FitchRatings

Future Flow Securitization Rating Criteria

Sector-Specific

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This report updates and replaces the Future Flow Securitization Rating Criteria, dated April 27, 2022

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Scope

This report outlines Fitch Ratings' approach to rating future flow securitizations. The methodology is applicable to both new ratings and existing ratings and for both national scale and international scale ratings. A future flow transaction securitizes a company or infrastructure enterprise's existing and future receivables due from designated obligors and receivables originated from a specific business line. The criteria also include specific applications for future flow oil and gas and airline loyalty program securitizations.

Fitch undertakes a hybrid analysis that incorporates elements of structured finance, corporates/infrastructure and financial institutions' rating methodologies in rating future flow transactions. Fitch does not assign an 'sf' modifier to future flow transactions.

Key Rating Drivers

All key rating drivers listed below are equally important inputs into the rating.

Rating Threshold: Most future flow transactions have been rated on the international scale in the 'BBB' or 'A' categories due to potential diversion risk and some degree of performance risk by the originator. Fitch would assign ratings above the 'A' category if the originator was a leading financial institution (FI) or corporate rated in the 'A' category or above and the country of the originator was in the 'A' category or above. Fitch explicitly caps oil and gas transactions at the 'A' rating category when the originator is not explicitly rated.

Originator's Credit Quality: The rating of future flow transactions is tied to the credit quality of the originator, which is measured by the Local Currency (LC) Issuer Default Rating (IDR) of the originator. Once the originator's LC IDR is established, the rating analysis considers additional rating drivers.

Going-Concern Assessment: The originator's specific business line must continue to operate for the new receivables and cash flows to be generated to service the debt. To capture this performance risk, Fitch will assess the future generation risk of the cash flows. The going-concern assessment (GCA) score is a measurement of the likelihood that the business remains a going concern and the underlying cash flow continues to be generated if the company defaults on other liabilities.

The maximum notching uplift from the originator's LC IDR allowed by the GCA score will act as a cap for the transaction's rating; however, other risks may result in lower transaction ratings.

Notching Uplift from LC IDR: The notching uplift and ultimate transaction rating are determined through the analysis of the attributes and characteristics of future receivables. This assesses: the proportion of future flow debt to the total debt of an originator; the characteristics of the receivables and their volatility; exposure to concentrated counterparties; and the debt service coverage ratio (DSCR) under various sensitivity scenarios. When determining the notching differential for airline loyalty programs, Fitch will assess the affirmation factor.

Potential Redirection/Diversion Risk: Fitch assesses potential interference by the government or the originator in terms of incentives and ease/ability to interfere. Although most transactions are structured to mitigate redirection/diversion risk, sovereign and originator interference cannot be completely eliminated and may act as a cap to the transaction.

Description of Future Flows

There are two general types of offshore future flow securitizations: financial future flows backed by banks' generation of hard currency flows and corporate-related transactions typically involving export receipts. Financial flows include credit card vouchers and diversified payment rights (DPRs), which are typically electronic remittances (e.g. SWIFT-related payments, including MT-100s). Corporate-related transactions include airline ticket receivables and export receivables backed by products such as oil, gas, steel, iron ore, soybean, paper and pulp, aluminum, coffee and chemicals. Other types of transactions include corporate-backed future flow transactions of onshore receivables generated from electric and water utility transactions in Latin America and infrastructure-related services, such as airport receivables from aeronautical and non-aeronautical revenues.

Standard future flow transactions contain structural enhancement to mitigate redirection risk from the sovereign or the originator. Future flow receivables are usually denominated in a foreign currency (e.g. U.S. dollars or euros) and collections are captured offshore before being returned to the country of the originator. This mechanism mitigates potential transfer and convertibility risks. The payors on the future flow receivables receive notice and usually sign Notice & Acknowledge (N&A) agreements, which obligate them to make payments into the transaction's collection account and hence mitigate redirection risk.

Rating Threshold

Future flow securitizations are different from typical securitizations, as they are backed by receivables that do not currently exist. Repayment of debt relies on the continuous generation of receivables by the originator.

While Fitch does not have an overarching rating cap on future flow transactions, historically most future flow transactions have been rated on the International Rating Scale at 'BBB' and 'A' due to potential diversion risk, operating risk and a reliance on the originators to generate future receivables.

Fitch would only consider rating a future flow transaction on the International Rating Scale above the 'A' category if the originator were a leading FI or corporate rated in the 'A' category or above and the country of the originator was also rated in the 'A' category or above.

Originator's Credit Quality

The first step in Fitch's analysis of a future flow securitization is to establish the performance risk of the cash flow; this occurs in most cases by assessing the LC IDR of the originator. A future flow transaction is not a securitization of an existing asset. Timely payment on bonds is completely dependent upon continued generation of the receivables. An exporter must continue to export, infrastructure services must continue to be provided and/or a bank must continue to process financial flows for collateral and cash flow to be generated to service debt. Operational and financial risks, general credit quality and, thus, the LC IDR are good proxies for a company's future generation risk profile. However, the originator's LC IDR may not be the cap to the transaction's rating.

Once the originator's LC IDR is established, the analysis considers other relevant factors, such as the going concern risk of the securitized business line, the attributes and characteristics of the future receivables, the debt coverage level, structured enhancement and legal protection for the noteholders. Fitch will refer to the originator's foreign currency (FC) IDR if the originator does not have a LC IDR. As described below, for certain oil and gas-backed transactions, the originator's credit quality will not be used to anchor the transaction rating.

Going-Concern Assessment

The repayment of future flow debt relies upon the continuous generation of receivables by the originators. If the originator ceases operation, the future flow debt will default. To capture the going concern risk associated with a securitized business line in a future flow transaction, Fitch uses the GCA score. The main question being addressed in the GCA score is the likelihood that the corporate, infrastructure enterprise or FI will be liquidated if it defaults on financial obligations. The GCA score assumes the originator's default; therefore, it would not necessarily change when the IDR of the originating entity changes. Refer to *Appendix A* for details on the GCA score.

Fitch uses GCA scores as a key input to the rating of future flow transactions. The maximum notching uplift allowed by the GCA score will ultimately provide a ceiling for future flow transaction ratings. However, other risk factors may lower the rating on the transaction below the GCA score rating equivalent.

- GC4 — zero notches.
- GC3 — up to two notches.
- GC2 — up to four notches.
- GC1 — up to six notches.

Fitch has seen several cases in which companies or banks defaulted on financial obligations yet continued to operate specific, securitized business lines. The motivation for this is likely to be that a bank or company is crucial to the economy of the host country, or to a powerful economic interest, and/or the cash flow-generating business in question is profitable and desirable. Some historical examples of companies that have continued operating after a default are those with monopoly status, top tier banks, large or state-run companies, capital-intensive companies with limited-use assets, airline carriers with flag carrier status and companies operating in an uncertain bankruptcy regime with limited creditor rights.

The majority of private sector companies exhibit the characteristics presented in the table at the end of *Appendix A* and therefore are likely to receive a GCA score between GC4 and GC2. Conversely, the majority of GC1 scores would likely be assigned to monopoly companies, leader infrastructure enterprises or systemically important top tier banks.

While the GCA serves as a general assessment of a company's performance risk, a corporate entity may not be securitizing core product lines fundamental to the business. Hence, GCA scores assigned to corporate entities and infrastructure enterprises must also address the strength of the business line being securitized. On the other hand, the remittance business is usually well integrated into the bank's overall operations; as such, there is no differentiation in the GCA score assigned to the bank or a particular business line for DPR transactions.

GCA scores are assigned by Fitch's Corporate, Global Infrastructure or Financial Institution rating groups for the ultimate purpose of assigning a future flow rating. Therefore, the GCA scores will not be assigned to FIs, corporate entities or infrastructure enterprises that are not originating future flow transactions. The GCA score for a specific originating entity will be published within the rating report for that particular issuance.

Further Notching Limitations

The maximum rating uplift will only be applied to transactions with originators that are rated at the lower end of the rating scale, i.e. a non-investment grade entity. These entities are more susceptible to near-term defaults and Fitch has more visibility on the potential outcome of any default/bankruptcy scenario. This increased predictability allows for larger notching differentials. For more highly rated originators, Fitch will temper the notching uplift as the potential for bankruptcy is far removed and the predictability of the outcome is more uncertain such that the uplift for 'BBB' category and 'A' category entities is limited to three and two notches, respectively.

Fitch may also temper the notching differential between the originator's LC IDR and the future flow rating when the LC IDR of an FI is driven by parent support and the GCA score also benefits from that parent support.

