



*Office of Inspector General  
Export-Import Bank  
of the United States*

# **Report on Transportation Portfolio Management Division's Risk Rating Process**

*Revised  
August 29, 2019  
OIG-EV-17-05*



MEMORANDUM

To: Kimberly A. Reed  
President and Chairman

From: Jennifer Fain  
Acting Inspector General

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Date: 2019.08.29 09:18:48 -04'00'

Subject: Reissuance of Final Evaluation Report, *Report on Transportation Portfolio Management Division's Risk Rating Process* (OIG-EV-17-05, dated August 30, 2017)

Date: August 29, 2019

I am writing to inform you that the attached final evaluation report, originally issued on August 30, 2017, was reissued on August 29, 2019. The report was revised to remove statements pertaining to two reports that were part of an independent limited scope review. The objective of the review was to determine whether the actions of a senior EXIM OIG official posed a conflict of independence and integrity. Specifically, the review focused on whether appropriate steps were taken to identify and mitigate the threats relating to the senior official during the evaluation.

Based on the results of the review, two reports and a letter were permanently removed from our website on August 26, 2019, and the subject final evaluation report was revised for reissuance. Statements in the attached report pertaining to EXIM OIG's withdrawn *Report on Portfolio Risk and Loss Reserve Allocation Policies* (OIG-INS-12-02, dated September 28, 2012) and revised *Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies* (OIG-EV-16-01, dated July 28, 2016) have been removed accordingly. If you have any questions or concerns, please do not hesitate to contact me at (202) 565-3439 or Courtney Potter at (202) 565-3976.

Attachments

- cc: Stephen Renna, Senior Vice President and Chief Banking Officer
- David Slade, Senior Vice President and General Counsel
- David Fogel, Senior Vice President and Chief of Staff
- Lauren Fuller, Senior Advisor to the President and Chairman
- Adam Martinez, Special Advisor to the President and Chairman
- Lisa Terry, Senior Vice President and Chief Ethics Officer
- Kenneth Tinsley, Senior Vice President and Chief Risk Officer
- Inci Tonguch-Murray, Acting Senior Vice President and Chief Financial Officer
- David Sena, Senior Vice President, Office of Board Authorized Finance
- James Burrows, Senior Vice President, Office of Small Business
- Courtney Potter, Deputy Assistant Inspector General for Audits and Evaluations, OIG
- Amanda Myers, Counsel, OIG

**MEMORANDUM**

To: Kimberly A. Reed  
President and Chairman

From: Jennifer Fain  
Acting Inspector General



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Date: 2019.08.26 15:18:03 -04'00'

Subject: Withdrawal of OIG-INS-12-01 (March 27, 2012) and OIG-INS-12-02 (September 28, 2012); and Letter to Chief Financial Officer (September 28, 2012)

Date: August 26, 2019

I am writing to inform you that the independent limited scope review of three EXIM OIG reports and a letter is complete. The objective of the review was to determine whether the actions of a senior EXIM OIG official posed a conflict with independence and integrity. Specifically, the review focused on whether appropriate steps were taken on the related projects to identify and mitigate the threats relating to the senior official. Based on the results of the review, we have permanently removed the following two reports and letter from our website:

1. *Report on Performance Metrics for Operational Efficiency Phase One* (OIG-INS-12-01, dated March 27, 2012)
2. *Report on Portfolio Risk and Loss Reserve Allocation Policies* (OIG-INS-12-02, dated September 28, 2012)
3. *Review of Portfolio Risk Mitigation Techniques* (Letter to Chief Financial Officer, dated September 28, 2012)

You should not place any reliance on the above listed reports and letter. The *Follow-up Report on Portfolio Risk and Loss Reserve Allocation Policies* (OIG-EV-16-01, dated July 28, 2016) is being revised for reissuance. If you have any questions or concerns, please do not hesitate to contact me at (202) 565-3439 or Courtney Potter at (202) 565-3976.

cc: Stephen Renna, Senior Vice President and Chief Banking Officer  
David Slade, Senior Vice President and General Counsel  
David Fogel, Senior Vice President and Chief of Staff  
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Amanda Myers, Counsel, OIG



*Office of Inspector General  
Export-Import Bank  
of the United States*

**Report on  
Transportation  
Portfolio Management  
Division's Risk Rating  
Process**

*August 30, 2017  
OIG-EV-17-05*

*The Export-Import Bank of the United States (EXIM Bank) is the official export credit agency of the United States. EXIM Bank is an independent, self-sustaining executive agency and a wholly-owned U.S. government corporation. EXIM Bank's mission is to support jobs in the United States by facilitating the export of U.S. goods and services. EXIM Bank provides competitive export financing and ensures a level playing field for U.S. exports in the global marketplace.*

*The Office of Inspector General, an independent office within EXIM Bank, was statutorily created in 2002 and organized in 2007. The mission of the EXIM Bank Office of Inspector General is to conduct and supervise audits, investigations, inspections, and evaluations related to agency programs and operations; provide leadership and coordination as well as recommend policies that will promote economy, efficiency, and effectiveness in such programs and operations; and prevent and detect fraud, waste, abuse, and mismanagement.*

*This evaluation was conducted in accordance with the 2012 Quality Standards for Inspection and Evaluation as defined by the Council of Inspectors General on Integrity and Efficiency. This report does not constitute a Government audit and therefore, it was not conducted following the Generally Accepted Government Auditing Standards (GAGAS).*



To: David Sena, SVP & Chief Financial Officer  
Kenneth Tinsley, SVP & Chief Risk Officer

From: Mark Thorum  
Assistant Inspector General, Inspections & Evaluations

Subject: Report on TPMD Portfolio Management Division's Risk Rating Process

Date: August 30, 2017

Attached please find the final evaluation Report on Transportation Portfolio Management Division's Risk Rating Process. The report outlines three recommendations for corrective action. On August 14, 2017, EXIM Bank provided its management response to a draft of this report, agreeing with the recommendations. We consider management's corrective actions to be responsive. The recommendations will be closed upon completion and verification of the implementation of those actions.

We appreciate the courtesies and cooperation extended to us during the evaluation. If you have any questions or comments regarding the report, please contact Mark Thorum at (202) 565-3939.

cc: Charles J. Hall, Acting President & Chairman  
Jeffrey Goetmann, EVP & Chief Operating Officer  
Michael McCarthy, Acting Inspector General  
Troy Fuhriman, Acting SVP & General Counsel  
Inci Tonguch-Murray, Deputy CFO  
Andrew Falk, VP TPMD  
Jennifer Fain, Deputy AIGIE  
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Cristopolis Dieguez, Director, Internal Controls and Compliance  
Goda McEachern, Business Compliance Analyst  
Daniel Wong, Inspector  
Liam Bresnahan, Financial Analyst  
Lisa A. Clark, Paralegal

Attachment: Report on TPMD Portfolio Management Division's Risk Rating Process, OIG-EV-17-05, August 30 2017

# EXECUTIVE SUMMARY

Evaluation Report TPMD Risk Rating Process  
OIG-EV-17-05, August 2017

## Why We Did This Evaluation

TPMD's mission is to reduce the likelihood of any default by a transportation portfolio obligor thereby minimizing any loss to the U.S. taxpayer. TPMD accomplishes this by proactively monitoring the Bank's transportation portfolio and actively managing post-operative matters. The scope of TPMD's portfolio is material, representing \$39.3 billion (49.5 percent) of the Bank's total exposure of \$79.3 billion as of March 31, 2017.

An accurate and timely portfolio risk rating process is critical to (i) the proper allocation of credit loss reserves, (ii) the achievement of EXIM Bank's mission and (iii) safeguarding taxpayer funds. OIG conducted this evaluation to ensure the TPMD BCL risk rating review process adheres to the above.

## What We Recommend

To further align current risk rating policies with leading practices, OIG recommends that EXIM Bank supplement the existing qualitative and quantitative approach to measuring credit risk for obligors by (i) introducing quantitative benchmarks for key risk metrics and adopting a consistent methodology for evaluating qualitative criteria; (ii) introducing standalone metrics to rate leasing companies and non-passenger airline obligors; and (iii) systematically introduce a risk-based approach to proactively identify inspection targets and incorporating results of inspections in risk rating reports.

## What We Found

OIG completed a review of the Transportation Portfolio Management Division's (TPMD) risk-rating policies and procedures. The objective of the review was to ascertain the level of credit analysis, methodology employed, and timeliness of the Budget Cost Level (BCL) risk rating review process for post-operative transactions and to assess the Export-Import Bank's (EXIM Bank or Bank) adherence to its policies and procedures, governmental guidelines, and leading practices.

OIG reviewed a sample of 24 obligors, representing a range of industries, borrowers and transaction types. In addition, OIG conducted interviews with external counsel, guaranteed lenders, aviation inspection and valuation firms, and an aircraft manufacturer to understand the application of TPMD's BCL risk rating policies and to ascertain leading practices in aircraft lending and credit evaluation.

OIG found that TPMD is generally adhering to the risk review and monitoring procedures outlined in current policy guidelines. OIG concluded that the risk rating reports were completed in a timely manner, address principal risks such as industry and country risks, and contain the required components such as covenant compliance, monitoring plans, and Character, Reputation and Transaction Integrity (CRTI) reports.

