Article Title: ARCHIVE | Criteria | Structured Finance | ABS: Methodology And Assumptions For Rating Mexican Tax Participation Transactions Data: (EDITOR'S NOTE: — This criteria article is no longer current. It has been superseded by "Methodology And Assumptions For Rating Mexican Tax Participation Transactions," published Feb. 19, 2014.) 1. Standard & Poor's Ratings Services is publishing its updated methodology and assumptions for rating Mexican tax participation future flow transactions. We are publishing this article to help market participants better understand our approach to reviewing Mexican tax participation transactions. This article is related to our criteria article "Principles of Credit Ratings," which we published Feb. 16, 2011. 2. Mexican tax participation future flow transactions are securitizations by state and local governments of the taxes (mainly income and value added tax {VAT} taxes) and oil revenues the federal government collects and redistributes to states and municipalities as tax participations. SCOPE OF THE CRITERIA 3. This article applies to structured bank loans and securitizations issued by Mexican subsovereign entities in which future tax participation revenues are pledged to a special-purpose vehicle (SPV) or trust through an irrevocable notification. This article does not apply to securitizations of local tax revenue bonds (for information about local tax bond securitizations, see "In Mexico, Local Governments Turn To Future Tax Revenue Securitization To Free Up Funds," published Oct. 16, 2007). SUMMARY OF CRITERIA UPDATE 4. Standard & Poor's criteria for rating Mexican tax participation securitizations include a review of the following: The financial and creditworthiness of the subsovereign entity. The creditworthiness of the subsovereign entity is the starting point of our analysis, as the rating on the subsovereign becomes the minimum rating that we would typically assign to a tax revenue securitization (see paragraphs 8 to 10). The specific tax revenue flow and current macroeconomic and political factors affecting the amount of tax revenues generated and collected (revenue reduction risk), as well as other types of risks associated with the transfer of the cash flows to the trust (flow transfer risk) (see paragraph 11 to 15). Cash flow stress scenarios and debt service coverage ratios (DSCRs). Since tax participation securitizations are typically single-tranche transactions, the DSCR will determine the number of rating notches that a transaction can be elevated above the issuer credit rating (ICR) of the subsovereign entity. Higher DSCRs provide greater protection against both cash flow volatility and cash flow redirection risk (see paragraphs 18 to 24). Legal and structural protections available to investors (see paragraph 25). IMPACT ON OUTSTANDING RATINGS 5. Standard & Poor's will review the 48 Mexican tax participation future flow transactions it rates to assess the rating impact of these criteria. We expect the new stress assumptions outlined in these criteria to have a very limited impact on outstanding transactions. EFFECTIVE DATE AND TRANSITION 6. These criteria are effective immediately for all new and outstanding Mexican tax participation transactions. We will begin reviewing all outstanding transactions under these criteria and expect to update our ratings over a period of three months. METHODOLOGY 7. Standard & Poor's methodology for analyzing tax participation-backed transactions includes a review of: The financial and creditworthiness of the subsovereign entity issuing the bonds or loans. We use the ICR on the subsovereign as a proxy to assess the subsovereign's ability and willingness to honor its obligations under the tax participation transaction documents. While we use the ICR on the subsovereign as the starting point of the analysis, the ICR on the sovereign is also the maximum rating we can assign to a tax participation transaction without any additional support (such as a financial guarantee). The structural and legal protections available to bondholders to mitigate tax participation transfer risk (i.e., the risk that the cash flow owed to a subsovereign is either delayed or not transferred, which would cause a shortfall in the cash flow available to service the transaction's debt). Two factors generally mitigate transfer risk: the delivery to the Federal Treasury of irrevocable notifications of the transfer of the revenues to the trust and the establishment of liquidity reserves that are available to the trust in the event that cash flow is misdirected or otherwise insufficient to cover debt service. The impact of stress scenarios on asset quality and on the ability to pay timely interest and principal payments to the investors. We have increased the initial haircut, or discount, we apply to the underlying collateral assets to a minimum of 25% from 20%. We changed the haircut assumption, which we apply to our base-case cash flows, mainly because we expect the oil revenue component of tax participation flows to remain volatile over the next five years as Petróleos Mexicanos (PEMEX) reduces its production levels. This increased haircut also