OFFICE OF INSPECTOR GENERAL
EXPORT-IMPORT BANK
of the UNITED STATES

Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies

July 28, 2016
OIG-EV-16-01

The Export-Import Bank of the United States ("Ex-Im Bank") is the official export-credit agency of the United States. Ex-Im Bank is an independent, self-sustaining executive agency and a wholly-owned U.S. government corporation. Ex-Im Bank's mission is to support jobs in the United States by facilitating the export of U.S. goods and services. Ex-Im 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 Ex-Im Bank, was statutorily created in 2002 and organized in 2007. The mission of the Ex-Im 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").

OFFICE OF INSPECTOR GENERAL
EXPORT-IMPORT BANK *of the* UNITED STATES

To: David Sena, Senior Vice President & Chief Financial Officer
Ken Tinsley, CRO (Acting) & SVP Credit & Risk Management

From: Mark Thorum
Assistant Inspector General, Inspections & Evaluations

Subject: Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies

Date: July 28, 2016

Attached please find the final evaluation Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies. The report outlines eight recommendations for corrective action. On July 22, 2016, Ex-Im Bank provided its management response to a draft of this report, agreeing with the 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 successfully implemented. A redacted version of this report will be posted on the OIG website shortly.

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.

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Attachment: Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies: OIG-EV-16-01, July 28, 2016

EXECUTIVE SUMMARY

Follow-up Report on Portfolio Risk and Loss Reserve Allocation Policies
OIG-EV-16-01, July 2016

Why We Did This Report

We completed a follow-up review in regard to recommendations made to Ex-Im Bank pertaining to OIG's September 2012 report, "Portfolio Risk and Loss Reserve Allocation Policies" (OIG-INS-12-02). The 2012 report determined that Ex-Im Bank should improve its internal risk management policies and procedures and proposed seven recommendations to enhance the risk management framework of the Bank in line with best practices. The current report is intended to assess Ex-Im Bank's actions to address the reported findings and to provide new recommendations and guidance to further align its risk management policies and procedures with industry best practices.

What We Recommend:

OIG has proposed eight new recommendations to support several key initiatives:

- Mitigate portfolio concentration risk through the implementation of soft portfolio limits and risk sharing as provided for in the 2015 Reauthorization Act.
- Complete the independent assessment of the Bank's financial models and further refine its risk dashboard, ensuring independent oversight of the review process.
- Further develop internal risk management procedures and the reporting of risk management data to better inform management and key stakeholders.

What We Found

Since the publication of OIG's September 2012 report, Ex-Im Bank has made important progress in strengthening its risk management processes and governance framework. The Bank's Enterprise Risk Committee ("ERC") adopted several new policies including a Financial Model Risk Management and Governance Policy, a Risk Appetite Statement, a Portfolio Risk Mitigation Policy, and protocols for portfolio stress testing. These policies provide high level guidance to improve the Bank's risk management architecture. Second, the Bank initiated an independent assessment of the credit loss factor ("CLF") model and the Budget Cost Level ("BCL") risk rating models. Third, in response to OIG's prior recommendation to formulate soft portfolio sub-limits, the Bank engaged an external party to construct a portfolio risk dashboard that allows Bank staff to view current exposures by region, industry, credit rating and counterparty type.

OIG recommends that Ex-Im Bank take additional steps to further align its risk management policies and procedures with industry best practices. For example, although the Bank has adopted the use of soft portfolio limits, it should develop more specific criteria, metrics and policies for managing risks of concentration of exposure in industry sectors or single obligors. Additionally, although the portfolio risk dashboard provides a useful tool to aggregate portfolio exposures, further refinements are required to enhance its effectiveness as a risk management tool.

Concerning the independent review of the Bank's CLF model, OIG found that the scope of the assignment did not allow for a full assessment of the Bank's application of the model, the reasonableness of the overall loss reserve process and the calculation of the dollar loss reserve amount. Similarly, the full assessment of the BCL risk rating models was completed on only two of the 11 models used by the Bank. OIG also found that the aggregation, assessment and reporting of risk management data can be streamlined, more transparent and more timely. Finally, although the Bank recently announced that it would implement top down portfolio stress testing twice a year, additional sector based stress testing would allow management to proactively address changing industry and macroeconomic conditions and inform the Bank's risk appetite and the need for risk mitigation.