OIG compared TPMD's current credit risk review process to leading practices. Although the TPMD process broadly tracks those practices, OIG found some areas that should be addressed to ensure alignment. For example, whereas internal guidance provides quantitative metrics to assess key risks, it lacks benchmarks for individual risk factor ratings. Second, OIG found that a key EXIM Bank credit metric does not align with credit rating agency practices and that certain aspects of the Bank's qualitative framework resulted in inconsistencies within the rating process. As a result, the TPMD risk rating process is susceptible to non-replicability and inaccurate risk rating profiles.

In addition, EXIM Bank continues to use different risk rating models for the Transportation Division (origination) and TPMD (monitoring) and has not established a timeline for implementing recommendations contained in the 2015 S&P evaluation of the Bank's risk rating model. Lastly, OIG found that the Bank conducts aircraft inspections on an ad-hoc or as needed basis and that findings from aircraft inspections were not always fully integrated into TPMD risk rating reports.

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## ABBREVIATIONS AND GLOSSARY

Term	Description
AMS	The Asset Management System is the system of record for the Bank's obligors. It serves as a repository of key records including transaction profiles, rating reports, covenants, trip reports and key documents among others.
ASU	The 2011 Aircraft Sector Understanding provides a framework for the predictable, consistent, and transparent use of officially supported export credits. The 2011 ASU levels the playing field across the global aviation industry among manufacturers, airlines, and export credit agencies.
Bank or EXIM Bank	Export-Import Bank of the United States
BCL or Risk Rating	Budget Cost Level is a risk rating system of EXIM Bank that rates a transaction on a sliding scale of 1 (low risk) to 11 (high risk). The BCL rating determines loss reserves allocated by the Bank for a transaction.
Board	The Board of Directors, EXIM Bank, is responsible for approving all transportation transactions over \$10 million.
Board Memo or Memorandum	A memorandum submitted to the EXIM Bank Board as part of the process for approving a transaction for Bank support.
Buyer	Foreign buyer of U.S. capital goods or services
Cape Town	The Cape Town Convention on International Interests in Mobile Equipment is an international treaty that standardizes transactions involving movable property, such as aircraft, rail, and space equipment. The treaty includes international standards for sale contract registration, security interests, and leases.
CRTI	Character, Reputational and Transaction Integrity due diligence is a process initiated by EXIM Bank to vet transaction participants, which consists of analysis of companies and individuals to identify potential fraud, corruption and integrity risks associated with parties to a transaction.
DSCR	Debt Service Coverage Ratio
ECA	Export Credit Agency
EOL	EXIM Online serves as the platform for the Bank's AMS.
ERS	EXIM Bank Reporting System is a database that aggregates data on the Bank's obligors, transactions and exposures.
FY	Fiscal Year
ICRAS	The Interagency Country Risk Assessment System process involves the periodic assessment of the credit risk associated with U.S. credit assistance to foreign countries utilizing a confidential interagency process.
Loan Manual	EXIM Bank's Loan, Guarantee and Insurance Manual, which sets forth the policies and procedures for due diligence, structuring and monitoring of Bank transactions.

Term	Description
Obligor	The Borrower, an entity that is legally obligated to repay the EXIM Bank financing.
OECD	Organisation for Economic Co-operation and Development
OGC	Office of General Counsel, EXIM Bank
OIG	Office of Inspector General, EXIM Bank
Operative Date	The date that a transaction has satisfied all conditions precedent and is available for funding.
PSOR	Primary Source of Repayment
TPMD	Transportation Portfolio Management Division, EXIM Bank
Watch List	A list of EXIM Bank transactions that the Bank has determined to represent a low to moderate likelihood of impairment.

# EVALUATION REPORT ON TPMD’S RISK RATING PROCESS

## INTRODUCTION

The Office of Inspector General (OIG) completed a review of the Transportation Portfolio Management Division’s (TPMD) Budget Cost Level (BCL) risk-rating policies and procedures. The objective was to ascertain the level of credit analysis, methodology employed, and timeliness of the BCL risk rating review process for post-operative transactions and to assess the Export-Import Bank’s (EXIM Bank or Bank) adherence to its policies and procedures, governmental guidelines and leading practices. The OIG initiated the review as part of its annual work plan. Several factors motivated this evaluation:

- The size and scope of TPMD’s portfolio are material, representing about \$39.3 billion or 49.5 percent of the Bank’s total exposure of approximately \$79.3 billion as of March 31, 2017;
- An accurate and timely assessment of an obligor’s BCL risk rating is critical to (i) the proper allocation of credit loss reserves, (ii) the achievement of EXIM Bank’s mission and (iii) safeguarding taxpayer funds; and
- TPMD’s mission is to reduce the likelihood of any default by a transportation portfolio obligor thereby minimizing any loss to the U.S. taxpayer. TPMD accomplishes this by proactively monitoring the Bank’s transportation portfolio and actively managing post-operative matters.

## SCOPE AND METHODOLOGY

To achieve its objective, OIG selected a sample of 24 transactions from the TPMD portfolio. Using a hybrid sampling process, the transactions selected for review include a judgmental sample from the Bank’s Watch List, S&P Capital IQ Risk Solutions (S&P) Phase Two Outcome Testing Sample, and a random sample of transportation obligors by industry type.<sup>1</sup> The hybrid sample includes a mixture of loan types, transaction amounts, countries of origin, various BCL risk ratings, and a multitude of industries, covering 41.4 percent of TPMD’s overall exposure of \$39.3 billion. As of March 31, 2017, the TPMD portfolio represents about 49.5 percent of the Bank’s total exposure. See Appendix B for a list of the reviewed obligors. This review complements OIG’s earlier evaluation of EXIM Bank AMD’s risk rating procedures, OIG-EV-16-02, September 2016.<sup>2</sup>

The following evaluative criteria were used to assess the credit analysis and methodology of the Bank’s risk rating process for the sampled obligors:

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<sup>1</sup> For more information, see section “S&P Final Report on the Bank’s Risk Scoring Models” under Background.

<sup>2</sup> For more information on the Bank’s non-TPMD Portfolio, see EXIM Bank OIG’s *Report on the Asset Management Division’s Risk Rating Process* (OIG-EV-16-02, dated September 23, 2016) at [http://www.exim.gov/sites/default/files/oig/reports/AMD%20Final%20Report%20Redacted\\_0.pdf](http://www.exim.gov/sites/default/files/oig/reports/AMD%20Final%20Report%20Redacted_0.pdf).

- the timeliness of the credit reviews;
- the scope of the financial analysis and use of current macroeconomic, industry outlook, and other relevant sources of data;
- the validity and clarity of the risk rating models, including the qualitative and quantitative risk factors;
- the level of congruence of the BCL risk rating with external risk indicators such as public credit ratings when available;
- the replicability of the Bank’s risk rating methodology;
- the completion of Character, Reputational and Transaction Integrity (CRTI) process;
- the monitoring plan and subsequent follow ups;
- the aircraft inspection process; and
- the collateral used, and its value.

In undertaking its review, OIG accessed internal databases including the EXIM Bank Reporting System (ERS) and EXIM Online (EOL) to confirm that the required internal documents were available and current. Specific to EOL, OIG reviewed obligor risk rating reports from fiscal years (FY) 2014-2016. OIG reviewed the Bank’s assessment of obligor risk factors such as country risk, financial risk, operating risk, and management risk as prescribed by TPMD guidance. See Appendix C for more details on EXIM Bank’s risk rating reports. OIG also analyzed various internal documents pertaining to each transaction including board memos, inspection reports, financial statement metrics, financial projections, and public and open source documents. Finally, OIG reviewed S&P’s 2015 evaluation of the Bank’s BCL risk rating models. Although this report was informed by S&P’s analysis, OIG did not replicate S&P’s assessment of the Transportation Division’s and TPMD’s risk rating models in the evaluation of the 24 transactions. Moreover, S&P’s outcome testing, benchmarking or re-rating of the sample, was not repeated during this evaluation. Therefore, the results of the OIG’s analysis were limited to an evaluation of TPMD’s risk rating process.

OIG conducted a series of internal interviews with EXIM Bank divisions including the Office of Chief Financial Officer (OCFO), the Office of General Council (OGC), the Transportation Division, and TPMD to understand the Bank’s BCL risk rating process. OIG conducted external interviews to ascertain the leading practices observed by external council, lending institutions, including guaranteed lenders, aviation inspection and valuation firms, and an aircraft manufacturer. Finally, two points of inquiry directed the OIG’s focus and helped guide the evaluation.

### **Points of Inquiry**

**POINT OF INQUIRY 1: Is TPMD adhering to the risk review and monitoring procedures outlined in current policy guidelines?**

**POINT OF INQUIRY 2: Does the TPMD credit risk review process result in risk ratings that conform to leading practices?**

The OIG conducted this evaluation during fiscal year 2017 in accordance with the *Quality Standards for Inspection and Evaluation* issued by the Council of Inspectors General on Integrity and Efficiency.<sup>3</sup> Those standards require that the OIG plan and perform the evaluation to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on the evaluation objective. The OIG believes that the evidence obtained provides a reasonable basis for the findings and conclusions in this report.

## BACKGROUND

EXIM Bank is an independent federal agency that is a wholly-owned government corporation whose mission is to aid export financing to maintain or create U.S. jobs. The Bank's Charter authorizes it to engage in "general banking business."<sup>4</sup> Its core financing programs are direct loans, export credit guarantees, working capital guarantees, and export credit insurance. The Charter requires "reasonable assurance of repayment" for all EXIM Bank transactions, which are backed by the full faith and credit of the U.S. government. The Bank has functioned on a self-sustaining basis since FY 2008, covering its operational costs and provisioning for expected losses through loan loss reserves, funded by the fees and interest it charges its customers.