incorporates the impact of oil price volatility by reducing the tax participation amount. The cash flow analysis considers interest rate stresses for transactions with unhedged interest rate risk. Liquidity reserves, in some cases, can also offset declines in revenues by providing additional protection during times of short-term stress. We may also consider these cash reserves in our cash flow analysis. DSCRs. Our criteria apply minimum DSCRs to determine the number of notches the rating on the structured transaction can be elevated above the ICR on the subsovereign entity. These criteria include the minimum DSCR for each national scale rating level. Finally, our analysis considers the legal and structural protections available to investors. Financial And Creditworthiness Of The Subsovereign And Sovereign 8. Standard & Poor's ratings, in general, address the ability and willingness of an entity to service its debt in a timely manner. Because of the unique nature of tax participation securitizations, we assess each transaction's ability and willingness to service the tax participation debt at the sovereign and subsovereign level. The ability and willingness of the sovereign to transfer the revenue to service the debt is reflected in the sovereign rating, and the ability and willingness of the subsovereign to not interfere with the transfer is reflected in the rating on the subsovereign entity. The rating we assign to a tax participation securitization will fall somewhere in between the rating on the subsovereign and the rating on the sovereign. 9. The United Mexican States' ability and willingness to transfer revenues to service the debt is reflected in the sovereign rating on the country ('mxAAA' at the time of publication of this article because tax participation revenues are direct transfers from the Federal Treasury. The sovereign rating, therefore, sets the rating cap on a tax participation rating absent other types of credit support (such as a financial guarantee) that may allow elevation above the sovereign's rating. 10. We consider the ICR on the subsovereign and the structural features in place to mitigate subsovereign interference risk when assessing the subsovereign's ability and willingness to service the debt. We therefore use the ICR as the starting point of the analysis because, in general, it reflects the subsovereign's ability and willingness to continue servicing all of its debt, including any securitizations of tax participation transactions. The number of notches that a tax participation rating may be elevated above the ICR on the subsovereign depends on the structural features in place to protect against cash flow volatility and to mitigate interference risk. Revenue Flows Tax participation flows transfer risk 11. Tax participation transfer risk is the risk that the cash flow owed to a subsovereign and ultimately a tax participation trust is either delayed or not transferred, which would cause a shortfall in the cash flow available to service the debt in a timely manner. Transfer risk is generally mitigated through the structural protections that tax participation transactions include. These protections include the delivery of irrevocable notifications to the Federal Treasury of the transfer of the revenues to the trust and the establishment of liquidity reserves that the trust can use in the event that cash flow is misdirected or otherwise insufficient to cover debt service. Irrevocable notifications 12. The instructions within transaction documents that direct the sovereign to deposit tax participation revenue into trust accounts are a key factor in our analysis of transfer risk. Due to different transfer schemes, this risk differs between states and municipalities. Transfers to states 13. At the state level, the delivery of irrevocable instructions to the Federal Treasury to deposit cash from tax participations into a designated account mitigates transfer risk. Whenever a state transfers its rights over future tax participation rights to a trust, the Federal Treasury directly deposits flows from such rights into either a master trust account established for the purposes of a tax participation securitization or a separate trust account established by the state. The irrevocable instructions mitigate the risk that that a state could request the Federal Treasury to redirect the revenues to an account controlled by the state, potentially resulting in a default on the tax participation securities. While the irrevocable instructions provide legal protection to investors from cash flow redirection risk, the state legislature could try to declare the transfer invalid and seek to revoke the notification if the state were under severe stress, such as if it defaulted on its general obligations and tax participation revenues declined. This risk is less likely for stronger, less-leveraged subsovereigns. As such, DSCR is another key factor in our analysis. Transfers to municipalities 14. In municipal transactions, the Federal Treasury usually transfers the municipality's portion of the participations to the state, which in turn deposits the transferred percentage into a trust account established