Notching Uplift from the LC IDR

The GCA score serves as a cap; other risk factors discussed below may result in a rating below the maximum achievable rating.

Future Flow Debt Relative to Balance Sheet

One important consideration related to the notching differential between the originator's IDR and the notching cap is the relative size of the future flow debt in relation to a company's overall liability profile; and, in the case of financial future flows, the ratio of future flow debt to nondeposit funding. If the future flow debt becomes a major source of funding for an entity, Fitch will temper the notching differential of the originator's LC IDR and the maximum achievable rating dictated by the GCA score. Consequently, the rating of future flow debt may be at the same level as, or very close to, the originator's LC IDR.

For the transaction to be rated at the maximum uplift, the securitized debt should be small within the context of the originator's overall debt capital structure. Fitch will analyze the originating entity's overall debt profile and determine how the various forms of debt may impact the repayment of the future flow debt.

When evaluating the ratio of future flow debt to the total funding for bank issuers, Fitch considers 5%–10% small enough to allow financial future flow ratings up to the maximum uplift indicated by the GCA score. Fitch will also consider the level of future flow debt relative to other nondeposit funding. Fitch will not allow the maximum uplift for an originator that has future flow debt greater than 30% of the overall nondeposit funding.

For corporate or infrastructure issuers, Fitch considers a ratio of future receivable debt to total liability of 10%–20% small enough to allow future flow ratings up to the maximum uplift to which the GCA score would translate. A ratio of 20%–50% is considered average and would allow for ratings of one to two notches over the company's LC IDR. For future flow debt of more than half of a company's total liability, Fitch would be unlikely to differentiate the future flow transaction from the LC IDR. In these cases, Fitch will analyze the potential benefits the structure brings to the quality of the company and may allow for some differentiation.

Assess the Volatility of Future Receivables

Other relevant factors include the characteristics and quality of the receivables, as these will determine the volatility of the future receivables. Fitch studies the historical stability of the receivables. Although history alone cannot be used to predict the flow of future receivables, historical patterns can provide a good proxy. When the historical data illustrate a high volatility in the volume of receivables being generated, this will cause concern about the ability of the originator to generate sufficiently stable receivables. Consequently, Fitch may lower the number of notches available for the uplift from the originator's LC IDR.

Fitch will analyze the receivables to assess risks the receivables are most exposed to. Financial future flow and corporate/infrastructure-related future flow receivables exhibit different characteristics and are exposed to different risk factors. The greater the volatility in the flow volume, the lower the notching differential between the originator's LC IDR and the transaction rating. Corporate-related future flow receivables are usually exposed to product and price risk. Fitch will review the attributes of the product to establish if the product has a stable or increasing demand profile and is therefore capable of producing a consistent cash flow. Fitch also considers the price volatility of the product involved by looking at historical price movements; more volatility would result in lower notching.

Infrastructure-related future flows, such as those originated by airports or ports, may be exposed to demand risks. For many infrastructure facilities, a contractual or regulatory framework will establish the basis upon which revenues are generated but expose the facility to demand risk to some degree. Some infrastructure facilities have a monopoly on the provision of essential public services and face limited competition. Others may face competition from nearby facilities even though a local monopoly has been granted, limiting upward notching. Historical price and volume trends are used to assess the likelihood of price and volume combining to produce a consistent cash flow; more volatility would result in lower notching.

Financial future flow transactions like DPRs and credit cards do not have explicit product risk. DPRs are subject to volume risk, as the amount of foreign currency remittances can vary with the general economy of the country, the volume of trade with export partners and the appetite of foreign investors. The volume risk in a DPR transaction depends on the type of remittances. Workers remittances and export-related flows are considered to be stable sources of flow. Capital flows tend to be one-off transactions in large amounts and therefore result in volatile flows. Fitch will apply additional haircuts and run sensitives related to capital flows based on the overall composition of the collateral. In some countries, foreign currency payment orders are initiated by the payors in the same countries as the beneficiaries (i.e. local flows).

In Fitch's view, these local flows are subject to high volume risk as it is easy for the government to instruct local businesses to conduct trades in local currency. As a result, Fitch does not consider these local flows in its analysis. Credit cards may have some level of price risk and indirect exchange-rate risk. Prices of goods and services within a country may rise and fall in relation to the volatility of the exchange rate and this may impact the level of credit card receivables.

IDR Less Relevant in Oil and Gas Future Flow Securitizations

Future flows may also be generated from payments related to the production of oil and gas. The ratings of these transactions are based on fundamentals such as price risk and the production risk profile of the underlying assets and/or counterparty's ability to make these payments.

Unlike other future flow transactions, the seller/originator's credit quality is a secondary factor. If the future generation of the flows can continue without significant disruption and be legally protected from the bankruptcy of the seller/originator, Fitch will not use the GCA score to directly link the rating of the transaction to the IDR of the seller/originator or producer. Similar to the GCA assessment, Fitch will analyze whether the cash flows are sufficient to meet debt service payments during the life of the transaction (see *Appendix C* for more detail). However, Fitch will evaluate the originator's IDR in single-operator transactions to assess if there are any idiosyncratic risks related to the operating entity that may affect the transaction.

Concentrated Exposure — Obligor/Correspondent Bank Risk

Entities which agree to remit cash flows into a collection account can vary, depending on the type of future flow transaction. Export receivable transactions obligate the importer to make these payments. The obligor for a financial future flow transaction involving credit cards would be American Express, Visa or MasterCard. In a DPR transaction, the correspondent banks sign N&A agreements to remit payments into the trust collection account.

All types of future flow transactions show some concentrated exposure to large obligors/beneficiaries, correspondent banks or industry sectors. Unlike traditional existing asset securitizations, the default of one obligor/correspondent bank will cause disruption to the transaction, but the impact may be limited as new receivables are sold on a continuous basis; further, new sales to a defaulting customer would cease and they would be replaced with a different customer. However, exposure to large individual obligors, or to obligors in a single or small number of industries, will likely increase the volatility of the flows.

Fitch will analyze any form of concentration risk in a future flow transaction. Most future flow transactions have a high DSCR that helps to absorb any loss of flow from large obligors and mitigate exposure to single industry or single risk factors. Some transactions also benefit from mechanisms that allow for the substitution of an obligor or correspondent bank. If the exposure to a large obligor/correspondent bank cannot be mitigated, then the transaction rating will be capped at the credit quality of such entity.

Debt Service Coverage Ratio Level

Fitch measures the DSCR as the receivables or collections for a specific period divided by the maximum debt service (which incorporates an interest rate stress, pursuant to the *Structured Finance and Covered Bonds Interest Rate Stresses Rating Criteria*, commensurate with the rating category) over the life of the deal for a specific period (e.g. quarterly cash flow over maximum quarterly debt service). While the DSCR is a key consideration in the rating process, Fitch does not derive ratings purely based on these levels as other more qualitative aspects of the credit analysis may also affect the ratings.

Fitch assesses DSCR levels by deriving its base case cash flow, which in turn is derived by normalizing the historical cash flows over the past three to five years. Fitch normalizes historical cash flows considering the specific characteristics of the collateral and overall stability. Where the receivables are deemed to be subject to high volatility risk, a high DSCR ratio would mitigate the risk of a reduction in future receivables. A large DSCR will, to some extent, mitigate any potential decrease in flows due to issues such as price fluctuation, volume fluctuation, the credit quality of the obligors/corresponding banks and volatility of interest rates. The DSCRs for a future flow transaction can vary significantly depending on a variety of characteristics present in the transaction.

For transactions with similar assets and characteristics, those with high and stable DSCRs under different sensitivity tests will warrant a higher notching differential between the future flow debt rating and the originator LC IDR than those with a low and volatile DSCR. A high DSCR, as a result of a small debt service amount, also reduces the incentive for the sovereign or originator to interfere with the transaction.

The following table shows the minimum DSCR levels for different types of future flow transactions rated in the 'BBB' and 'A' categories. These DSCR ranges are a guide and not meant to be prescriptive. Higher DSCRs allow for greater resilience to downside stresses, enabling transactions to achieve higher ratings. Fitch would consider lower DSCR levels for 'BB' and below category ratings.

When calculating the DSCRs for the transaction, Fitch may use third-party models provided by the issuer or its agent. In addition to normalizing historical cash flows to derive its base case (that are relevant for application of the table below), Fitch will apply a variety of transaction-specific sensitivities that include the timing of its stresses (specific to oil and gas), as well as other factors, including a reduction in cash flows due to price, volume, loss of key obligors (to address concentration risk), market share, extreme sovereign stress, stressing the foreign exchange rate (to address currency risk, if any) and other factors dependent on the transaction's characteristics. While the DSCR is a key consideration in the rating process, in some transactions the DSCR level may not be a rating constraint as the DSCR levels are more than sufficient under the majority of sensitivity scenarios.