For additional information, contact the Office of Inspector General at (202) 565-3908 or visit http://www.exim.gov/about/oig.

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ABBREVIATION AND GLOSSARY

Term	Description
ALLL	Allowance for Loan and Lease Losses
Bank or Ex-Im Bank	Export-Import Bank of the United States
BCBS	Basel Committee on Banking Supervision
BCL	Budget Cost Level ("BCL") is a risk rating system of Ex-Im Bank that rates a transaction on a sliding scale of one (low risk) to 11 (high risk). The BCL rating determines loss reserves that will be allocated by the Bank for the transaction.
CLF	Credit Loss Factors
CPC	Credit Policy Committee, Ex-Im Bank
CRO	Chief Risk Officer, Ex-Im Bank
COSO	Committee of Sponsoring Organizations of the Treadway Commission
Economic Capital	Economic capital ("EC") is the amount of risk capital that a bank estimates in order to remain solvent at a given confidence level and time horizon. Economic capital is a function of market risk, credit risk and operational risk.
ECA	Export Credit Agency
ERC	Enterprise Risk Committee, Ex-Im Bank
FCRA	Federal Credit Reform Act of 1990
FDIC	Federal Deposit Insurance Corporation
Federal Reserve	The Board of Governors of the Federal Reserve System
FY or FYE	Fiscal Year or Fiscal Year End
IACPM	International Association of Credit Portfolio Managers
ICRAS	Interagency Country Risk Assessment System
LGD	Loss Given Default
LNG	Liquefied Natural Gas
MD&A	Management's Discussion and Analysis of Results and Operations
Notes	Notes to the Financial Statements
OCC	Office of the Comptroller of the Currency
OCFO	Office of the Chief Financial Officer, Ex-Im Bank
OECD	The Organisation for Economic Co-operation and Development
OIG	Office of Inspector General, Ex-Im Bank
OMB	U.S. Office of Management and Budget
PD	Probability of Default
PI	Predictor Interval
Risk Appetite	The overall level and types of risk an organization is willing to accept in order to

Term	Description
	achieve expected goals and strategic objectives, given its risk capacity, and the expectations of its stakeholders.
Risk Appetite Framework	The risk appetite framework ("RAF") is the overarching approach or framework for establishing and monitoring all material risks of the organization. The framework may include risk appetite statements, risk policies, risk limits, processes, controls and systems.
Risk Appetite Statement	The risk appetite statement ("RAS") is a summary of the aggregate levels and types of risks an organization is willing to accept in order to achieve its business objectives.
Risk Capacity	The maximum level of risk the firm can assume before it reaches regulatory and stakeholder constraints (e.g., minimum capital thresholds, liquidity).
Risk Limits	The allocation of an organization's risk appetite statement to specific risk categories (e.g., credit, market, liquidity), line of business concentration limits,
RMC	Risk Management Committee, Ex-Im Bank

INTRODUCTION

We completed a follow-up review regarding the recommendations made to the Export-Import Bank of the United States ("Ex-Im Bank" or "Bank") in the Office of Inspector General's ("OIG") evaluation report on the Bank's portfolio risk and loss reserve policies issued in September 28, 2012.[1] OIG's 2012 report identified several areas needing improvement with respect to the Bank's current loss reserve allocation and portfolio risk management policies and proposed seven key recommendations to strengthen the Bank's risk management framework. We initiated the review as part of our annual work plan.