by the municipality. The direct transfer of flows into the trust is also documented through an irrevocable instruction signed by the municipality, and is subject to the same risk of revocation as at the state level. The instructions, however, are sent by the municipality to the state rather than the Federal Treasury. Reserve account 15. Our criteria also considers the amount of cash reserves that are available to cover temporary transfer delays due to operational, liquidity, or performance issues at the state or municipality level. Depending on the structure, most structures set aside at least one debt service payment, or three months of debt service payments (whichever is highest), in a reserve account that has been established for the benefit of investors. Municipalities, in general, are subject to greater transfer risk because states are responsible for transferring subsequent tax participations to them. Operational problems at the state level could delay payments to a municipality or to the trust. In this sense, transactions backed by a municipality's tax participations have a higher risk of experiencing delays compared with transactions backed by tax participations transferred by a state. Nevertheless, these criteria consider whether there is sufficient liquidity to protect against unexpected temporary shortfalls for tax participation transactions issued by both state and municipalities. Updated Revenue Reduction Risk Assumptions 16. The revenue to be distributed as tax participations comes from two main sources: oil revenues and tax collections. Declines in tax participations due to reduced tax collections or oil revenues could cause an interest or principal shortfall to tax participation-backed debt obligations. These criteria apply a discount to the base-case projections we use in our cash flow analysis to account for possible volatility in oil revenues and tax collections. 17. Going forward, we will apply a discount factor of 25% (up from 20%) to the tax participation revenues flows in Mexican tax participation transactions. The increase, which is mainly driven by an observed 15.7% drop in tax participations in 2009 (see chart 1), provides additional protection against a sudden decline in cash flows in a tax participation securitization. The drop in tax participations in 2009 was the sharpest fall we've observed to date and was caused by a decline of almost 20% in oil-related revenues being transferred to the General Participations Sharing Fund (GPSF), which was established by Mexico's Fiscal Coordination Law to regulate the tax revenue-sharing system of Mexican states and municipalities. In the next five-10 years, we expect a further decrease in the oil-related revenue that, if not compensated by higher tax collections, could decrease tax participations. These criteria apply the 25% haircut to our base-case revenue projection to capture possible declines in revenue. Our cash flow model uses the base-case projection as an input to assess expected debt service coverage ratios (see paragraph 19). Chart 1 Cash Flow Modeling And Debt Service Coverage Ratios 18. Standard & Poor's rating analysis considers the impact of different cash flow stress scenarios on asset quality and on the transaction's ability to pay timely interest and principal payments to the investors. Application of cash flow stress assumptions 19. We adjust our base-case cash flow projection and stress it to account for revenue declines, interest rate stresses, and available reserves. We consider the following factors: Cash flow stresses. We model an average of a subsovereign's tax participation revenues from the past three years in the cash flows to eliminate any sudden increases or decreases of the flows. We then apply a 25% haircut (see paragraph 17). We may apply a higher discount factor if the subsovereign has experienced unusual increases or decreases of the revenue flows due to a particular situation (e.g., changes in distribution rules). Interest rate risk and inflationary stresses. If a transaction has a floating-interest rate with no hedge, our analysis considers interest rate stresses in accordance with Standard & Poor's interest rate criteria (see "Mexican Interest Rate Assumptions," published June 21, 2011). If the transaction has a derivative contract that hedges the interest rate risk, the analysis considers if the contract complies with Standard & Poor's counterparty criteria (see "Supporting Obligations Methodology And Assumptions Criteria," published Dec. 6, 2010). In a high interest rate scenario, due to the correlation we've observed between tax participations and inflation, we model a moderate growth in tax participation revenues to reflect the consequence of inflation. These criteria apply a growth rate of tax participation revenues of 50% of the observed interest rate for the previous 12 months to stress the possible lag in the adjustment. For both floating and fixed interest rate transactions, our cash flows consider two interest rates scenarios: one of high inflation and high interest rates and one of low interest rates and low inflation, which would imply low asset growth. Liquidity reserves. If the transaction