Oil and gas future flow coverages are lower as cash flows are more stable due to predictable expenses, volume/production risk being lower and prices are often hedged. Furthermore, transactions can be structured as a top line deduction making these cash flows even more resilient. Finally, oil and gas assets are depleting in nature so, while historical information is relevant, the future production profiles of the asset are more important when testing DSCR levels.

Minimum DSCRs — 'BBB' and 'A' Rating Categories

Commodity Exports	5.0x–6.0x
Price risk	High
Product/volume risk	Medium
Obligor risk	Low
Commodity Exports with Price Hedge	3.0x–4.0x
Price risk	Low
Product/volume risk	Medium/high
Obligor risk	Low
Commodity Exports with Supply Agreement	3.0x–4.0x
Price risk	High
Product/volume risk	Low
Obligor risk	Low

Source: Fitch Ratings

Minimum DSCRs — 'BBB' and 'A' Rating Categories (Cont.)

Specialized Exports	4.0x–5.0x
Price risk	Medium
Product/volume risk	Medium
Obligor risk	Medium
Water/Electric Utilities	3.0x–4.0x
Price risk	Low
Volume risk	Low
Obligor risk	Diversified
Infrastructure Enterprises	3.0x–5.0x
Price risk	Low/medium
Volume risk	Low/medium
Obligor risk	Low/medium
Airline Ticket Receivables	3.0x–5.0x
Price risk	Medium
Volume risk/cut in routes	Varies
Obligor risk	Low
Electronic Remittances (diversified payment rights)	20.0x–30.0x
Volume risk	Depends on remittance type
Workers' remittances	Low
Export related	Medium
Capital inflows	High
Devaluation exposure	Low
Obligor risk	Low
Credit Card Receivables	4.0x–5.0x
Volume risk	Medium
Devaluation exposure	Medium/high
Obligor risk/correspondent bank risk	Low
Oil and Gas-Backed (PDP) with Price Risk	2.0x–4.0x[a]
Price risk	High
Product/volume risk	Low
Obligor/counterparty risk	Low
Oil and Gas-Backed (PDP) with Limited Price Risk	1.3x–1.6x
Price risk	Low
Product/volume risk	Low
Obligor/counterparty risk	Low

[a]Coverages may vary depending on Fitch's Corporate Group's published oil price deck. PDP – Proven developed producing
Source: Fitch Ratings

Additional Considerations Related to Airline Loyalty Programs

When considering airline loyalty program securitizations, Fitch will analyze the affirmation factor when determining the notching uplift from the IDR of the company. The affirmation factor measures the likelihood the airline will continue to meet licensing agreement payments in order to continue its loyalty program during a Chapter 11 bankruptcy proceeding. The affirmation factor will be assessed based on the strategic importance of the program, overall financial contribution of the program to the airline and the overall incentives to meet this payment obligation. The payment obligations may also be supported by the underlying cash flows of the transaction; therefore, DSCR metrics, while important, may play a secondary role. Stronger attributes would allow the transaction to be rated at the maximum differential based on the GCA score and affirmation factor assessment. For further details, see Appendix D.

National Scale Specific Considerations

When assigning a national scale rating to a future flow transaction, Fitch will determine the notching differential from the LC IDR using the assumptions disclosed in this report. Using the relevant National Rating Equivalency Table described in its *National Scale Rating Criteria*, which can be found on Fitch's website, Fitch will derive and disclose the specific National Scale rating for the transaction. However, the maximum notching differential on the national scale will be capped at six notches over the national scale long term rating of the originator.

Redirection/Diversion Risk

A sovereign or company's ability to redirect collections or exports can be classified as payment redirection/diversion risk, or product/customer redirection/diversion risk. Similarly, cash flows related to DPR or credit card payments could also be redirected. Fitch analyses redirection risk by looking at both the incentives and the ease/ability with which a government or company could interfere with the transaction.

When a sovereign is in default, potential actions might include restrictions on the transfer and conversion of foreign exchange and a ban on entities holding cash flows offshore. Moreover, exporters could be directed to remit receipts back into the country. Fitch measures sovereign incentives to interfere with a transaction by looking at the size and total amount of future flow debt within the country, as well as the amount of foreign exchange receipts involved for the particular transaction. Fitch believes a relatively small debt service payment or high debt coverage ratio is an important element in mitigating incentives for interference.

If a transaction has a DSCR of 10.0x, then only 10% of the foreign exchange collected offshore is used to service the transaction's debt; the rest is returned to the originating company, providing hard currency for the government and thereby lowering government interference risk. Conversely, if an entity has debt service coverage of 1.25x, then 80% of the cash flow collected offshore is used to service the transaction's debt.

Fitch generally views that state-owned businesses can be more exposed to potential sovereign interference during a crisis. The government, as owner of a business, is able to interfere with business activities if necessary. Therefore, it is more likely to limit the differential between transaction rating and the sovereign Long-Term (LT) IDR.

In DPR transactions, the flows can be redirected by a sovereign or an originator by diverting the collections to correspondent banks which do not sign the N&A agreement. Consequently, the collections will not be captured by the transaction. Product redirection risk relates specifically to export transactions. Product/customer redirection/diversion is when an entity sells its product to customers that are not part of the transaction. By directing the product to customers outside the structure, the sovereign or company can reclaim the foreign exchange that may have been lost due to the collection account mechanisms.

The likelihood of this risk typically varies depending on the type of product, which determines the potential customer base and the total number of customers that have signed N&A agreements. For instance: if the product is very specific, such as certain types of heavy crude oil, auto parts or international credit card vouchers; the customer base is very narrow and it is difficult to deliver this product to any other customers; if the product is gold or any other type of worldwide commodity; the number of potential buyers is enormous; and it would be impossible to get all potential customers to sign N&A agreements.

Fitch will decline to rate a future flow transaction if redirection/diversion risk is not structurally mitigated in the transaction.

Peer Comparison Analysis

When analyzing a future flow transaction, Fitch will compare transactions with similar receivable characteristics and those exposed to similar risk factors. For example, a peer comparison will be conducted on all DPR programs rated by Fitch globally, taking into account each country's idiosyncratic factors. In particular, Fitch will compare the market position, the GCA score, the stability and composition of the flows, the composition of the payors/correspondent banks and the range of DSCRs under various scenarios. For transactions originated from the same country, Fitch will further evaluate the size of the DPR debt to the originator's long-term funding and total nondeposit funding source.

Relative judgments will be made regarding how a transaction performs under various scenarios when the level of future receivables is reduced and the impact on the DSCR.

Other Rating Considerations

Triggers

Standard future flow transactions contain specified event triggers that either accelerate the amortization of the transaction or obligate the originator to repurchase receivables. For Fitch to rate a transaction such triggers must be present. Nevertheless, the triggers may not have significant bearing on the rating of transactions. Accelerated amortization triggers may require the trustee to trap all cash generated from the receivables upon the occurrence of certain events. Such events can include deterioration in the volume of the receivables, breaches of covenants and representations and warranties of the originator, or government action that adversely affects the transaction.

These triggers provide early warning signs on the performance of the receivables. While these triggers provide a degree of negotiating power for creditors, in most cases they do not serve the purpose of immediately prepaying the transaction. If all cash flows were trapped, this would cause an extraordinary liquidity event that could further affect the company's production capabilities. More commonly, Fitch has seen these triggers act as an early warning signal in transactions and future flow investors have typically allowed some of these captured funds to be returned to the originating entity. Therefore, in most transactions, these trigger events only capture a portion of the collections, rather than 100%.

Notice and Acknowledgement Agreements

Notices or N&A agreements are important transaction components in future flow transactions, as the payors that sign the N&A agreement are obliged to pay into the transaction collection account. Fitch will not assign a rating to a transaction without legally binding notices or N&A agreements which instruct the payors to make payment. These agreements help reduce the risk of sovereign and originator redirection. The N&A agreement effectively binds an obligor/correspondent bank to the transaction, by creating recourse in the event this entity participates in the diversion of cash flow.

Fitch assesses if the N&A agreements are broad in nature, so as to encompass a variety of circumstances. The agreement should broadly identify the receivables, so that there is no question the customer should make payments to the transaction's collection account. Additionally, the strongest N&A agreements contain successor language, so that the obligors/correspondent banks continue to pay into trustee-administered accounts, even if there is a change in control of ownership.