### Overview of the Transportation Portfolio

EXIM Bank's TPMD portfolio consists of transactions originated by the Transportation Division. The selected transactions include commercial and business aircraft, helicopters, locomotives, and transportation spare parts. TPMD is responsible for the management of a transaction after the credit is transferred from the Transportation Division.

The Bank's total TPMD portfolio exposure of \$39.3 billion is broken down by product as follows: commercial aircraft with airlines – 83.2 percent, commercial aircraft with lessors – 13.4 percent, locomotive – 2.0 percent, helicopters – 0.8 percent, and other – 0.5 percent. Within the TPMD portfolio, 8.7 percent of the exposure is sovereign while the remaining 91.3 percent of the exposure is non-sovereign.<sup>5</sup> The default rate for the TPMD portfolio has been historically low. For FYs 2014 and 2015, the default rate was 0.007 percent and in FY 2016, it was 0.014 percent.

### Civil Aviation Industry Background and Outlook

The air transport industry continues to expand around the world. Since 1995, world passenger air traffic has grown twice as fast as world gross domestic product (GDP)

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<sup>3</sup> For more information on the *Quality Standards for Inspection and Evaluation*, see <https://www.ignet.gov/sites/default/files/files/committees/inspect-eval/iestds12r.pdf>.

<sup>4</sup> For more information, see *The Charter of the Export-Import Bank of the United States* at [http://www.exim.gov/sites/default/files/2015\\_Charter\\_-\\_Final\\_As\\_Codified\\_-\\_02-29-2016.pdf](http://www.exim.gov/sites/default/files/2015_Charter_-_Final_As_Codified_-_02-29-2016.pdf).

<sup>5</sup> EXIM Bank designates a transportation transaction as "sovereign" when the financing includes a government guarantee.

growth.<sup>6</sup> Since 2015, the airline industry has been profitable due to several factors including low fuel prices, higher asset utilization, and higher capital productivity.<sup>7</sup> In the next 20 years, fleet numbers are expected to double and over 39,600 new planes will be needed to replace old aircraft and meet market growth.<sup>8</sup>

Over time, the magnitude of EXIM Bank aircraft financing has shifted with market conditions. Following the 2008-2009 world financial crisis, the Bank financed 27-30 percent of Boeing deliveries between 2009 and 2012.<sup>9</sup> Since then, the percentage of EXIM Bank financed Boeing deliveries have dramatically declined. Improved liquidity conditions have decreased demand for EXIM Bank financing. Additionally, the 2015 lapse in the Bank's authorization and the ongoing lack of a Board quorum since December 2015 have contributed to a decline in EXIM Bank's total portfolio, including TPMD exposure.

### **Airline Industry Risk Profile**

The airline industry is a cyclical and capital-intensive sector that is vulnerable to exogenous shocks. In addition to sector-based risks, an airline carrier's credit profile is determined by company specific qualitative and quantitative factors:

- Qualitative factors include an airline carrier's competitive strength, business mix, cost structure, and operating efficiency; and
- Quantitative or financial metrics typically address the airline carrier's operating margins, free cash flow, capital structure, and liquidity.

Finally, the value of the assigned collateral is a key consideration for aircraft financings.

### **Transportation Division Focuses on Transaction Origination**

EXIM Bank's Transportation Division origination practices are guided by internal policies on asset, credit, and legal risk. The Bank's practices are also framed by the Organisation for Economic Co-operation and Development (OECD) Aircraft Sector Understanding (ASU) agreement and the Cape Town Convention on International Interests in Mobile Equipment (Cape Town).<sup>10</sup>

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<sup>6</sup> For more information, see [https://www.icao.int/sustainability/Pages/Facts-Figures\\_WorldEconomyData.aspx](https://www.icao.int/sustainability/Pages/Facts-Figures_WorldEconomyData.aspx).

<sup>7</sup> For more information, see <http://www.iata.org/publications/economics/Reports/Presentations/FuelForum-BP-StPetersburg-May-2017.pdf>.

<sup>8</sup> For more information, see [http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/assets/downloads/cmo\\_print\\_2016\\_final.pdf](http://www.boeing.com/resources/boeingdotcom/commercial/about-our-market/assets/downloads/cmo_print_2016_final.pdf).

<sup>9</sup> For more information, see <http://www.boeing.com/company/key-orgs/boeing-capital/current-aircraft-financing-market.page>.

<sup>10</sup> For more information, see the OECD's *Sector Understanding on Export Credits for Civil Aircraft* (TAD/ASU (2011)1, dated September 1, 2011), available at [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=tad/asu\(2011\)1&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=tad/asu(2011)1&doclanguage=en) and the Cape Town Convention, available at <http://www.unidroit.org/instruments/security-interests/cape-town-convention>.

## Features of EXIM Transportation Transactions

EXIM Bank provides secured financing to the transportation sector. The Bank maintains a first-priority security interest in the aircraft as collateral and can remarket the aircraft upon an event of default and can exercise remedies, which may include aircraft repossession and subsequent disposition of the aircraft. Most of the Bank's TPMD portfolio is composed of asset-enhanced guarantees to lenders that provide the underlying loans.

Asset-enhanced financing allows the obligor to use collateral to improve the overall credit profile and financing terms of the transaction. Since aircraft are movable assets and the secondary market is robust, aircraft are valuable collateral. In addition, the useful life of a well-maintained commercial aircraft exceeds 20 years. Currently, the value of aircraft exceeds the value of such guaranteed transportation loans by 45 percent. As EXIM Bank guaranteed transportation loans have a tenor of 12 years or less, financed aircraft depreciate at a slower rate than the remaining loan balance. This results in a favorable loan to value (LTV) ratio and strengthens the lender's collateral position.

When the Bank finances aircraft, the financed aircraft are cross collateralized and cross default with other EXIM Bank financed debt. This ensures that assets used as collateral for one loan are also used as collateral for subsequent loans. When an obligor defaults on a cross collateralized loan, the Bank may exercise various remedies, including the liquidation of the obligor's other EXIM Bank financings.

### ***Aircraft Sector Understanding***

The 2011 ASU standardized the processes used by OECD countries and Brazil as a participant (non-OECD member) for aircraft financing.<sup>11</sup> The ASU highlights include standardization of obligor rating, transaction pricing, and risk mitigation techniques. Pursuant to the OECD ASU, the maximum tenor for an aircraft financing is 12 years.

All ASU signatories must agree to a proposed obligor rating at the time of origination. The proposed obligor rating is effective for two years. The obligor rating corresponds to a market-adjusted rate that adjusts on a quarterly basis. This adjustment of the ASU market rate ensures that export credit agency (ECA) pricing does not compete with private sector financing. Finally, each obligor risk rating corresponds to one of 8 risk categories. ASU also requires corresponding risk mitigants to be applied at each ASU risk category. Thus, aircraft transaction terms and conditions for OECD and Brazilian ECA financings are subject to similar rating, pricing, and use of risk mitigants.

### ***Cape Town Convention***

The 2006 Cape Town Treaty established an international legal framework for the creation, protection, enforcement, perfection, and priority of interests in aircraft, rail, and spacecraft.<sup>12</sup> The creation of international standards for transportation equipment registration and legal remedies for default, including repossession, was modeled on

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<sup>11</sup> Ibid.

<sup>12</sup> *Supra* note 10.

modern asset based finance practices and aimed to provide proper recourse to creditors in countries whose laws would otherwise not be creditor friendly. As of 2017, sixty-seven Contracting States including many countries in which EXIM Bank has completed aircraft financings, have ratified the Aircraft Protocol.<sup>13</sup>

### **TPMD Focuses on Post-Operative Portfolio Monitoring**

Upon disbursement, the Transportation Division transfers credits to TPMD for monitoring.

#### ***TPMD Credit Transfer Process***

Credits are transferred from the Transportation Division to TPMD once the following actions occur:

1. The transaction is made operative;
2. All transaction pre-closing requirements, such as Condition Precedents to Closing, have been resolved; and
3. The transaction has been fully disbursed.

When a transaction becomes operative and disburses, TPMD receives an email notification signifying the credit transfer. The Transportation Division turns over all applicable information to TPMD, including the disbursement memo, closing documents, and other relevant documentation.

#### ***TPMD Obligor Risk Rating Process***

TPMD manages and monitors specific transportation transactions and overall portfolio performance through the annual rating process on obligors. TPMD is responsible for managing transaction amendments and working with insurance advisors and consultants to ensure that the value of the collateral is maintained in accordance with the credit documentation.

Once a credit is transferred from the Transportation Division, TPMD is then responsible for rating the obligor on an annual or as needed basis. The report submission and approval are due on July 15 and August 31 of each year, respectively.

Obligor ratings and the rationale supporting ratings are documented in TPMD risk rating reports. TPMD rating reports consist of three parts: general risk factors, Primary Source of Repayment (PSOR) specific risk factors, and risk rating adjustments. Bank staff completes all elements of the TPMD rating report for sovereign transactions, but the BCL risk rating is based solely on a sovereign's ICRAS rating for country risk and any risk rating adjustments (e.g., collateral or guarantee by other ECAs). The BCL risk rating for non-sovereign transactions is based on a weighted average of general and PSOR-specific risk factors at 25 and 75 percent, respectively, plus any rating adjustments.