The *Export-Import Bank Reform and Reauthorization Act of 2015* ("the Reauthorization Act" or "Act") established a Risk Management Committee ("RMC") of the Board of Directors and the management position of Chief Risk Officer ("CRO"), and assigned specific duties to those offices related to the risk management architecture and governance of the Bank. The Act also requires OIG to evaluate the Bank's portfolio risk management procedures and the implementation of the duties assigned to the CRO and to submit a written report with its findings to Congress no later than December 4, 2016.[2]

The current report is intended to assess Ex-Im Bank's actions to address the reported findings and recommendations in the OIG's September 2012 report and to provide new recommendations and guidance for the Bank to further align its risk management policies and procedures with industry best practices. To comply with the statutory requirement of the Reauthorization Act, OIG will issue another report in December 2016 evaluating the Bank's progress in implementing the risk management provisions of the Act.

SCOPE AND METHODOLOGY

To achieve our objective, we undertook a series of internal and external interviews to understand the application of the Bank's current policies and to ascertain the best practices observed by peer institutions including foreign export credit agencies ("ECAs"), other U.S. government agencies, and multilateral financial institutions. We interviewed management and staff from several Ex-Im Bank divisions including the Office of Chief Financial Officer ("OCFO), the Credit Policy Committee ("CPC") and members of the Enterprise Risk Committee ("ERC") to gain an understanding of the Bank's efforts to address the seven recommendations contained in the 2012 report. We discussed the status of our open recommendations and the follow-up review with the U.S. Government Accountability Office ("GAO").

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[1] See Ex-Im Bank OIG's *Report on Portfolio Risk and Loss Reserve Allocation Policies* (OIG-INS-12-02, dated September 28, 2012), available at http://www.exim.gov/sites/default/files//oig/reports/EIB_Report_Final_Complete_Web-pdf-uploaded-via-Bulk-Upload-at-ts-2012-07-17-15-40-50.pdf.

[2] See the *Export-Import Bank Reform and Reauthorization Act of 2015*, included in "Division E—Export-Import Bank of the United States" of the "FAST Act," which became public law on December 4, 2015 (Pub. L. No. 114-94) at https://www.congress.gov/114/bills/hr22/BILLS-114hr22enr.pdf.

OIG's external interviews comprised two distinct phases. Phase one interviews included external consultants that had completed independent reviews of the Bank's financial models and portfolio risk exposures. In doing so, our objective was to better understand the scope of work completed by these entities as well as their findings and recommendations. Phase two consisted of interviews with a select group of peer institutions including foreign ECAs, multilateral financial institutions and professional organizations. Our objective was to research best practices among peer financial institutions and to benchmark current Ex-Im Bank practices against those best practices. In addition, the OIG participated in the drafting and follow up discussion of a survey on risk management best practices conducted by the International Association of Credit Portfolio Managers ("IACPM").[3]

We also reviewed extensive supporting documentation to determine the measures taken by Ex-Im Bank management to implement the seven recommendations. This included a review of the Bank's written policies and procedures, a review of the supporting documents and analysis, etc. In addition, we reviewed the 2015 Reauthorization Act. We performed our review at the Bank's main location in Washington, DC. We conducted the follow-up review in accordance with the *Quality Standards for Inspection and Evaluation* issued by the Council of the Inspectors General on Integrity and Efficiency.[4] The standards require the Ex-Im Bank OIG, as appropriate, to follow-up and ensure recommendations made to the Bank are adequately considered and agreed-on corrective actions are fully and properly implemented.

BACKGROUND

The Export-Import Bank is an independent federal agency and 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," except that of currency circulation.[5] 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 Ex-Im 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 fiscal year 2008, covering its operational costs and provisioning for expected losses through loan loss reserves, funded by the fees and interest it charges its customers.

As a U.S. federal agency, the Bank is subject to risk management guidelines deriving from its Charter, federal legislation, Congressional mandates, and the Office of

[3] For more information, see http://www.iacpm.org/dotAsset/69825.pdf.

[4] For more information on the *Quality Standards for Inspection and Evaluation,* see https://www.ignet.gov/sites/default/files/files/iestds12.pdf.

[5] 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.