The stronger the language in these agreements, the more difficult it is for the sovereign or company to force customers to redirect payments.

Legal Considerations

One of the key elements in Fitch's legal analysis of cross-border, future flow transactions concerns the rights of the trust in the receivables. Legal opinions are typically rendered by counsel in the originator's jurisdiction, any offshore location in which an SPV is located and the jurisdictions in which the trust is located.

Fitch expects the legal opinions to confirm the legal aspects of the transaction relevant to the agency's analysis. Legal opinions are typically provided which confirm that the cash flows derived from the assets or any other relevant transaction party will not be impaired or diminished. Depending on the legal structure of the transaction, Fitch expects to see opinions addressing, among other things: the isolation of assets from the bankruptcy/insolvency risk of the originator; the granting of a perfected security interest for the benefit of noteholders; the tax status of the SPV issuer, either as a tax neutral entity or, if the SPV issuer is taxable, the nature and amount of such taxes; and the legality, validity and enforceability of agreements and notes.

For more information on legal considerations refer to Fitch's **Global Structured Finance Rating Criteria.**

Rating Assumption Sensitivity

The most significant variables affecting most future flow ratings are changes in the specific credit quality of the originating company, the GCA score of the company, the sovereign rating of the country in which the originator is domiciled, as considered as part of the assignment of the IDR of the originating company, and changes in DSCRs. While DSCRs are a key input into the rating, the levels are typically more than sufficient and do not usually constrain the future flow rating.

To test the sensitivity of coverage ratios to a reduction in flows and the transaction triggers, Fitch will apply a variety of transaction-specific sensitivities to test for a reduction in collections due to price, volume, loss of key obligors, market share, extreme sovereign stress and other factors dependent on the transaction's characteristics. While the DSCR is a key consideration in the rating process, in most transactions the DSCR level is not a constraint for the ratings, as the levels are more than sufficient under the majority of the sensitivity scenarios.

The following table presents certain sensitivities around these factors considered in financial future flow transactions. Transaction reporting will include similar disclosures for the factors driving the ratings.

Sensitivity Analysis for a 'BBB' Rated DPR Transaction

Assumptions	DPR Rating	Notes
Key Scenario Assumptions		
GCA score: GC2	BBB	A GC2 allows an uplift of up to four notches; it set at three notches at the beginning of this scenario.
Bank's LT LC IDR: 'BB'		
Country Ceiling: 'BB+'		
Country LT IDR: 'BB'		
Current DSCR: 20x		
Sensitivity 1: Changes of the Bank's LT LC IDR		
Bank's LT LC IDR change to 'BBB'	A–	For investment grade originators, Fitch will temper notching uplift to two to three notches, in this case two notches.
Bank's LT LC IDR change to 'B'	BB	As bank IDR moves down the rating scale there is more visibility in the outcome which allows for maximum uplift, in this case, tempered to three notches.
Sensitivity 2: Going-Concern Assessment Score Change		
GCA change to GC1	BBB+	The uplift over the bank IDR is up to six notches; tempered to four notches by the rating committee.
GCA change to GC3	BBB–	The uplift over the bank IDR is now constrained at two notches at GC3.
Sensitivity 3: Simultaneous Change to GCA and Bank LT LC IDR		
GCA change to GC1 and bank's IDR change to 'BBB'	A	The uplift over the bank IDR is potentially up to six notches, but is tempered to three notches due to the bank IDR being at an investment grade level.
GCA change to GC3 and bank's IDR change to 'B'	BB–	The uplift over the bank IDR is now constrained at two notches.

Sensitivity Analysis for a 'BBB' Rated DPR Transaction

Assumptions	DPR Rating	Notes
Sensitivity 4: Change in Flows (all else equal)		
DSCR > 30x	BBB	No change
DSCR < 5x	BB	The IDR of the bank floors the rating (assuming the noteholder has recourse to the bank).

DSCR – Debt coverage service ratio. GCA – Going-concern assessment. IDR – Issuer Default Rating.
Source: Fitch Ratings

Coverage ratios for oil and gas-backed transactions play a more prominent role in the overall rating assessment than in other future flow transactions. The most significant variables affecting coverage ratios include changes to production, price and expenses. For price, Fitch will use long-term stress prices and apply an additional price stress to analyze the overall sensitivity of the unhedged portion of the transaction. Fitch will apply a variety of transaction-specific sensitivities to test for reductions in production and increases in operating expenses and other factors dependent on the transaction's characteristics. Fitch will assess if coverage levels are sufficient for the ratings.

The following table presents certain sensitivities around these factors considered in oil and gas-backed transactions. Transaction reporting will include similar disclosures for the factors driving the ratings.

Sensitivity Analysis for a 'BBB' Rated Oil Transaction

Assumptions	Rating	Notes
Key Scenario Assumptions		
Pricing: strip/long-term price stress	BBB	Transaction is limited to 'BBB' category because of underlying characteristics
Hedging: 85% of volumes		
Production: stable		All wells seasoned more than 2 years
Expenses: stable		All wells seasoned more than 2 years
Current DSCR: 1.30x		
Sensitivity 1: Changes in Production Volumes		
20% decrease in volume stress	BBB−	Production drives the cash flows of the transaction; additional stress will limit the transaction rating.
20% increase in volume stress	BBB+	Reduction in the stress provides the transaction with additional cash flow.
Sensitivity 2: Changes in Long-Term Stress Price		
10% improvement to long term pricing	BBB+	The price increase affects the unhedged portion of the assets throughout the life of the transaction adding additional cash flow.
10% decline to long term pricing	BB+	Reductions to the long-term stress price impact cash flows from unhedged volumes limiting achievable rating.
Sensitivity 3: Changes in Stress to Expenses		
20% increase to fixed and variable expenses stress	BBB−	Increases in the stress will limit available cash flow to pay debt service.
20% decrease to fixed and variable expenses stress	BBB+	The reduction in stress will allow for additional cash flow in the transaction.

Source: Fitch Ratings

Transaction Disclosure

Where a transaction does not achieve the maximum uplift permitted under the criteria, Fitch will disclose the rating rationale for any notching in the rating action commentary and transaction report.

Fitch will disclose in the rating action commentary and rating report the sensitivity scenarios conducted on the DSCR coverage.

Criteria Disclosure

Fitch will disclose, as part of its rating action commentaries or rating reports, the corporate rating that forms the basis for the uplift of the future flow rating (where applicable), the GCA and the actual number of notches that make up the uplift, as well as any rating cap that operates independently of this bottom-up analysis. In instances where the rating is constrained by the cash flow and DSCR analysis, Fitch will disclose the central cases and the most relevant sensitivities underpinning the rating action.

Alternative or additional disclosures may apply to future flow subsectors that are covered in the appendices to this report. These include the price stress in oil and gas future flow securitizations (Appendix C) and the affirmation factor in airline loyalty program securitizations (Appendix D).

In addition, Fitch will disclose any variation to criteria (as mentioned in the *Criteria Variations* section). In many cases, Fitch uses the assumptions that it derived in its initial analysis in its surveillance review. To focus Fitch's rating action commentaries on the most important changes to the rating, Fitch may not disclose these assumptions in subsequent rating action commentaries unless there is any change to the assumption.

Criteria Variations

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

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

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

Limitations

Ratings, including Rating Watches and Outlooks, are subject to the limitations specified in Fitch's Ratings Definitions and available at https://www.fitchratings.com/site/definitions.

Data Sources

Fitch's ratings, as well as the key rating assumptions for the criteria, are informed by Fitch's analysis of transaction documents, transaction data, the information received from the originator and transaction legal counsel and Fitch's analytical judgement.

Appendix A — Going-Concern Assessment Scores

Going-Concern Assessment Score Reflects Operating Performance Risk

Future flow transactions generally rely on the continued existence of the originator to ensure repayment of the notes being issued. The GCA score gauges the likelihood that an originator or, for certain corporate entities, a specific line of business of the originator will stay in operation throughout the future flow transaction's life and includes considerations such as sources of support, the originator's systemic importance to the economy and its capacity for foreign exchange generation.

The GCA score assigned to an originator assesses the performance risk of that entity. Certain corporate entities may not be securitizing core product lines fundamental to the business. The GCA score must therefore also address the strength of the business line being securitized. To that end, the GCA score is intended to reflect Fitch's opinion about a company's or infrastructure enterprise's business profile as a going concern, specifically in the presence of financial stress that may result in a default on the entity's financial debt. Just as the GCA score is meant to reflect an opinion regarding the capability of an entity's operations or business line as a going concern, there are important aspects that the GCA score is not intended to assess or measure. Most importantly, the GCA score is not meant to reflect the entity's probability of default on its financial obligations, as this is already fully reflected in the company's IDR.