The general risk factors measure country and industry/competitive position risk. PSOR-specific risk factors are operating performance, liquidity, leverage, debt service coverage,

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<sup>13</sup> For more information, see Aircraft Protocol Status at <http://www.unidroit.org/status-2001capetown-aircraft>.

fleet/collateral, and management risk. Per internal guidance, TPMD staff evaluates each risk factor using historical financial data, country and industry information, consultant reports, site visits, and credit rating agency reports. Based on the evaluation, TPMD staff assigns a numerical rating from 1-11 to the specific risk factors (Risk Factor Grades). In addition, TPMD staff may include a 1-2 level BCL adjustment based on enhancements such as collateral or government support. The weighted average of all risk factors, plus rating adjustments result in the obligor’s BCL Risk Rating, ranging from 1-11.

TPMD reports also cover areas such as a monitoring plan, CRTI results, and include documentary attachments to support the rating rationale. See Appendix C for more details on the risk rating reports and the risk rating determination process. After a full rating report is issued, subsequent rating update reports are generally issued on an annual basis. If there are signs of obligor credit deterioration or a change in the country rating, a rating update report is issued on an as needed basis.

### **Prior Reviews of EXIM Bank’s Portfolio Risk and BCL Risk Rating Process**

This is the first evaluation of EXIM Bank’s TPMD BCL risk rating process by the OIG. Prior to this evaluation, the OIG conducted [REDACTED] a review of the Bank’s portfolio risk and loss reserve policies and an evaluation of the risk rating process utilized by the Bank’s Asset Management Division (AMD). In addition, EXIM Bank engaged S&P Capital IQ Risk Solutions (S&P) to review the Bank’s BCL risk rating models.

#### **EXIM Bank OIG Reports ([REDACTED] OIG-EV-16-01 and OIG-EV-16-02)**

In FY 2016, OIG conducted an evaluation of [REDACTED] the Bank’s portfolio risk and loss reserve policies issued on July 28, 2016 ([REDACTED] OIG-EV-16-01).<sup>14</sup> The 2016 evaluation [REDACTED] made eight [REDACTED] recommendations to which the Bank agreed to implement. Whereas the OIG’s 2016 evaluation was not specific to the TPMD BCL risk rating process, it identified opportunities for EXIM Bank to align further its risk management policies and procedures with leading practices. For example, to ensure conceptual soundness and consistency with leading practices identified by S&P in its review of the Bank’s financial models, OIG recommended that the Bank “. . . address recommendations put forth in the final report. . .” prepared by the credit rating agency (see below).<sup>15</sup> As of the date of this report, this recommendation and five others remain open.

In September 2016, OIG completed an evaluation of the risk rating process utilized by AMD for non-transportation related transactions (OIG-EV-16-02).<sup>16</sup> The report found that

<sup>14</sup> For more information, see [REDACTED]  
[REDACTED] EXIM OIG’s [REDACTED] Report on Portfolio Risk and Loss Reserve Allocation Policies (OIG-EV-16-01, dated July 28, 2016), available at <http://www.exim.gov/sites/default/files//oig/reports/Final%20%20Risk%20Management%20Report%20%28OIG-EV-16-01%29%20Redacted.pdf>.

<sup>15</sup> Ibid.

<sup>16</sup> *Supra* note 2.

although the division is generally adhering to its internal policies, additional improvements were needed to align AMD's current policies with leading practices. This review included five recommendations to enhance the Bank's monitoring procedures and risk rating analysis. Of the five recommendations, two related to the Bank's BCL risk rating models:

- Introduce quantitative benchmarks for key risk metrics including sector specific ranges whenever possible and re-evaluate these benchmarks on scheduled intervals.
- Adopt a consistent methodology for evaluating qualitative criteria. For example, Bank guidance should include a consistent methodology for rating adjustments due to levels of sovereign support and clear risk rating criteria for individual risk factors.

As of the date of this report, all five recommendations are closed.

### ***S&P Final Report on the Bank's Risk Scoring Models***

In FY 2015, EXIM Bank's Audit Committee engaged S&P to conduct an independent review of the Bank's risk scoring models. The review consisted of three phases performed sequentially. Phase One focused on a conceptual soundness and methodology review of the Bank's BCL risk rating system. Phase One also included an in-depth review of the airline risk rating model used by the Transportation Division and provided general commentary on the TPMD risk rating model. S&P Phases Two and Three benchmarked select EXIM Bank BCL risk ratings against ratings from S&P's credit assessment scorecards.

The applicable Phase One condensed findings for TPMD were as follows:

- Conceptual soundness model assessment found the TPMD Transportation Risk Model as somewhat aligned with leading practices
- The TPMD risk rating model does not align with the Transportation Division's risk rating model
- Although the TPMD model provides basic guidance and criteria for each risk factor, it lacks detailed, objective criteria
- There is a lack of documentation to support choice and weights of risk factors

The S&P Phase One condensed findings and recommendations for the Transportation Division were as follows:

- Conceptual soundness model assessment found the Transportation (Airline) Risk Rating Model as broadly aligned with industry practices
- Documenting the rationale for risk dimensions and scoring processes
- Completing additional qualitative assessments on factors such as: non-sovereign country risk, operating efficiency, capital structure, and financial policy
- Establishing customized criteria for rating freight carriers and commercial carriers
- Excluding external ratings and benchmarks from internal model consideration
- Not relying on obligor projections of future revenue and profit
- Establishing a sector-specific model for operating lessors

In Phases Two and Three, S&P's benchmark study concluded that EXIM Bank's Airline Risk Rating Model indicates a significant scoring bias to less conservative outcomes when compared to S&P's Credit Assessment Scorecard outcomes. S&P consolidated its review results for the three phases into one report, dated October 28, 2015.<sup>17</sup>

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<sup>17</sup> S&P Capital IQ Risk Solutions' *The Export-Import Bank of the United States Budget Cost Level Models Conceptual Soundness and Outcomes Testing Review Report*, dated October 28, 2015.

## PRINCIPAL FINDINGS AND RECOMMENDATIONS

This evaluation applies to TPMD's current risk rating policies and procedures and is guided by the two above-listed points of inquiry. For each point of inquiry, OIG provides applicable standards that are based on EXIM Bank policies and procedures, leading practices, risk rating criteria from credit rating agencies, and industry guidance.

OIG recognizes that the below findings and recommendations relate to the sample of 24 obligors we reviewed. The evaluation assessed the level of credit analysis, methodology employed, and timeliness of the TPMD BCL risk rating review process. OIG notes that the prior report on AMD's risk rating policies produced similar findings as it relates to the refinement of qualitative and quantitative risk metrics.<sup>18</sup> Finally, OIG notes that EXIM Bank management convened an interdivisional taskforce to determine whether and how prior S&P recommendations on internal risk scoring models should be implemented.

### Point of Inquiry 1: Is TPMD adhering to the risk review and monitoring procedures outlined in current policy guidelines?

#### Applicable Standards

OIG reviewed various Applicable Standards and focused on the following:

1. EXIM Bank procedures and risk rating guidance:
  - a. Guidelines for monitoring, post-operative requests, risk rating and reporting outlined in the Bank's *TPMD Policy Manual*;
  - b. Guidelines for credit transfer from the Transportation Division to TPMD for monitoring in Chapter 13 Aircraft Finance and guidelines for post-operative monitoring in Chapter 22 Post Operative Monitoring outlined in the Bank's *Loan, Guarantee and Insurance Manual* (Loan Manual), updated August 2016;
  - c. Risk rating templates, utilized for TPMD rating reports, dated September 2013;
  - d. Guidelines for using the various options for structuring aircraft financings outlined in the Transportation Division's *Tools in the Toolbox* memo, dated 2002; and
  - e. EXIM Bank enhanced monitoring procedures outlined in *Enhanced Monitoring Management* memo.

#### ***TPMD Policy Manual***

The TPMD Policy Manual is the primary document that outlines the division's guidelines for proactive management. The guidelines focus on monitoring of the financial condition of the various obligors, maintenance and condition of the mortgaged collateral, and actively

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<sup>18</sup> *Supra* note 2.

managing post-operative matters including amendments, waivers, consents, and restructurings. The TPMD Policy Manual is reviewed annually and updated as needed.

### ***Loan, Guarantee and Insurance Manual***

The Loan Manual documents the Bank's credit policies. It provides comprehensive guidance for transaction structuring and risk mitigation for different credit programs, including transportation financings. Chapter 13 of the Loan Manual includes the Transportation Division's transaction guidelines for financing locomotives and aircraft. The guidelines also cover spare parts, spare engines, and aircraft maintenance services. Chapter 22 outlines the process utilized by TPMD for post operative management (e.g., annual risk rating).

### ***TPMD Risk Rating Templates***

The TPMD risk rating template is designed to capture obligor and rating information on an annual or as needed basis. Each obligor is rated on the BCL scale using a weighted average of individual risk factors. In addition to risk rating, TPMD also utilizes the risk rating template to capture relevant information regarding the obligor, such as aircraft inspections, monitoring plans, covenant compliance, and EXIM Bank policy compliance, such as CRTI. Amendments and waivers are addressed separately within the Asset Management System (AMS). For more information on TPMD risk rating reports, see the Background section and Appendices C and D of this report.

### ***EXIM Bank's Enhanced Monitoring Guidelines***

TPMD conducts enhanced monitoring when the Bank deems transactions high-risk. A high-risk credit is a transaction that contains a BCL of 7 or higher and/or is deemed to be high risk due to circumstances surrounding the transaction or group of transactions that could deteriorate the credit. Transactions may be deemed high risk when circumstances surrounding the transaction or group of transactions deteriorate the credit. These transactions, per policy, require an enhanced monitoring plan (EMP). Circumstances that may trigger an EMP can be borrower-specific (e.g., missed payment) or non-borrower-specific (e.g., political violence). Circumstances that trigger an EMP may be temporary or long-term.