benefits from reserve accounts that are fully funded up front with either cash or highly liquid 'mxAAA' rated notes, we may consider the funds in the reserve account as part of the available cash that a transaction can use to make debt service payments. If the party that pledges the future tax participation revenues is a municipality, we assume that one month of tax participation cash flow will be lost due to a delay in the transfer of the flow from the state's treasury to the trust. As a consequence, our cash flow analysis only considers amounts in the reserve accounts after one month of the flows is lost due to transfer delays. Debt service coverage ratios Table 1 Federal Tax Participation Debt Service Coverage Ratios TRANSACTION TARGET RATING SUBSOVEREIGN CREDIT RATING (NATIONAL SCALE) MXAAA MXAA MXA MXBBB MXBB mxAAA (x) 1 mxAA (x) 2-3 1 mxA (x) 4-5 2-4 1 mxBBB (x) 6-7 4-6 2-4 1 mxBB (x) 8-10 7-10 5-8 2-4 1 20. We determine the final rating by assessing the DSCRs after applying the appropriate cash flow stress scenario (see table 2). As is evident in table 2, a transaction needs greater coverage to be rated 'mxAAA' if the subsovereign is rated 'mxBB' compared with a higher rated subsovereign. Because tax participation revenues are direct transfers from the sovereign, there is no direct link between the generation of the revenues and a subsovereign's creditworthiness. However, higher DSCRs can offset a weaker economic base, including a decline in oil revenues and tax collections, and provide additional comfort that the tax participation revenues will be sufficient to cover debt service even under volatile market conditions. 21. In general, the lower the subsovereign rating, the greater cushion required to maintain the same number of notches above the subsovereign. For example, a transaction could be rated six notches above the subsovereign with 4x-5x coverage if the subsovereign was rated 'mxA', but only three-four notches with the same 4x-5 coverage if the subsovereign is rated 'mxBB'. We would look for 5x-8x coverage to maintain the original six-notch elevation if we lower the 'mxA' subsovereign rating to the 'mxBB' category. 22. Higher coverage levels also means more revenues will flow back to the subsovereign, which mitigates concerns that the subsovereign may attempt, in a financial crisis (e.g., a default by the subsovereign on its general obligations) to interference with the structure in order to free up cash flow. This risk is also mitigated by the strong legal structure of these transactions, which redirects the flows so they do not enter the subsovereign treasury. Rather, it transfers the cash flows from the federal treasury into the trust or, when the revenues are securitized by a municipality, from the state into the trust. 23. If the coverage is close to the upper or lower bound of the range detailed in table 2, we may revise the final rating up or down to reflect the relative strength or weakness of the cash flows of a particular transaction. For example, we could assign a 'mxAAA' rating to a transaction issued by an 'mxBBB-' subsovereign if the minimum DSCR fell within the higher range of the band. Alternatively, we could assign a rating in the 'mxAA' category if the minimum DSCR fell within the lower range of the band. Legal analysis 24. Standard & Poor's legal analysis generally includes a review of an independent legal opinion that addresses certain legal issues, including that the transaction is legally valid and complies with the applicable indebtedness laws, and that the transfer of tax participations to the SPV, together with the irrevocable notification, effectively isolates the assets from the credit risk of the subsovereign. Surveillance 25. Surveillance of tax participation transactions begins with a review of the information we receive from the trustee, common representative, or from the subsovereign entities. Standard & Poor's typically receives this information monthly or quarterly, depending on the debt service payment frequency. We monitor cash flows into rated trusts on a monthly basis to determine if changes in DSCRs would warrant a rating action. We also consider changes in the credit rating of the subsovereign entities, cash flow volatility, loan or security amortization and/or trigger events, and reserve fund balances in our rating analysis. Appendix 1: Description Of Assets: Federal Tax Participations 26. The Fiscal Coordination Law, which was established in 1978, regulates the tax revenue-sharing system of Mexican states and municipalities. The law established the General Participation Sharing Fund (GPSF), which is funded by 20% of the federal revenue eligible for revenue sharing (Recaudación General Participable) among the states. The GPSF is defined as the total tax revenues collected by the federal government plus oil and mining levies, minus some surtaxes and special taxes. Table 2 General Participation Sharing Fund TOTAL FEDERAL TAX REVENUES (MAINLY, INCOME TAX, AND VALUE-ADDED TAX) PLUS Oil and mining levies LESS Tax on the ownership or use of vehicles Tax on new cars A fraction of the tax on production and services on alcohol and tobacco 70% of the tax levied by municipalities to small size contributors Revenues the Federation levies by applying a rate higher than 15% to lottery and raffle winners TOTAL FEDERAL REVENUE ELIGIBLE FOR REVENUE SHARING TIMES 20% EQUALS The General Participation Sharing Fund 27. To be eligible for tax participation sharing, states and municipalities must join the National System of Fiscal Coordination by signing an agreement with the Ministry of Finance (Secretaría de Hacienda y Crédito Público; SHCP). Currently, all 32 Mexican states and their respective municipalities have joined the fiscal coordination system. States and municipalities receive tax participations every month. 