Going-Concern Assessment Scale and Definitions

GCA scores are only assigned for the purpose of assigning a future flow rating. Therefore, the GCA score will not be assigned to FIs, corporate entities or infrastructure enterprises that are not originating such transactions. The GCA score for a specific originating entity will be published within the rating report for that particular future flow issuance. The following table outlines Fitch's GCA scoring system and the associated definitions.

Going-Concern Assessment Score Definition

GC1	Continued business operation on default is almost certain or very likely, with only a minor element of doubt present.
GC2	Continued business operation on default is highly probable and anticipated, but an element of doubt is present.
GC3	Continued business operation on default is less probable but still likely, with a more significant element of doubt present.
GC4	Continued business operation on default is possible but very doubtful, and liquidation in bankruptcy appears most likely.

Source: Fitch Ratings

The GCA score assumes the entity's default; therefore, it does not automatically change when the originating entity's IDR changes. The GCA score is a key input into the future flow transaction's rating, and the maximum achievable rating future flow issuance will be capped at a level zero to six notches above the LC IDR of the originating entity depending on the GCA score (see the main body of the criteria in the *Going-Concern Assessment* section).

The GCA score is meant to add greater clarity by reflecting the factors supporting the ultimate survivability of a business or business line as a going concern, in addition to the other factors already incorporated into the LC IDR of the originator. For more information regarding the specific factors Fitch considers in assigning ratings to corporate entities, infrastructure enterprises and FIs, see Fitch's research *Corporate Rating Criteria*, *Rating Criteria for Infrastructure and Project Finance*, *Bank Rating Criteria* and *Non-Bank Financial Institutions Rating Criteria*.

Determining the Going-Concern Assessment Score

To determine the GCA score of an entity, Fitch considers several factors in its analysis. The following is an explanation of which factors Fitch considers most important, as well as the key aspects of each factor that are examined.

Financial Institutions

GCA scores of banks mainly reflect Fitch's opinion on the likelihood that a flow-originating bank falls into the category of systemically important or government-sponsored banks, which are likely to continue to operate even after default. In determining a bank's systemic and/or policy importance for the purpose of assigning a GCA score, Fitch will generally focus on the bank's business mix, market share and franchise, ownership structure and importance to the payments system.

For a bank that has defaulted on its obligations to remain a going concern, the bank's regulator must choose not to liquidate the bank. In addition, the bank's creditors must choose not to file for its bankruptcy or in some way be prevented from doing so, although in practice it is rarely in creditors' interests to file for a bank's bankruptcy in cases where the regulator is willing to take some steps to support the institution and maintain it as a going concern.

A bank's regulator and other government authorities may choose to offer selective assistance in the form of capital or liquidity infusions (even if these are insufficient to prevent the bank's default) or, as is often the case when such direct assistance proves economically difficult, regulatory forbearance that allows banks to continue to operate even when in breach of prudential regulations. The bank may also benefit from a legal and judicial system that would make it hard in practice for creditors to press claims against it, in particular in cases when the bank in question enjoys support from the host country's authorities.

The motivation for such support will likely stem from the fact that the bank is viewed as important to the economy of the host country or that it is systemically important to the banking sector. Government authorities may view the liquidation of the bank, involving a fire sale of its assets and, potentially, large losses for creditors, as a less desirable option than its continued operation, as liquidation may undermine banking system stability and/or require additional, more tangible government support to limit creditor losses.

It is common that systemically important banks will continue to operate, as their continued operation is crucial to the maintenance of the payment system that allows day-to-day commerce to continue. Furthermore, a subsidiary bank may continue to enjoy support from its foreign parent and, hence, remain solvent and liquid, even in cases where the subsidiary bank has defaulted as a result of sovereign-imposed payment restrictions.

The largest and most systemically important banks within a country, and those with a strong policy role, are therefore deemed likely to benefit from some sort of government protection and are likely to enjoy GCA scores in the GC1 and GC2 range, which would result in the widest potential notching between the banks' LC IDR and the future flow rating. Such scores are typical for large, systemically important banks in highly concentrated markets. If there is heightened risk that the bank could be liquidated in the event of default, then the GCA score will likely be GC4, resulting in no uplift from the LC IDR of the bank.

GCA scores of GC2 or GC3 (but rarely GC1) may also be achieved by a bank with moderate systemic importance, if it is owned by a highly rated parent and the subsidiary bank's IDRs are constrained by local country risks (specifically, the risk of the local sovereign imposing payment restrictions). If Fitch considers the subsidiary bank strategically important to its parent, and the parent has a strong track record of supporting its subsidiaries, then the agency may expect the parent institution to continue providing sufficient support to allow the subsidiary to operate as a going concern.

Corporate-Related Entities

The GCA score for a corporate measures the entity's ability and willingness to maintain production at sufficient volumes necessary to generate a specific level of cash flow from a particular asset type over a defined period. The GCA score gauges the likelihood that the company will stay in operation throughout the future flow transaction's life and includes considerations such as sources of support and the entity's systemic importance to the economy, such as its labor force, tax base, social importance, or the entity's overall capacity to generate foreign exchange. Additional considerations include the competitive landscape, barriers to entry, economic viability, cash cost of production and product and market demand.

The specific categories used in this analysis are found in the table below, which list the 10 attributes and scorings associated with each attribute. GC1 candidates will score highly among all or most of the categories. The majority of GC1 entities are typically monopolies and are strategically important to the country and the economy. A vast majority of private-sector entities will score GC2 and below, depending on characteristics scored within the table. The level of importance and weighting for each category will depend on the type of entity. For instance, several of the categories will be less important for monopolies providing vital services for the economy, while other categories may have a larger weighting when analyzing a private-sector entity.

Infrastructure Enterprises

The GCA score for an infrastructure enterprise measures the entity's ability and willingness to maintain the provision of related infrastructure services at sufficient volumes necessary to generate a specific level of cash flow from a particular asset type over a defined period. The GCA score gauges the likelihood that the enterprise will stay in operation throughout the future flow transaction's life and includes considerations such as government's commitment and public support, as indicated by the infrastructure asset's systemic importance to the economy and to the society, at a global and/or local level or the entity's overall capacity to generate foreign exchange.

Additional considerations include the competitive landscape, barriers to entry or the essential nature of the sector, including industry-specific regulatory regimes or rules. The nature of demand (essential versus discretionary) is also analyzed and reflected in the revenue generation analysis.

The specific categories used in this analysis are found in the table below, which list the five attributes and scorings associated with each attribute. GC1 candidates will score highly among all or most of the categories. The majority of GC1 entities are typically infrastructure monopolies and essential to the economy; key infrastructure, the ceasing of operations of which would lead to very significant economic disruption on a national basis, are likely to score GC2. Privately owned niche infrastructure will score GC3 and below, depending on characteristics scored within the table. The level of importance and weighting for each category will depend on the type of entity.

Going-Concern Assessment — Corporate Entities/Infrastructure Enterprises

Score	Industry Structure	System Importance to Local Economy	Barriers to Entry/Exit	Relative Power in the Value Chain[a]	Long-Term Growth Potential
GC1	Oligopolistic industry/ monopoly infrastructure.	Ceasing operations would lead to widespread economic disruption on a national basis, with no remedial action in the foreseeable future.	Very high barriers to entry. Emergence of significant new entrants in the rating horizon close to impossible.	Dominant position in the value chain, with suppliers and customers significantly dispersed. Able to retain most of the value added in the chain.	Strong long-term potential with gradual, steady growth.
GC2	Reduced number of competitors with clear leader/leader infrastructure.	Ceasing operations would lead to very significant economic disruption on a national basis, with no immediate remedial action.	Time and significant financial commitment required to enter the industry meaningfully.	Stronger bargaining power than suppliers and customers.	Strong long-term potential with more volatile growth, or very stable industry with moderate but predictable growth over the rating horizon.
GC3	Larger number of competitors with some track record of price discipline in downturns.	Ceasing operations would lead to significant economic disruption on a national or regional basis, with no immediate remedial action.	Moderate barriers to entry. Incumbents are generally strongly established but successful new entrants have emerged over time.	Balanced relative bargaining power with suppliers and customers.	Mature industry. Traditional markets may be under some pressure, but opportunities arise in new markets.
GC4	Highly competitive industry with multiple players of comparable size.	Ceasing operations would not lead to significant economic disruption on a national or regional basis.	No barrier to entry/exit. Number of industry players follows the cycle.	Supplier and/or customer more concentrated, with significant bargaining power.	Industry in slow decline.