## **Finding 1: The OIG found that TPMD is generally adhering to the risk review and monitoring procedures outlined in current policy guidelines.**

OIG checked policy compliance in the following areas and the results were as follows:

- **Timeliness of credit reviews:** All credit reviews complied with reporting requirements. Specifically, of the 24 transactions reviewed, 100 percent were completed within the required reporting timeframe.
- **Identification and discussion of required risk factors:** All risk rating reports for the selected transactions included a qualitative discussion of the required risk factors.
- **Covenant compliance:** OIG did not detect any irregularities, aside from Finding 2C below. External interviewees have indicated to OIG that the Bank has been responsive to obligor compliance issues.

- Inclusion of CRTI reviews: All rating reports, where applicable, included a CRTI review.
- Inclusion of monitoring plans: The rating reports included monitoring plans. It appears that TPMD had initiated enhanced monitoring procedures when the circumstances were deemed necessary. For example, TPMD used enhanced monitoring procedures for transactions involving (b) (4), (b) (4), and (b) (4).
- Use of quantitative ratios: All rating reports in the sample included the suggested quantitative ratios for risk rating. Most quantitative ratios were accurately calculated, with a few irregularities within a small number of reports. These irregularities included missing numbers in Performance Risk sections (Load Factor, Yield = Revenue, Cost per Available Seat Mile/Kilometer) for some obligors. For example, the (b) (4) Risk Rating Report erroneously stated that the Revenue and Load Factor as 0.

Additionally, OIG reviewed the ratio calculations from the risk rating reports. OIG found one instance where the Debt Service Coverage ratio (DSCR) was miscalculated. (b) (4)

The incorrect interest expense figure increased the numerator, therefore increasing the DSCR from (b) (4). In this case, the miscalculation was not material as the rise in DSCR fell within the range of values for the transportation origination model. However, as the TPMD model does not provide a range in values for a specific rating category, OIG cannot directly estimate the impact of the ratio miscalculation. For more details on ratio ranges in TPMD, see Finding 2.

## **RECOMMENDATIONS**

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No recommendation is advised for this finding.

### **Point of Inquiry 2: Does the TPMD credit risk review process result in risk ratings that conform to leading practices?**

#### **Applicable Standards**

OIG reviewed various Applicable Standards and focused on the following:

1. EXIM Bank procedures and risk rating guidance:
  - a. Guidelines for monitoring, post-operative requests, risk rating and reporting outlined in the Bank's *TPMD Policy Manual*;
  - b. Guidelines for credit transfer from the Transportation Division to TPMD for monitoring in Chapters 13 Aircraft Finance and guidelines for post-operative monitoring in Chapter 22 Post Operative Monitoring outlined in the Bank's *Loan, Guarantee and Insurance Manual* (Loan Manual), updated August 2016;
  - c. Risk rating templates, utilized for TPMD rating reports, dated September 2013;

- d. Guidelines for using the various options for structuring aircraft financings outlined in the Transportation Division’s *Tools in the Toolbox* memo, dated 2002; and
  - e. EXIM Bank enhanced monitoring procedures outlined in *Enhanced Monitoring Management* memo.
2. Credit rating agency guidance:
- a. Conceptual soundness review of EXIM Bank risk rating systems (Phase One) and BCL validation (Phase Two & Three) outlined in S&P Capital IQ Risk Solutions’ *The Export-Import Bank of the United States Budget Cost Level Models Conceptual Soundness and Outcomes Testing Review Report*, October 28, 2015; and
  - b. Rating criteria for airlines, leasing companies, and transportation sector used by the principal credit rating agencies: S&P, Moody’s and Fitch Ratings.
3. Industry guidance on aircraft financings:
- a. OECD’s *Sector Understanding on Export Credits for Civil Aircraft* (2011 ASU), August 2011.

***EXIM Bank’s TPMD Procedures and Risk Rating Guidance***

See Point of Inquiry 1 above for a summary of the procedures and guidance.

***Credit Rating Agency Guidance***

Guidance for airlines, leasing companies, and the transportation sector is incorporated into the rating criteria used by the principal credit rating agencies: S&P, Moody’s, and Fitch Ratings.<sup>19</sup> The rating agencies review a range of issues that may impact a transportation obligor’s ability to make timely payments of principal and interest as well as the lender’s ability to recover past due amounts. Key rating drivers include age, technology and suitability of the aircraft, diversity of revenue including geographic mix, type of passenger (first, business and economy), route structure, company financial profiles, market position, service standards and country risks. The rating agencies assess many factors regarding the transportation industry specific elements of a deal, including operating margins across the industry, passenger demand, rates of capacity growth in areas of the world, and cost of fuel price. The metrics are standardized across the credit ratings agencies. When assessing leasing companies, credit rating agencies focus on factors specific to leasing companies, such as the quality of contractual agreements with the customers and liquidity of their aircraft and rail equipment. Per rating agency assessment, operating lease companies are rated on a different ratio range because lessors are structured as financial companies.

OIG also reviewed various industry reports prepared by commercial banks, rating agencies, and industry advisors to understand better the dynamics and risks specific to the aviation industry. Additional risks highlighted for airline companies included political risk,

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<sup>19</sup> For more information, see *Global Passenger Airlines Rating Methodology*, Moody’s, May 24, 2012; *Key Credit Factors: Criteria For Rating the Airline Industry*, S&P, October 22, 2010; *Key Credit Factors For The Transportation Cyclical Industry*, S&P, February 12, 2014; *Airlines Ratings Navigator Companion*, Fitch Ratings, March 9, 2015; *Key Credit Factors For The Operating Leasing Industry*, S&P, December 14, 2016.

inadequate maintenance, hub position, network scope, and airline alliances. Factors that determine the relative competitive position within the aviation industry include low fare position, market share vs market potential, passenger mix, frequent flyer programs and ancillary revenue.

#### ***Industry Guidance on Aircraft Financings***

The 2011 ASU provides a framework for predictable, consistent, and transparent use of officially supported export credits for the sale and lease of aircraft. For more information, see section “Aircraft Sector Understanding” under Background.

### **Finding 2: The TPMD credit risk review process broadly tracks leading practices. However, there are some areas of improvement consistent with leading practices that should be implemented.**

The OIG’s direct rating comparison at the obligor level is limited because the majority of transportation obligors in the OIG’s sample are not publically rated by credit rating agencies. OIG found that EXIM Bank’s country and parent company ratings, when applicable, are generally comparable to the ratings from the credit rating agencies.

In comparing the Bank’s BCL risk rating process with the rating agencies methodologies and industry practices, OIG observed several deviations from leading practices that taken together reduce the replicability of the risk rating outcome. The potential for rating misalignment is heightened for obligors that are unrated by credit rating agencies since the Bank’s utilization of external credit ratings as a useful reference point is limited. The differences in practices are detailed in the findings below.

### **Finding 2A: EXIM Bank’s internal guidance prescribes which metrics to use to determine individual risk factor ratings and provides a qualitative framework to assess risks. However, further refinements are needed for both quantitative and qualitative analyses to reflect leading practices.**

#### ***Use of Quantitative Metrics and Qualitative Framework in Leading Practices***

Credit rating agencies use a multidisciplinary approach to evaluate an obligor’s creditworthiness, incorporating both quantitative and qualitative factors. When assessing financial performance, credit rating agencies emphasize quantitative metrics, such as measures on the level and predictability of cash flow. To ensure that the financial results of global companies are consistent and comparable, credit rating agencies adjust quantitative metrics.

The qualitative component of the rating analysis focuses on factors that cannot be directly represented by quantitative ratios, such as an obligor’s region of operation, industry risk, competitive position, governance, sovereign/sponsor support, and the terms of agreement. Sector differences in assessing specific risk factors vary by differences in underlying business characteristics. A summary of what OIG found regarding the Bank’s use of quantitative metrics and qualitative framework follows.

**Issues with Quantitative Metrics***Lack of Benchmarks for Quantitative Metrics*

TPMD guidance generally does not provide specific numeric ranges for financial ratios associated with risk factor ratings. This might lead to inconsistencies in how key credit ratios are aligned with risk ratings. EXIM Bank guidance prescribes the use of key financial ratios, such as debt/net worth ratio or DSCR, as quantitative measures for leverage risk and debt service coverage risk, respectively. However, there is no guidance that correlates a numeric range for the ratios with each risk-rating level, which differs from the practices benchmarked at other agencies. Without specific guidance for numeric ranges, there is a lack of consistent alignment between a Borrower's actual financial ratios and respective BCL risk factor grades.

For example, TPMD's rating template prescribes the use of a debt/net worth ratio as the quantitative measure for leverage risk. Whereas the TPMD Policy Manual provides a broad description for each level of leverage risk factor grade, it does not provide specific numerical ranges or benchmarks for each risk factor grade.<sup>20</sup> Absent benchmarks, portfolio managers use the broad definitions to assess the level of risk, thereby increasing the risk of subjective interpretation and inconsistency across obligor ratings.

OIG found obligors with widely varying ratios receiving similar risk factor grades for leverage, and obligors with similar ratios receiving different risk factor grades for leverage. For example, in (b) (4), the Bank assigned a 7 risk factor grade for leverage risk to (b) (4) with a debt/net worth ratio of (b) (4). In contrast, the Bank assigned a 7 risk factor grade for leverage risk to (b) (4) with a debt/net worth ratio of (b) (4), the same risk factor grade despite a significant difference in leverage. Although the debt/net worth ratio of (b) (4) was ascribed a 7 risk factor grade, the ratio exceeded the range of ratios of other obligors whose leverage risk factor grade was rated between 8 and 11.

