings. However, Fitch does not assign sovereign ratings if it judges that the data limitations are so great as to render any analysis insufficiently robust to support a rating opinion.

Limitations

Ratings, including Rating Watches and Outlooks, assigned by Fitch are subject to the limitations specified in Fitch's Ratings Definitions,

In addition, ratings within the scope of these criteria are subject to the following specific limitations: Reported failure to pay debt owed to other governments and official creditors by the sovereign, including multilateral institutions such as the IMF and the World Bank will not be considered a default event within these criteria.

Reasonable Investigation

When assigning and maintaining sovereign ratings, Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its rating criteria and obtains reasonable verification of that information from independent sources, to the extent that such sources are available for a given sovereign issuer.

Appendix 5: Sovereign Ratings and ESG

Fitch seeks to reflect relevant environmental, social and governance (ESG) factors into its sovereign ratings, as it does for all factors that it believes are relevant and material for creditworthiness.

Governance has always been an integral part of Fitch's sovereign credit analysis, underscored by the World Bank's Worldwide Governance Indicators having the highest weight of any variable in the SRM. Many social factors also directly or indirectly affect many of the SRM variables and QO factors. In general, for sovereign issuers environmental factors are typically a lesser influence on current ratings. As climate change becomes more material, it is likely to become a more important influence on sovereign ratings.

Climate Change

Climate change is gradually starting to have an effect on sovereign creditworthiness. However, analysis of the potential impact is embryonic and the uncertainties are very high.

There are several elements to assessing sovereigns' exposure to climate change.

- 'Physical' risks include the potential impact of higher temperatures, increasing drought, rising sea levels and more extreme weather events.
- 'Transition' risks include exposure to potentially 'stranded assets' (such as fossil fuel resources that might never be utilised owing to a transition to a greener economy), for example driven by changes in global policies, technology or consumer preferences, and the costs of transitioning to a lower-carbon economy.
- Adaption capacities of sovereigns to partially offset adverse effects of climate change, for example through deploying resources and know-how to limit physical risks or diversifying economies to limit transition risks.

Ex-post, the impact of some aspects of climate change such as increased incidents and intensity of extreme weather events or reduced fiscal and external revenues from fossil fuels will be at least partially captured in SRM variables such as GDP growth and the public and external finances.

Some SRM variables also have some correlation with ex-ante climate change risks, including share in world GDP (which captures diversification and resilience to shocks), GDP per capita and governance indicators (which capture some aspects of adaption and mitigation capacity) and commodity dependence (which may capture some aspects of 'stranded asset' risk). Fitch can also use the QO to make forward-looking rating adjustments when it believes that the risk of climate change is sufficiently relevant and material to sovereign creditworthiness.

Uncertainties over the extent of and impact of climate change are very high. To generate robust quantitative assessments of the exposures of different sovereigns would, amongst other factors, require further analysis or assumptions on:

- future international policy actions related to greenhouse gas emissions;
- the effect of the resulting concentration of greenhouse gases in the atmosphere on global temperatures and sea levels ("representative concentration pathway") and the distribution of risks around the base case;
- consequential sovereign exposure to country-level changes in temperature, drought, sea levels, extreme weather, and holdings of potentially stranded assets;
- the likely effectiveness of adaptation strategies;
- the impact of all these potential climate and policy developments on variables that affect sovereign creditworthiness such as GDP, the public and external finances and political risk;
- relevant time and rating horizons: most of the more severe impact from climate change is expected to only build up over several decades, while current ratings decisions will typically place more weight on current developments than uncertain long-term projections, in the same way that we factor in other long-term risks such as demographic trends and unfunded pension liabilities.

Analysis and data are moving forward rapidly. Fitch will continue to seek to capture risks related to climate change in its sovereign ratings more fully over time.

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