[a]Does not apply for infrastructure enterprises.
Source: Fitch Ratings

Going-Concern Assessment — Corporate Entities/Infrastructure Enterprises

Score	Volatility of Demand	Threat of Substitutes[a]	Market Share[a]	Competitive Advantage[a]	Operating Efficiency[a]
GC1	Highly stable demand, even in economic downturns.	No substitute. Product is a must-have for customers.	Market leader in most of its segments.	Strong competitive advantages in cost, technology or brand, which cannot be replicated by competitors in the rating horizon.	Best-in-class return on invested capital.
GC2	Generally stable, somewhat more sensitive to economic cycles.	Substitutes exist but are of lower fundamental quality.	Top-three player in most markets, or leader in a well-defined and protected niche.	Strong competitive advantages, but more at risk from competitors.	Higher-than-average return on invested capital.
GC3	Demand volatility in line with economic cycles.	Facing substitutes of comparable quality, but switching costs are significant.	Top-five player in most markets, or leader in a niche with some threat of substitution within the industry.	Some competitive advantages, with reasonably good sustainability.	Return on invested capital in line with industry average.
GC4	Demand volatility exacerbates economic cycles.	Facing substitutes of comparable quality, with modest switching costs.	Predominantly second-tier player.	Modest competitive advantage, if any. Long-term sustainability questionable.	Poor profitability. Unable to generate returns for its shareholders.

[a]Does not apply for infrastructure enterprises.
Source: Fitch Ratings

Appendix B — Types of Future Flow Transactions

Financial Future Flow

Financial future flow transactions are typically issued by banks and secured by the offshore cash flows generated through the banks' various lines of business.

Remittances

The most common remittances are wire transfers, generally referred to as DPRs. DPRs originate from third-party payors who wish to make a payment for goods and services, investments and other activities to the beneficiaries who have deposit accounts with the originator bank. Payment orders are denominated in foreign currency such as US dollars, euros and pound sterling and are settled offshore. DPRs are the right of the bank in payment orders received or to be received by the bank. The payments to the bank relating to payment orders are owned by the bank and not by the named beneficiary. The bank can issue debt securities backed by its expected future flow of DPRs.

International Credit Card Receivables

In a typical credit card receivables transaction, a foreign traveler creates a voucher (or electronic message) when he or she pays with a credit card for goods or services in a country. The merchant in that country presents the voucher, or the electronic message is sent, to a local bank. This bank pays the merchant the amount of the voucher in local currency and forwards the voucher to Visa and/or MasterCard for authorization and settlement in U.S. dollars. The processing bank's right to receive future receivables from Visa and/or MasterCard is the security for this type of transaction.

Sovereign Risks Associated with Financial Future Flows

The sovereign risks of each financial future flow transaction vary depending on its specific characteristics. For instance, certain remittances and credit card transactions do not involve the transfer of goods and services across borders; therefore, they are less likely to be affected by export controls. Conversely, remittances related to export are susceptible to these types of controls. Furthermore, remittances that are related to capital flows are highly susceptible to downturns within the sovereign economic environment.

Depending on the make-up of the underlying cash flows, credit card receivables can be more susceptible to turmoil in the local sovereign environment. This risk can be twofold: tourism and business-related flows can drop due to civil unrest or deterioration in economic conditions; and, as purchases are made onshore and many goods and services are priced in local currency, these receivables are more susceptible to devaluation. This second effect is somewhat mitigated by an increase in inflation and the fact that some goods and services (i.e. hotels) are repriced into U.S. dollars.

Remittances have a higher diversion risk than credit card-related flows. Diversion risk is the risk that the local bank diverts the transaction's flows to correspondent banks not participating in the transaction, which in turn remit the payment directly to the originator and not to the SPV. This risk is more apparent in a remittance transaction, since there are a variety of potential correspondent banks, whereas a credit card deal only has a limited number of potential obligors (including Visa and MasterCard).

Future Export Receivables

Future flow export receivables transactions are secured by receivables due on sales from exports to foreign obligors, or through an established exchange. A typical export receivables future flow transaction occurs when a company in an emerging-market country produces a specific export (i.e. steel, oil, or aluminum) and sells its product to customers (obligors) in foreign countries. The obligors, through N&A agreements, commit themselves to make their payments to dedicated bank accounts with an offshore trust. The trust then retains funds for the transaction's debt service and sends any excess back to the originating company. The cash flow from the obligors to the offshore trust is the flow securitized in this transaction.

Legal variations within the structures exist. Differences can occur in the definition of the asset, whether by receivables or product. Differences also exist regarding the strength of a claim on an asset, most importantly whether it has been sold into the trust or only pledged. Some examples of structural variations include secured export notes, forward sales of products and outright sales of future receivables.

Future export receivables transactions are also unique from financial future flow securitizations in that there are a very broad variety of potential assets and each can bring unique risks to a transaction.

Airline Ticket Future Receivables

In airline ticket receivables securitizations, the future flow is a result of payments made on international ticket purchases. The hard currency proceeds from sales executed in the US or other foreign jurisdictions are captured offshore by the structure, prior to being remitted back to the airline. The majority of these sales are in cash or via credit cards and take place at foreign ticket offices of the airline, via travel agents, or over the internet. Regardless of point of purchase, most tickets are arranged and settled through Airlines Reporting Corp. (ARC), a global system for all airlines that facilitates the transaction process between carriers and travelers.

In the case of cash purchases, ARC acts as a direct obligor and, having executed an N&A agreement, forwards all proceeds directly to the offshore trust. For credit card purchases, the corresponding voucher is forwarded by ARC to a clearing bank. The clearing bank then forwards the voucher to the card's payment network (e.g. MasterCard International, Visa International or American Express Co.) which, in turn, is obligated to pay the receivable amount into the offshore trust.

The collateral is typically defined in terms of revenues generated from specific international routes and only from ticket sales taking place at foreign locations. In this regard, a structure ensures the creation of offshore cash flows, a key element to future flow transactions. In some cases, the collateral is not restricted to international routes, but may include the strongest domestic routes as well. Cash flows, derived from domestic operations without offshore payment mechanisms, are generally constrained by the Country Ceiling.

Key points of Fitch's rating analysis include:

- The likelihood that the local airline will continue to remain in business, flies certain international routes and sells tickets in foreign countries;
- Reliability of ARC and foreign credit card companies to meet payment obligations to the local airline; and
- Regulatory and competitive environment within the local country and for international routes.

Performance Risk and the Going-Concern Assessment

Similar to other future flow analyses, Fitch will assign a GCA score for the originating airline, which is more a measure of commercial or operating risk, rather than financial payment risk. The assessment is based on the fact that, in many countries, financial default for an airline will not lead to liquidation. Despite a default on general obligations, as long as the airline continues to fly the securitized international routes, receivables should be generated and controlled by the transaction's structure.

Fitch's Corporates group analyses financial statements, management experience, operating performance, potential sources of support and country and industry outlooks to determine the airline's LC IDR and GCA score. Future flow securitization ratings that are higher than the corporate LC IDR are achieved only in cases where the GCA score is GC3 or higher and a true sale structure is employed. Like all future flows, the true sale concept must be validated under local law, confirming that under all reorganization scenarios, as long as the receivable is generated, no other creditors or the company will have the ability to interfere with securitized cash flows.

Receivables Generation Risk

A major issue in rating an airline ticket receivables securitization is whether the airline will be able to continue producing the cash flows necessary to meet timely debt service obligations.

While the GCA score addresses the ability of the airline to stay in business, it does not explicitly ensure the airline will maintain the eligible international routes generating the receivables. To determine whether the cash flows sold will continue to be generated, Fitch considers the historical stability of cash flows, the outlook for the flows and the importance of the routes being sold to the country, the industry and the airline's operations. During a time of stress, the airline should still be projected to generate the cash flows that are being sold into the securitization.

Tax-Backed Future Flow Securitizations

Future flows may also be generated from tax receipts payments. For these transactions, Fitch takes a similar approach in its analysis of oil and gas transactions and the ratings of these transactions are based on potential generation risk and are limited by the counterparty's ability to continue to make these payments (typically a sovereign entity). Fitch will not assign a GCA score to the originator in these cases, but focus its analysis on the future generation risk relying on the analysis of historical information. Other constraining factors for these transactions include potential diversion risk, as well as DSCRs and the overall leverage.