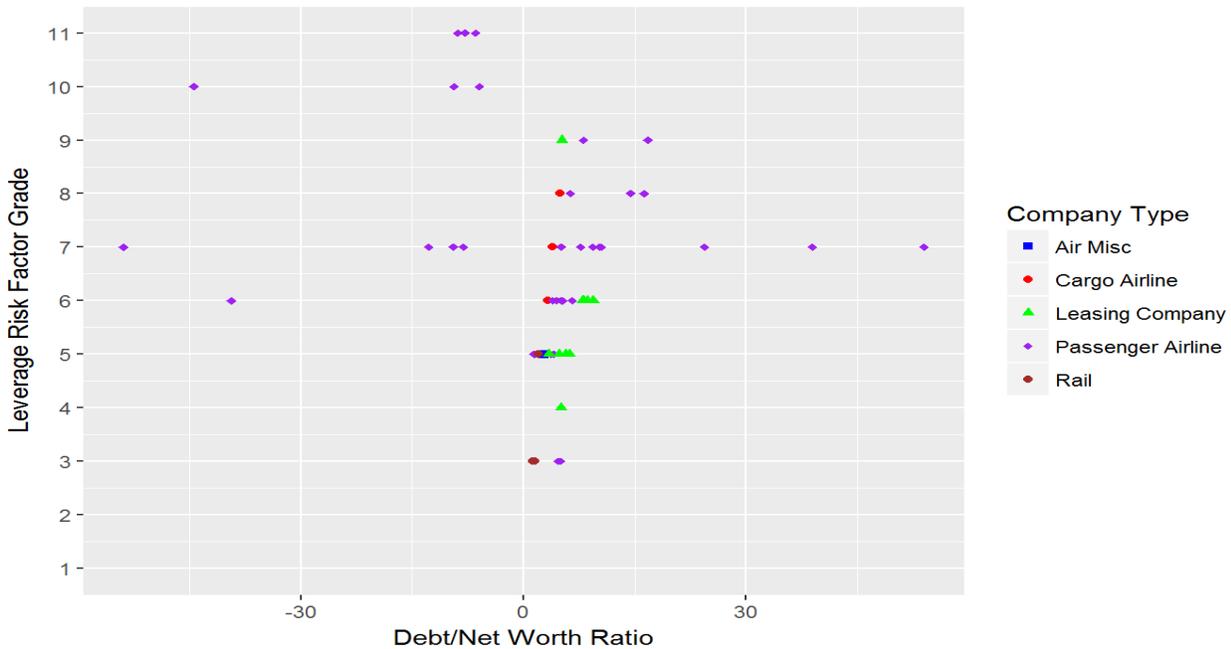
The extent of the potential misalignment is more evident at the level of the entire sample. As shown in Figure 1 below, there is a wide dispersion of ratios when mapped to the respective obligor's risk factor scores. Although the general guidance should produce higher risk ratings in cases where there is higher leverage or a lower DSCR, the expected trend is not evident, with several outliers as illustrated in Figure 1 (see other Figures in Appendix E). Depicted graphically, this relationship would typically produce a positive sloping curve beginning at the point of zero financial leverage and rising as the level of debt increased.

OIG observed that when the ratio was a clear outlier to the sample, as demonstrated in the above examples (e.g., (b) (4) and (b) (4)) ) OIG found that the individual rating reports did not provide sufficient qualitative explanations to justify the outlier's risk factor grade. Second, although each quantitative risk factor makes up at most 15 percent of the BCL risk rating, the lack of guidance between the ratio and risk factor grade makes the TPMD rating process susceptible to non-replicability.

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<sup>20</sup> EXIM Bank guidance notes that a leverage risk factor grade of "1 or 2" equates to very low leverage, "3 or 4" equates to low leverage, and so forth without guidance for numeric ranges.

**Figure 1: Debt/Net Worth Ratio vs. Leverage Risk Factor Grade**



may not reflect the value of the company as a going concern.<sup>22</sup> OIG found obligors with a negative debt/net worth ratio in 11 of the 72 TPMD rating reports from the selected sample, rendering this metric ineffective for assessing financial leverage.<sup>23</sup>

Concerning the selection of sector-based metrics, OIG found that many of the quantitative metrics in the TPMD risk rating reports focus primarily on the passenger airline industry. While the tracked metrics were effective in covering passenger airlines in the TPMD portfolio, the current metrics for non-passenger airline companies are not sufficiently covered. In contrast, OIG found that the Transportation Division reviewed key finance sector based metrics for leasing companies, such as capital adequacy ratios. In addition, leasing companies are traditionally rated by credit rating agencies using sector-based ratios from the finance sector, whose key ratios significantly differ from transportation sector based ratios.<sup>24</sup> The importance of the leasing company sector is illustrated by its increasing share of the global airline fleet—from 1.7 percent in 1980 to 39.4 percent in 2015.<sup>25</sup> Industry consensus is that leasing companies will continue to be a significant player in the sector for the near future.

The current metrics used to monitor the transportation portfolio are sufficient for passenger airlines but do not sufficiently represent other transportation companies, such as operating lessors, and to a lesser extent, freight airlines and railways. Because the current metrics used by TPMD to monitor the portfolio are specific to passenger airlines, TPMD does not capture sector-specific metrics that are pertinent to lessors, freight airlines, and railways. A potential effect of not using sector specific metrics is that the Bank may not accurately assess obligor risk profiles.

### ***Issues Within the Qualitative Framework***

#### *Lack of Benchmarks for Qualitative Metrics*

Similar to the above discussion on quantitative ratios, although the TPMD manual provides general guidance for qualitative factors associated with risk factor ratings, there are inconsistencies in how key sub-risk factors align with the associated risk ratings.

For example, the TPMD risk rating template prescribes experience and stability risk as the two sub-risk factors for the management risk factor grade. OIG found obligors with the same sub-risk factor ratings receiving widely different risk factor grades for management. To illustrate, in (b) (4), the Bank assigned a 3 risk factor grade for management risk to (b) (4) with an average key sub-risk factor of medium. In contrast, the Bank assigned a 10

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<sup>22</sup> In real life market scenarios, since equity owners are not liable to creditors, market value of any company has a floor of zero. The use of BV of equity as part of the leverage risk calculation can create a scenario that does not reflect the actual leverage of a firm.

<sup>23</sup> *Infra* Appendix E.

<sup>24</sup> For more information, see S&P's *Key Credit Factors for the Operating Leasing Industry*, December 14, 2016, available at [http://www.standardandpoors.com/en\\_US/web/guest/home](http://www.standardandpoors.com/en_US/web/guest/home).

<sup>25</sup> For more information, see International Air Transport Association's *Economic Chart of the Week*, October 7, 2016 at <https://www.iata.org/whatwedo/Documents/economics/chart-of-the-week-7-oct-2016.pdf>.

risk factor grade for management risk to (b) (4) with the same key sub-risk factor ratings. When the ratio was a clear outlier to the sample, OIG found that the individual rating reports did not provide sufficient qualitative explanations to justify the outlier's risk factor grade. The extent of the potential misalignment for management risk is evident at the level of the entire sample. Similar to the above discussion on quantitative ratios, OIG found that obligors with widely varying qualitative sub-risk factor ratings received similar risk factor grades for management. For more information, see Appendix E. The effect of misalignment is that the management risk component, as included in the written analyses, cannot be uniformly compared to the management risk rating sub-risk factors.

*Lack of Precise Guidance within Paired Risk Ratings*

The risk factors rating scale ranges from 1 to 11, from the lowest to highest risk. The Bank's guidance for assigning these ratings are grouped in pairs, i.e., risk ratings 1&2, 3&4, 5&6, 7&8, and 9&10. This approach of grouping ratings with the same guidance makes the assignment of a specific rating unclear.

**Finding 2B: EXIM Bank has not established a timeline for implementing the 2015 S&P recommendations.**

OIG interviews with the Transportation Division and TPMD staff disclosed that EXIM Bank established a working group to review S&P's recommendations.<sup>26</sup> However, Bank staff indicated that there are potential roadblocks in implementing the S&P recommendations. Further, the Bank does not agree with all of the recommendations and lacks the necessary resources to implement the recommendations that the Bank agrees with. For example, S&P recommended that the Bank implement a single modeling system for the Transportation Division and TPMD. EXIM Bank staff indicated that the Bank intends to implement this recommendation, but the single model system must be created, tested, and calibrated. At the time of this report, the above-mentioned uniform model has no set timeline for implementation. The Bank notes further that the OCFO has a review and sign off process in place to ensure BCL concordance for all new transactions. However, when S&P assessed EXIM Bank's model methodologies, it observed the largest level of difference in methodologies between the Transportation Division's origination model and the TPMD model. The lack of a single integrated financial model may lead to disparate rating outcomes between the two divisions and the improper allocation of loss reserves.

In a prior evaluation report (OIG-EV-16-01), OIG made a recommendation to EXIM Bank to address the recommendations put forth in S&P's final report on the Bank's BCL models and outcomes testing.<sup>27</sup> EXIM Bank management agreed to the recommendation. Although OIG is not making a formal recommendation in this report, the Bank should establish a timeline for implementing the S&P recommendations, such as the unification of the Transportation Division and TPMD risk rating models. For S&P recommendation(s) that EXIM Bank

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<sup>26</sup> *Supra* note 17.