28. Tax participation distribution among states is related to three main variables: 45.17% is distributed in direct proportion of the total population of the entity in the respective year; 45.17% is distributed based on the "Participation Coefficient" detailed in the third article of the Mexican Fiscal Coordination Law. This coefficient accounts for the tax collection efforts of every state and the amount of taxes collected in the two most recent years; and 9.66% is distributed in inverse proportion of the participations per habitant of every entity. 29. Every four months, the Federal Treasury recalculates the amount of revenue sharing to be distributed among the states according to the total tax amount collected in the four months before the adjustment date. States are required to distribute at least 20% of the flow they receive from the GPSF among their municipalities. Each state legislature has its own procedures and formulas for sharing tax participations among its municipalities. 30. Although states and municipalities receive relatively stable flows from the GPSF, there is no minimum amount the Federal Treasury must transfer to the states and municipalities. Due to the low volatility of the underlying variables, we do not expect any sudden shifts in the flows among states and municipalities. Long-term effects, such as population dynamics, consumption patterns, and tax rate changes, tend to be smoothened out and moderated by inflation, which increases the flows in nominal terms. However, distribution rules could, and have, changed over time. Such modifications must be proposed and approved in Congress. 31. Historically, distribution rule changes have not resulted in a significant or persistent negative impact to any particular entity. If they do, however, Standard & Poor's will review the impact of the changes to our criteria and to our outstanding ratings. Appendix 2: Legal Framework For Tax Participation Securitizations 32. The Mexican tax revenue transaction market began in 2001 when the country's Ministry of Finance established the parameters for states and municipalities (subsovereign entities) when issuing debt in the capital markets by using a SPV, such as a master trust, as mechanism to repay the debt obligations. The current legal framework allows states and municipalities (subsovereign entities) to issue debt and transfer revenues to SPVs to serve as the source of repayment of financial obligations (see chart 3). These transfers and issuances must comply with the Federal Law (article 117 of the Mexican Constitution) and with the applicable local debt laws, as well as other local and federal laws, depending of the type of revenue being securitized. 33. For example, a securitization backed by federal tax participations must meet the requirements of the fiscal coordination law, which states that tax participations can only be used as a guarantee for debt instruments with the authorization of the local legislatures (i.e., the state congress and the municipal councils). Likewise, state and municipal debt guaranteed by tax revenues must be registered, at the issuer's request, in the List of State and Municipal Debt (Registro de Obligaciones y Empréstitos de Entidades Federativas y Municipios) at the SHCP. Additionally, state and municipal debt guaranteed by tax revenues must be used exclusively to refinance debt in better terms than the original or to finance public productive investment or infrastructure. 34. Transactions should comply with the Mexican indebtedness legal framework. Among other things, the legal framework requires: A detailed authorization by the local legislatures to issue securitized debt (i.e., the state congress and the municipal councils). The authorization to issue the debt should include the type of financial obligation, amounts, terms, source of repayment, and the use of the proceeds. The debt must be registered with the local debt registry. In the case of federal tax participations, the debt needs to be registered at the SHCP's state and municipal debt registry. RELATED CRITERIA AND RESEARCH Principles of Credit Ratings, published Feb. 16, 2011. Counterparty And Supporting Obligations Methodology And Assumptions, published Dec. 6, 2010. In Mexico, Local Governments Turn To Future Tax Revenue Securitization To Free Up Funds, published Oct. 26, 2007. The Three Building Blocks of an Emerging Markets Future Flow Transaction Rating, published Nov. 16, 2004. These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.