Other Future Flow Transactions

In addition to those mentioned previously, several other types of future flow securitizations have been completed. Onshore future flow transactions have been increasing in the local securitization markets. The majority of these local issuances have securitized payments related to electric and water utilities.

Some local markets have utilized future flow structures to mitigate corporate-related risks. These structures can legally obligate the originating company's obligors to pay into a separate trust account. Thus, any issue related to the willingness of the company to pay its debt can be significantly reduced. The structure only provide a differentiation in credit quality, when it can legally protect future flow creditors and when the originating companies can demonstrate that performance risk might be lower than the company's default risk.

The most common transactions have involved electricity and water utility companies, with originators benefiting from monopoly status or low liquidation risk. The analysis is similar to rating an offshore future flow transaction, but the sovereign risks are less important as the transactions are typically rated below the sovereign rating. Additionally, local future flow transactions tend to be consumer based, with well diversified portfolios. Coverage levels are determined on a case-by-case basis and are analyzed to ensure they sufficiently cover potential volatility.

Appendix C — Oil and Gas Future Flow Securitizations

Oil and gas future flow securitizations are backed by working interests or royalties arising from the extraction of hydrocarbons. Many securitizations are backed by operated and/or non-operated working interests, which securitizes the cash flows net of operating expenses. For royalties, there are a variety of methods of creating royalties and transferring economic interests. Examples of this can be overriding royalty interests (ORRI), transfers of mineral rights and certain types of volumetric production payments, all of which are topline and not directly exposed to production costs.

Fitch will analyze whether the cash flows are sufficient to meet debt service payments during the life of the transaction. The analysis involves reviewing historical information about the underlying cash flows and assessing future generation risk. Future generation risk is analyzed in conjunction with the relevant corporate and/or GIG sector analyst, through reserve reports, and independent engineer reports related to future production.

The ratings of these transactions are based on potential production and generation risk and can be limited by the obligor or counterparty's ability to continue to make these payments. Other constraining factors include the operator's credit quality if deemed to be disruptive to generation risk, potential volatility in expenses and leverage, assessed with reference to DSCRs, loan-to-value ratios (LTVs) and the loan life coverage ratio (LLCR). Rating thresholds are consistent with other future flow products in the 'BBB' and 'A' category due to the exposure to operating risk, volumetric risk and price risk.

Various types of reserves can be considered when analyzing an oil and gas-based structure; however, investment-grade ratings are achievable when the transaction is backed primarily by Proven Developed Producing (PDP) reserves and cash flows are expected to be sustained without significant development capex. PDP production is in line with a GC1 profile as the "continued business operation is almost certain or very likely, with only a minor element of doubt" due to the fact that these wells are no longer in the development phase as the majority of capex payments have been made and breakeven price is based on production costs (half cycle costs).

Proven Developed Non-Producing (PDNP) and Proven Undeveloped (PUD) reserves can be included in transactions, but the production risk profiles related to these reserves are generally much more uncertain due to the timing and level of future development and operating costs. For transactions that include these reserves, Fitch will determine whether to assign credit to these assets by analyzing the production risk, development schedule and cost assessments established by independent engineers along with the structural features of each transaction.

Fitch will establish a base case for the production levels for the specific transaction. This base case is developed using the inputs from independent technical experts who have assessed the production resource and operations. The oil and gas industry uses statistical analysis and probability distributions to measure forecasts for the Estimated Ultimate Recovery (EUR) of wells, normally in terms of PV-10, the net present value of the cash flows discounted by 10%.

Fitch will consider the predictability of production by analyzing the current and historical projection information provided by the independent engineer in conjunction with actual historical production information. Fitch will make adjustments to these projected production levels to come up with the Fitch base case production level by analyzing the characteristics of the collateral including the historical volatility, overall diversity, location specifics and the operating age of the wells. Typically, assets with several years of historical data provide more accurate forecasts and the expected variance becomes smaller as more data are incorporated.

When considering expenses, Fitch will establish a base case expense level in a similar manner to its production base case, using historical information specific to the portfolio as well as other cost information provided by the independent engineer.

Many transactions will hedge the majority or a portion of the price risk associated with the product; however, DSCR levels may also be used to mitigate price risk. A transaction with price hedges can mitigate volatility in cash flow and therefore will result in less volatile DSCR levels. Absent substantial coverage and lower leverage, Fitch expects transactions to hedge hydrocarbons and basis differentials to mitigate price risk. Transactions that hedge the majority of price risk can achieve ratings up to 'A+', but transactions with substantial price risk will be capped at 'BBB+' if the DSCR mitigates this risk. When analyzing price risk, Fitch will analyze the relevant reference product and the price differential for the specific field.

Leverage is assessed with reference to DSCR levels. DSCR levels are not always comparable to other future flow transactions as production risk is lower and levels are more comparable to DSCRs seen in project finance. The expected maturities of the transactions tend to be five to 10 years, which is lower than project finance. Additionally, amortization levels tend to be sculpted to match the depleting nature of the asset.

Expected coverage levels would vary greatly depending on how much price risk will be mitigated. Assuming limited diversion risk and limited price risk, West Texas Intermediate (WTI)- and Henry Hub (HH)-related 'BBB' and 'A' ratings will have between 1.3x and 1.6x DSCR coverage considering Fitch's base case cash flows.

Using the LTV is a complementary approach to measuring overall leverage and normalizes amortization schedules and depletion rates. LTVs are calculated using PV-10 valuation which discounts the expected cash flows by 10% and is a common method within the industry. The corresponding LTV levels for 1.3x-1.6x's coverage are between 60-75%.

Fitch will apply several stress tests, beginning in the first year, to run breakeven sensitivities including: 1) a 5%-15% reduction of the Fitch base case production over the life of the transaction; 2) expense stress between 5% and 15%; 3) a long-term price stress using USD35 WTI for oil and USD1.80 Henry Hub for gas. For transactions whose hydrocarbon mix includes natural gas liquids (NGLs), Fitch will evaluate the basket to determine the percentage to Fitch's price stress for WTI, up to 40%, which will be disclosed in Fitch's rating reports. Fitch will stress the unhedged portion of the price differential by 10%–20%; however, depending on the specifics of the portfolio and the historical volatility, Fitch will evaluate whether to adjust this stress to reflect the additional volatility. Fitch performs a peer comparison and assesses specific breakeven price levels for each transaction when assigning a final rating.

In low price environments, Fitch will run stress tests using a 20% haircut on current prices measured using the 12-month forward curve. Fitch will also apply additional price vectors to analyze the sensitivity to a prolonged high price and low price environment. Furthermore, Fitch will perform additional sensitivity stresses with regard to the timing of the stress tests over Fitch's base case during the life of the transaction.

Example WTI Transaction Monthly Cash Flows — 'BBB' Stress

	IE Case	Fitch Base Case	Stress Test
Monthly Debt Service (USD)	2,500,000	2,500,000	2,500,000
Price per Barrel (WTI) (USD)	55.00	55.00	35.00[a]
Price Differential (USD)	–5.00	–5.00	–6.00 (+20%)
Production (Barrels per Month)	115,000	109,250 (–5%)	103,500 (–10%)
Monthly Revenue (USD)	5,750,000	5,462,500	4,956,500
Monthly Expenses (USD)	2,100,000	2,205,000 (+5%)	2,415,000 (+15%)
DSCR (x)	1.46	1.30	1.02

[a]85% of base case production volumes hedged at USD55/barrel.
Source: Fitch Ratings

As part of Fitch's analysis of its stress tests, Fitch will evaluate the asset cash flow available in each period discounted at the weighted average cost of the debt and, divided by the net outstanding principal balance, the LLCR. Fitch expects a coverage ratio of at least 1.0x to ensure repayment under the stress tests.

Fitch will define its stress level for the highest rating level the transaction can achieve. Lower rating levels will be determined by interpolating between the Fitch stress case and the Fitch base case. These will include the stresses for production, expenses, prices and differentials.

Other Considerations

Fitch assesses potential interference by the government or the originator in terms of incentives and ease/ability to interfere. Although most transactions are structured to mitigate redirection/diversion risk, sovereign and originator interference cannot be completely eliminated. Depending on the rating of the transaction and the sovereign/originator, higher DSCRs may mitigate this risk or the rating of the transaction may be capped.

Fitch's legal analysis for oil and gas transactions is consistent with future flow approach in general as analysis will concentrate on isolation of the assets from the bankruptcy/insolvency risk of the originator. The transfer of rights related to the interests, royalties or payment obligations will vary depending on the instrument used and the jurisdiction, country or state if in the U.S.