Management and Budget ("OMB"). Additional guidance is provided in prior reports from the GAO and the federal accounting standards. Support for the portfolio risk mitigation function derives from several sources including:

- Broad banking authority: Section 2(a)(1) of the Export-Import Bank Act of 1945 (the Act) confers broad banking authority to Ex-Im Bank.[6]
- Reasonable provisions for losses: The Act requires the Bank to make reasonable provisions for losses. This is also addressed in OMB Circular A-11.[7]
- The Federal Credit Reform Act ("FCRA") of 1990:[8] FCRA directs policies used for the allowance for loan and lease losses ("ALLL") – originally referred to as the reserve for bad debts. ALLL is a valuation reserve established and maintained by charges against operating income. It is an estimate of uncollectable amounts used to reduce the book value of loans and leases to the amount that a bank expects to collect.
- OMB guidance: OMB Circular A-129 directs agencies to analyze and control the risk and costs of their programs and to benchmark against current market practices.[9] OMB Circular A-123 defines Management's Responsibility for Enterprise Risk Management and Internal Control.[10]

With the passage of the 2015 Reauthorization Act, the Bank's Charter was renewed for an additional four-year period. Additional provisions included in the Act that relate to risk management follow below. Please see Appendix C for a more in depth discussion.

1. An aggregate exposure cap of $135 billion for each fiscal year ("FY") from 2015 to 2019, providing the Bank's default rate remains below 2 percent.
2. A new requirement that the Bank "build to and hold in reserve" an amount not less than 5 percent of the "aggregate amount of disbursed and outstanding loans, guarantees and insurance of the Bank."
3. Establishes an Office of Ethics in the Bank.

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[6] Export Import Bank Act of 1945, 12 U.S.C. § 635 (2006).

[7] For more information, see https://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/a11_2015.pdf.

[8] See the Federal Credit Reform Act of 1990, included in Title XIII, "Sec. 13201. Credit accounting" of the "Omnibus Budget Reconciliation Act of 1990," which became public law on Nov 5, 1990 (Pub. L. No. 101-508) at http://thomas.loc.gov/cgi-bin/query/F?c101:1:./temp/~c101v6C3ee:e1995277.

[9] For more information, see https://www.whitehouse.gov/sites/default/files/omb/assets/a129/rev_2013/pdf/a-129.pdf.

[10] For more information, see https://www.whitehouse.gov/sites/default/files/omb/memoranda/2016/m-16-17.pdf.

4. Establishes a CRO who shall "oversee all issues relating to risk within the Bank; and report to the President of the Bank."
5. Establishes a Risk Management Committee of the Board of Directors, to replace the Bank's Audit Committee.
6. Authorizes a pilot program to share risks under the Bank's loan, guarantee, and insurance programs. The aggregate amount of liability the Bank may transfer through risk-sharing may not exceed $10 billion in any fiscal year.

Key Risks

As an export credit agency, Ex-Im Bank faces a diverse spectrum of risks

As explained in Table 1 below, Ex-Im Bank faces a diverse spectrum of risks including credit risk, portfolio concentration risk, market risk, and operational risk. In addition, the Bank faces emerging risk trends and a challenging economic environment in several key sectors. The following is a summary of the key risks and emerging risk trends the Bank faces in 2016.