<sup>27</sup> *Supra* note 14.

disagrees with, the Bank should provide an explanation as to why the recommendation(s) is not suitable for the Bank.

**Finding 2C: EXIM Bank conducts aircraft inspections on an ad-hoc or as needed basis. TPMD rating reports do not fully integrate findings from aircraft inspections.**

OIG interviews with EXIM Bank staff and external participants indicated that the Bank is currently conducting aircraft inspections only on obligors with signs of credit deterioration. One external participant, an aircraft evaluation firm, commented that EXIM Bank's inspection plan is similar to other ECAs, but differs from that of direct lenders or operating lessors, which periodically conduct routine, scheduled aircraft inspections.

(b) (4) The Bank's aircraft inspections are outsourced to aircraft inspection experts. The cost of an inspection is fully covered by the obligor.<sup>28</sup> The initial inspection process focused on in-person visual checks of the aircraft and review of aircraft maintenance records. Used aircraft values are strongly correlated with the completeness of maintenance records. When core maintenance records are missing or incomplete, obligors must complete the unrecorded maintenance to restore the full aircraft value. If significant issues are found during the inspection process, EXIM Bank may request additional work by the aircraft inspectors. The additional work may include a review of the airline's organizational structure, oversight of a maintenance program overhaul, and on-ground security to protect maintenance records, parts, and aircraft.

While EXIM Bank has not experienced significant losses in its transportation portfolio, interviews with external participants indicated that poor records management and jurisdiction restrictions affect collateral value within the aircraft sector.<sup>29</sup> For example, there are jurisdictions where issues of unapproved repairs, parts cannibalization, grounded planes, and poor record keeping are particularly prevalent and have resulted in impaired aircraft values. Some jurisdictions, such as Russia and India, have governmental restrictions on aircraft inspections, which delay inspection starting dates (e.g., up to three months).

OIG observed one instance within the sample in which the results of the aircraft inspection report were not fully integrated into the TPMD risk rating report. (b) (4)

inspection report found five issues related to the condition of multiple aircraft and potential events of default concerning the airline's obligations under its legal

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<sup>28</sup> There is typically one set of EXIM Bank transaction documents per Bank financed application number, with supplementing documentation being executed on a per aircraft basis. The Bank's credit agreement generally allows for one inspection per year paid for by the obligor.

<sup>29</sup> As mentioned earlier, the default rate for the TPMD portfolio has been historically low. In FYs 2014 and 2015, the default rate was 0.007 percent and in FY 2016, it was 0.014 percent.

agreements. In addition, there was no discussion in the (b) (4) TPMD rating report on the potential impact of devaluation of EXIM Bank aircraft due to a 1 BCL upgrade for collateral value.

## **RECOMMENDATIONS**

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OIG recommends that EXIM Bank:

1. For TPMD, similar to recommendation 3 in the *OIG's Report on the Asset Management Division's Risk Rating Process*:<sup>30</sup>
  - Introduce quantitative benchmarks for key risk metrics, including transportation sector specific ranges whenever possible, and re-evaluate the use of specific benchmark and benchmarks ranges on scheduled intervals. Provide explanations to justify data outliers when rating differs.
  - Adopt a consistent methodology for evaluating qualitative criteria. For example, Bank guidance should include a consistent methodology for rating consistency between BCL risk factor grades and risk ratings as well as clear risk rating criteria for individual risk factors.
2. Introduce standalone financial metrics to rate leasing companies in the TPMD portfolio given the growing importance of leasing companies in the sector. Along the same lines, evaluate use of current metrics for non-passenger airline obligors such as cargo airlines and railroad companies.
3. Systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports.

### **Management Response:**

See Appendix A, Management Response and OIG Evaluation.

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<sup>30</sup> *Supra* note 2.

## CONCLUSION

An accurate and timely portfolio risk rating process is critical to (i) the proper allocation of credit loss reserves, (ii) the achievement of EXIM Bank’s mission, and (iii) the safeguarding taxpayer funds. OIG found that TPMD generally adheres to its internal BCL risk-rating policies and procedures. OIG determined that risk rating reports were completed in a timely manner, addressed principal risks such as industry and country risks, and contained the required components such as covenant compliance, CRTI and, when needed, enhanced monitoring reports.

OIG found that TPMD’s risk rating process largely tracks leading practices but found some areas of improvement that need to be addressed to better align with those practices. For example, although internal guidance provides quantitative metrics to assess key risks, it lacks benchmarks for individual risk factor ratings. OIG also found that the lack of precision with certain aspects of the Bank’s qualitative framework resulted in inconsistencies within the risk rating process. As a result, the TPMD risk rating process is susceptible to non-replicability and inaccurate obligor risk rating profiles.

In addition, OIG confirmed that EXIM Bank continues to use different risk rating models for the Transportation Division (origination) and TPMD (monitoring) and has not established a timeline for implementing the prior recommendations contained in the 2015 S&P evaluation of the Bank’s risk rating models. Lastly, OIG found that the Bank conducts aircraft inspections on an ad-hoc or as needed basis and that findings from inspections were not always fully integrated into TPMD risk rating reports.

This evaluation produced several recommendations for TPMD, including: (i) to refine metrics for both the quantitative and qualitative factor analyses, (ii) to introduce standalone financial metrics for leasing companies, and (iii) to systematically integrate the findings from aircraft inspection reports into TPMD risk rating reports.

## APPENDICES

### APPENDIX A: MANAGEMENT RESPONSE AND OIG EVALUATION



*Reducing Risk. Unleashing Opportunity.*

August 14, 2017

Michael McCarthy  
Acting Inspector General  
Office of the Inspector General  
Export-Import Bank of the United States  
811 Vermont Avenue, NW  
Washington, DC 20571

Dear Mr. McCarthy,

Thank you for providing the Export-Import Bank of the United States (“EXIM Bank” or “the Bank”) management with the Office of the Inspector General’s (“OIG”) “Report on EXIM Bank’s Transportation Portfolio Management Division’s Risk Rating Process,” dated July 25, 2017 (the “TPMD report”). Management continues to support the OIG’s work which complements the Bank’s efforts to continually improve its processes. EXIM Bank is proud of the strong and cooperative relationship it has with the OIG.

EXIM Bank appreciates the OIG finding that “TPMD’s risk rating process largely tracks leading practices.” Additionally, the Bank values that the OIG acknowledges that TPMD “adheres to its internal BCL risk-rating policies and procedures.” Further, EXIM appreciates OIG’s determination “that risk rating reports were completed in a timely manner, addressed principal risks such as industry and country risks, and contained the required components such as covenant compliance, CRTI and, when needed, enhanced monitoring reports.”

EXIM Bank notes that EXIM has not made a determination on any of the noted S&P findings and is currently evaluating all S&P findings.

The Bank continuously strives to improve its policies and practices and agrees to all three OIG recommendations in this report.

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OIG recommends that EXIM Bank:

Recommendation 1:

- Introduce quantitative benchmarks for key risk metrics, including transportation sector specific ranges whenever possible, and re-evaluate the use of specific benchmark and benchmarks ranges on scheduled intervals. Provide explanations to justify data outliers when rating differs.
  
- Adopt a consistent methodology for evaluating qualitative criteria. For example, Bank guidance should include a consistent methodology for rating consistency between BCL risk factor grades and risk ratings as well as clear risk rating criteria for individual risk factors.

Management Response: The Bank agrees with this recommendation. TPMD will introduce quantitative benchmarks for key risk metrics and re-evaluate the use of specific benchmark ranges on scheduled intervals. Additionally, TPMD will adopt a consistent methodology for evaluating qualitative criteria. TPMD will incorporate these changes into the division's guidance.

Recommendation 2: Introduce standalone financial metrics to rate leasing companies in the TPMD portfolio given the growing importance of leasing companies in the sector. Along the same lines, evaluate use of current metrics for non-passenger airline obligors such as cargo airlines and railroad companies.

Management Response: The Bank agrees with this recommendation. TPMD will introduce standalone financial metrics to rate leasing companies in the TPMD portfolio and update its guidance accordingly.

Recommendation 3: Systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports.

Management Response: The Bank agrees with this recommendation. TPMD will systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports. TPMD will update its guidance accordingly.

We thank the OIG for your efforts to ensure the Bank's policies and procedures continue to improve, as well as the work you do with us to protect EXIM funds from fraud, waste, and

abuse. We look forward to strengthening our working relationship and continuing to work closely with the Office of the Inspector General.

Sincerely,



Charles J. Hall  
Chairman of the Board of Directors and President (acting)

## OIG Evaluation

On August 14, 2017, EXIM Bank provided its management response to a draft of this report, agreeing with the three recommendations. The response identified the Bank's actions to address the recommendations. OIG considers the Bank's actions sufficient to resolve the reported recommendations, which will remain open until OIG determines that the agreed upon corrective actions are completed and responsive to the reported recommendations. The Bank's management response to the reported recommendations and OIG's assessment of the response are as follows:

### RECOMMENDATION 1

**Recommendation 1:** Introduce quantitative benchmarks for key risk metrics, including transportation sector specific ranges whenever possible, and re-evaluate the use of specific benchmark and benchmarks ranges on scheduled intervals. Provide explanations to justify data outliers when rating differs.

Adopt a consistent methodology for evaluating qualitative criteria. For example, Bank guidance should include a consistent methodology for rating consistency between BCL risk factor grades and risk ratings as well as clear risk rating criteria for individual risk factors.