Appendix D — Airline Loyalty Program Securitizations

Airline loyalty program securitizations are backed by cash flows generated from the frequent flyer program of the airline. Depending on the structure, this incorporates licensing agreement payments from the airline and a legal claim to the underlying cash flows collected.

Airline loyalty program backed issuances can be rated above the airline's IDR where there is a diminished probability of default. Fitch will determine the probability of default of the transaction by notching up from the airline's IDR using both the GCA and affirmation factor. Fitch's assessment of the airline's going concern probability, which gauges the likelihood that the airline will stay in operation through the transaction's life, will cap the transaction's rating but the assessment of the affirmation factor may lower the number of notches of uplift for the given GCA score.

A review of the importance of the intellectual properties license agreement to the operation of the company and the overall incentives of the company will determine the likelihood that the company/licensee will affirm the license agreement in a bankruptcy scenario (the affirmation factor). Stronger attributes with a relatively smaller sized obligation relative to balance sheet would allow for a high affirmation factor and therefore the greatest differentiation from the company's IDR.

The maximum rating uplift provided by the affirmation factor will be applied to transactions with airlines that are rated at the lower end of the rating scale. These entities are more susceptible to near-term defaults, and Fitch has more visibility related to the potential outcome of any default/bankruptcy scenario and the likelihood of reorganization versus liquidation and license affirmation or rejection. For more highly rated originators, Fitch will temper the notching uplift as the potential for bankruptcy is less likely and the predictability of the outcome is more uncertain, while the maximum uplift for investment-grade entities is not more than two notches. Fitch would apply limited, if any, uplift where the affirmation of license is determined to be low.

Affirmation Factor

	Fitch Estimate of Affirmation Possibility		
Rating Range	Low	Medium	High
B+ and lower	0–2	3	4
BB category	0–1	2	3
BBB– and higher	0	0–1	2

Source: Fitch Ratings

Liquidity reserves are necessary to cover any potential delays that may affect the transaction during bankruptcy proceedings with a minimum of three months of liquidity to achieve ratings equivalent to ratings aligned with the GCA and affirmation factor considerations. In cases where there is more robust liquidity contemplated as part of the structure (e.g. 12-18 months of liquidity), Fitch may consider an additional one notch of uplift above the affirmation factor. Increased liquidity reserves greater than 12 months will be considered as an additional benefit to the extent they decrease the probability of default due to any additional delays during the bankruptcy proceedings or potential cash flow declines that are temporarily below 1.0x DSCR. However, the rating of the transaction will ultimately be constrained by the maximum uplift allowed by the GCA score regardless of liquidity size.

Affirmation/Rejection of the License

Under a Chapter 11 bankruptcy proceeding, a licensee may choose to assume or reject an intellectual property license agreement. The timing of the decision to assume or reject the agreement is not specifically addressed within the bankruptcy code, but payments should continue to be made in a timely manner in order to use the IP assets associated with the specific licensing agreement.

In assessing the likelihood of affirmation or continued payments on the licensing agreement of a particular license (affirmation factor), Fitch considers the strategic importance of the intellectual property and the overall incentives of the airline to continue to meet these obligations. These incentives relate to the financial contribution of the loyalty program to the airline's overall financials, the relative size of the obligation and any penalties associated with the termination of the license agreement. Fitch's assessment of this affirmation factor can be deemed as low, medium or high.

Fitch considers a ratio of debt size to total consolidated liabilities of 10%-20% small enough to allow ratings up to the maximum uplift to which the GCA score would translate. A ratio of 20%-50% is considered average and would allow for ratings of one to two notches over the company's IDR. For debt of more than half of a company's total consolidated liabilities, Fitch would be unlikely to differentiate the rating of the transaction from the IDR of the company. In these cases, Fitch will analyze the potential benefits the structure brings to the willingness of the company to pay and may allow for some differentiation.

A review of the strategic importance of the intellectual properties (IP) asset to the airline's operations will include the cash flow assessment of the collateral. The likelihood of affirmation is expected to increase when considering the frequent flyer program's level of contribution to the company's revenue and profitability, if the collateral provides diversified sources of cash flow for the airline and the obligation is not significant relative to the airline's other obligations. Additionally, the cash flow assessment on the underlying collateral includes calculating debt service ratios and running sensitivity scenarios based on Fitch's view of expected future performance.

While Fitch does not give explicit credit to the market value of the IP assets, this value is important to our qualitative analysis when assessing the likelihood of affirmation.

The affirmation analysis also incorporates the legal protections present in the bankruptcy code and structural features incorporated into the transaction, which increase the willingness of the company to pay the fee on the licensing agreement. In addition to having the IP assets legally conveyed, bondholders are expected to have a first priority perfected security interest in the contractual obligations due from the airline and other third parties. Other protections and disincentives to rejecting the license will be considered including termination penalties and other damages triggered when the licensing agreement is terminated.

The considerations to determine the affirmation factor are listed in the table below. When applying this table to assess the affirmation factor, Fitch will look for most factors to be met. The significance of the below-mentioned factors to the ultimate notching decision is to develop a view for determining the affirmation factor and will vary accordingly to the specifics of the transaction. In some circumstances one of the categories might be assessed as below or above the others, outweighing the remaining factors, and a higher or lower category may be determined. The factors include (i) the strategic importance of the asset to the airline's operations, (ii) the financial contribution of the program to the airline, (iii) the ratio of the debt size against the airline's total financing liabilities, (iv) the DSCR and (v) structural features/enhancements. These factors are characterized as high, medium or low depending on the assessment of each factor.

Affirmation Factor

	Strategic Importance to Airline's Operation	Financial Contribution to Airline	Debt as % of Total Financing	Coverage Ratio	Structural Features
High	Rejection would severely affect Operations	• Miles program is majority enterprise value • >10% of airline's total revenue • >20% of EBITDA	10%–20% of total liabilities	>2.0x	• Ownership of IP • First priority pledge over accounts and other assets • Guarantee from Airline • Other structural features or disincentives including liquidated damages
Medium	Rejection would have some level of impact on Operations	• Miles program is large portion of enterprise value but certain value exists • >5% of airline's total revenue • >10% of EBITDA	20%–50% of total liabilities	1.5x	• Ownership of IP • First priority pledge over accounts and other assets • Guarantee from Airline • Other structural features or disincentives including liquidated damages
Low	Rejection would have limited impact on Operations	• Miles program is small portion of enterprise value • <5% of airline's total revenue • <10% of EBITDA	>50% of total liabilities	<1.0x	• Ownership of IP • First priority pledge over accounts and other assets • Guarantee from Airline • Other structural features or disincentives including liquidated damages

Source: Fitch Ratings

Fitch will assess the strategic importance of the asset to the airline's operations by considering the criticality of the loyalty program to the airline's day-to-day operations and its contribution to overall diversity of cash flows to the airline. Fitch analyzes the financial contribution to the airline by considering the contribution of the loyalty program to the airline's overall enterprise value, total revenue and contribution to EBITDA.

Furthermore, the affirmation potential considers the relative size of the debt to the airline's total financing liabilities. Fitch will analyze the overall liabilities of the consolidated company in order to assess the magnitude and underlying characteristics of these obligations. Fitch views a transaction with a debt size relative to total financing liabilities of the consolidated entity of less than 20% as able to achieve the maximum rating differential allowed by the GC score and affirmation factor.

In its analysis, Fitch will also conduct a cash flow assessment on the collateral as measured by the DSCR level. DSCR levels are measured by the revenues divided by the debt service payable during a specific period. Fitch's base case DSCR scenario is calculated by using three to five years of historical revenues generated by the loyalty program adjusted for any supplemental industry information and input from Fitch's Corporates team. Fitch will stress test these cash flows considering the current economic cycle by applying further haircuts to revenue streams and stressing interest rates, where applicable. Fitch will run various sensitivities to test the resiliency of cash flows and determine the breakeven scenarios in order to use as an input to the affirmation assessment. For an assessment factor of High, Fitch expects base case DSCR levels above 2x to achieve the maximum rating uplift potential as outlined by the GC score and affirmation factor.

Lastly, Fitch considers structural features and enhancements present in the structure to increase the likelihood of affirmation under bankruptcy. Fitch reviews the seniority position of bondholders, the ownership structure of the IP, first priority perfected security interests in collection accounts and other assets, any guarantees from the airline and any additional structural features or disincentives, including liquidated damages claims, among others.

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