**Management Response:** The Bank agrees with this recommendation. TPMD will introduce quantitative benchmarks for key risk metrics and re-evaluate the use of specific benchmark ranges on scheduled intervals. Additionally, TPMD will adopt a consistent methodology for evaluating qualitative criteria. TPMD will incorporate these changes into the division's guidance.

**Evaluation of Management's Response:** Management's actions are responsive; therefore, the recommendation is resolved and will be closed upon completion and verification that the actions have been implemented.

### RECOMMENDATION 2

**Recommendation 2:** Introduce standalone financial metrics to rate leasing companies in the TPMD portfolio given the growing importance of leasing companies in the sector. Along the same lines, evaluate use of current metrics for non-passenger airline obligors such as cargo airlines and railroad companies.

**Management Response:** The Bank agrees with this recommendation. TPMD will introduce standalone financial metrics to rate leasing companies in the TPMD portfolio and update its guidance accordingly.

**Evaluation of Management's Response:** Management's actions are responsive; therefore, the recommendation is resolved and will be closed upon completion and verification that the actions have been implemented.

### RECOMMENDATION 3

**Recommendation 3:** Systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports.

**Management Response:** The Bank agrees with this recommendation. TPMD will systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports. TPMD will update its guidance accordingly.

**Evaluation of Management’s Response:** Management’s actions are responsive; therefore, the recommendation is resolved and will be closed upon completion and verification that the actions have been implemented.

Table 1: Summary of Management’s Comments on the Recommendations				
Rec. No.	Corrective Action: Taken or Planned	Expected Completion Date <sup>31</sup>	Resolved: Yes or No <sup>32</sup>	Open or Closed <sup>33</sup>
1	The Bank will introduce quantitative benchmarks for key risk metrics and re-evaluate the use of specific benchmark ranges on scheduled intervals. Additionally, TPMD will adopt a consistent methodology for evaluating qualitative criteria. TPMD will incorporate these changes into the division's guidance.	No target completion date provided	Yes	Open
2	The Bank will introduce standalone financial metrics to rate leasing companies and non-passenger airline obligors in the TPMD portfolio and update its guidance accordingly.	No target completion date provided	Yes	Open
3	The Bank will systematically introduce a risk-based approach to proactively identify inspection targets, set routine inspection timeframes, and fully incorporate results of inspections in risk rating reports, with updates to the Bank’s inspection guidance accordingly.	No target completion date provided	Yes	Open

<sup>31</sup> EXIM Bank OIG has requested target completion dates for each of the outstanding recommendations.

<sup>32</sup> “Resolved” means that (1) Management concurs with the recommendation, and the planned, ongoing, and completed corrective action is consistent with the recommendation; or (2) Management does not concur with the recommendation, but alternate action meets the intent of the recommendation.

<sup>33</sup> Upon determination by the EXIM Bank OIG that the agreed-upon corrective action has been completed and is responsive to the recommendation, the recommendation can be closed.

## APPENDIX B: LIST OF REVIEWED OBLIGORS

Table 2: Obligor Selection List				
#	Obligor	Exposure as of March 31, 2017	Country	Risk Class

(b) (4)

Source: EXIM Bank, Exposure as of March 31, 2017

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(b) (4)

## APPENDIX C: DESCRIPTION OF TPMD RATING REPORT AND RISK FACTORS

**Table 3: TPMD Rating Report Sections and Descriptions**

Section	Description
(b) (5)	

Source: TPMD Policy Manual

Table 4: TPMD Risk Rating Model Template Risk Factors and Weights			
Risk Factor	Definition of Risk Factor and Sub-Factors Listed on Template	Scoring Scale	% of Total Weight

(b) (5)

Source: TPMD Policy Manual

## **APPENDIX D: TPMD RISK RATING CHART**

(b) (5)

(b) (5)

Source: TPMD Policy Manual

## APPENDIX E: FINANCIAL RATIOS AND RESPECTIVE RISK FACTOR GRADES

Figure 2: DSC Ratio vs. DSC Factor Grade

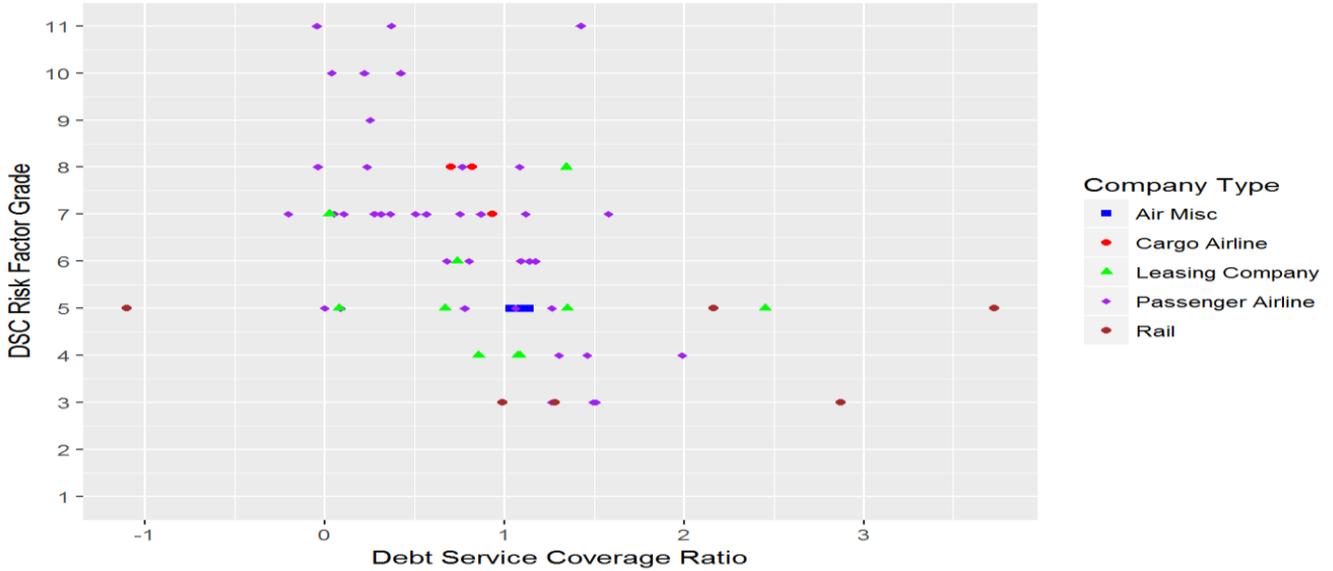
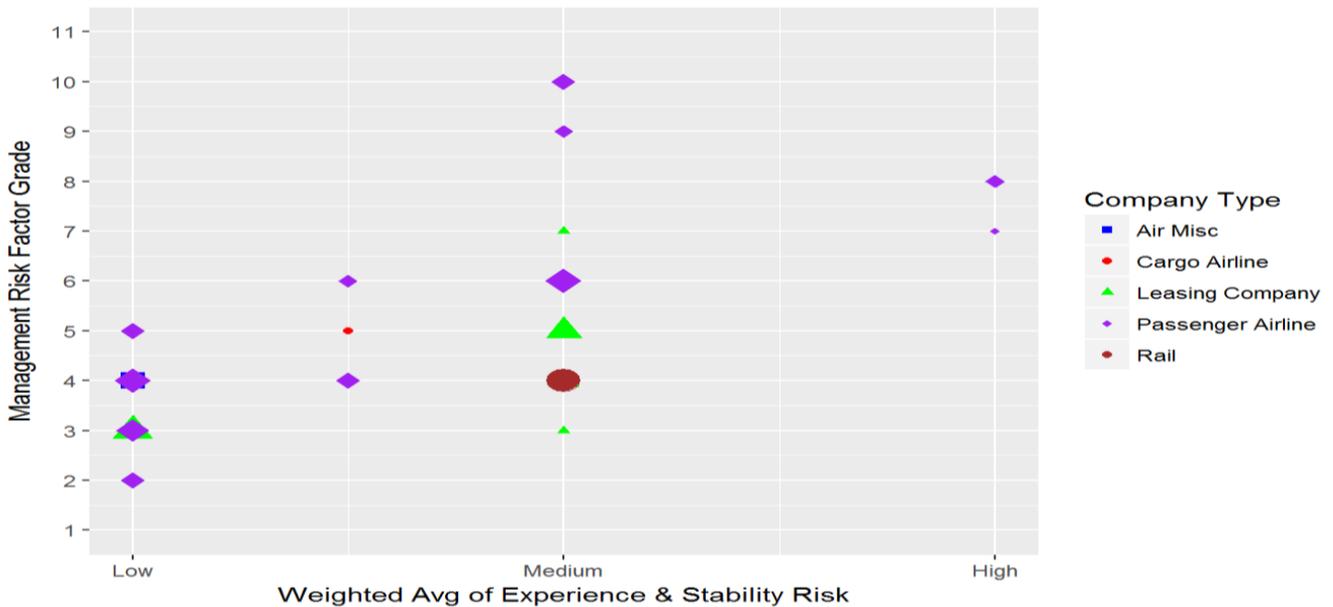


Figure 3: Experience & Stability Risk vs. Management Risk Factor Grade



Source: Information based on all TPMD 2014- 2016 risk rating reports in OIG’s sample

## **ACKNOWLEDGEMENTS**

This report was prepared by the Office of Inspections and Evaluations, Office of Inspector General for the Export-Import Bank of the United States. Several individuals contributed to this report including Daniel Wong, Inspector, Liam Bresnahan, Financial Analyst, Lisa Clark, Paralegal, and Mark Thorum, AIGIE.

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