Table 1: Key Risks

Key Risk	Relevance for Ex-Im Bank
Credit Risk: Risk that an obligor may not have sufficient funds to repay its debt or may be unwilling to pay even if sufficient funds are available.	Ex-Im Bank uses several metrics to measure Credit Risk including the weighted average Budget Cost Level ("BCL") risk rating and the aggregate amount of impaired, non-accruals and defaulted credits.
Country or Political Risk: Risk that payment is not made to Ex-Im Bank, its guaranteed lender, or insured party. May result from the expropriation of the obligor's property, war, or inconvertibility of the obligor's currency into US $.	Ex-Im Bank provides financing to borrowers in over 100 countries with varying levels of governance, transparency and economic stability.
Portfolio Concentration Risk: Risk of the credit portfolio composition as opposed to risks related to specific obligors.	Ex-Im Bank's exposure is concentrated by regions: Asia (25.7%) and Latin America (18.4%) and by industry: air transportation (48%), manufacturing (16%), and oil and gas (15.6%). Approximately 27% of the portfolio is linked to global commodity sectors. Borrower concentrations are also significantly high with the Bank's 10 largest exposures totaling $30.9 billion or 30.3 percent of total exposure in FY 2015. Of the top 10, exposure to individual obligors ranges from 52 percent to 168 percent of total reserves at FYE 2015.
Market Risk: Risk of loss related to a decline in value arising from the volatility of the financial and commodity markets. Market risk is determined in part by an entity's exposure to adverse changes in interest rates, commodity prices,	Ex-Im Bank extends financing to a variety of international projects and foreign borrowers active in key commodity sectors including minerals, mining, oil and gas and liquefied natural gas ("LNG"). Global market conditions in these commodity-based sectors deteriorated in 2015 and into the first quarter of 2016, resulting in further downward pressure on credit quality. Foreign currency volatility may

Table 1: Key Risks	
Key Risk	**Relevance for Ex-Im Bank**
and foreign exchange prices.	lead to project cost overruns and/or increase the amount of local currency required to service dollar denominated debt.
Operational Risk: Risks related to inadequate internal processes, systems, and financial models; control deficiencies and human error. Operational risks span the entire operations of the entity. Examples include improper payments, internal fraud, the misapplication of financial models and data, etc.	Ex-Im Bank faces operational risks in several key areas arising from a shortage of human capital (attrition and hiring freeze during the lapse), prior rapid growth in the Bank's balance sheet, fragmented databases and the use of certain internal financial models that are not broadly aligned with industry best practice methodologies.
Integrity and Reputational Risks: Risks related to possible fraud, corruption and lack of adherence to international environmental and social standards. Those risks may result in significant monetary loss and undermine Ex-Im Bank's programs and reputation.	Ex-Im Bank faces potential losses arising from fraudulent and corrupt activities, integrity and reputational risks and the potential adverse environmental effects of goods and services financed by the Bank. In addition, Ex-Im Bank is subject to OECD's "Common Approaches," which are intended to ensure consideration of the environmental effects of projects on a consistent basis among the major ECAs.
Enterprise Risk: Enterprise risk can be defined as the interaction of the full range of risks inherent in the core business activities, across the entire agency.	Ex-Im Bank must consider how the key risk areas identified above may interact, especially in times of U.S. or worldwide economic distress.

Prior Reports on Portfolio Risk and Loss Reserve Policies

OIG's review of Ex-Im Bank's risk management policies was driven in large part by the Bank's significant asset growth over the five-year period 2006 through 2011, Congressional interest and questions about the adequacy of policies regarding portfolio risk measurement and mitigation. Separately, the Export-Import Bank Reauthorization Act of 2012 required GAO to analyze the Bank's Business Plan, growth in business and the effectiveness of its risk management policies.[11]

Ex-Im Bank OIG Report (OIG-INS-12-02)

On September 28, 2012, Ex-Im Bank OIG issued its report entitled, *Report on Portfolio Risk and Loss Reserve Allocation Policies*.[12] The purpose of the OIG's 2012 evaluation was to

[11] For more information, see *Export-Import Bank Reauthorization Act of 2012* at http://www.gpo.gov/fdsys/pkg/PLAW-112publ122/pdf/PLAW-112publ122.pdf. Pub. L. No. 112-122, 126 Stat. 357 (2012).

[12] *Supra* note 1.

determine whether the Bank's loss reserve and portfolio risk management policies were sufficiently robust to support its long-term growth objectives, while providing an adequate cushion for future credit losses. To this end, the specific objectives were to (1) review and assess the Ex-Im Bank's loss reserve allocation and portfolio risk measurement policies in light of the Bank's rapid asset growth, balance sheet-trends, and the challenging economic environment; (2) review portfolio risk management best practices adopted by foreign ECAs, U.S. federal agencies, multilateral financial organizations, and private sector financial institutions and benchmark these best practices against the Bank's policies procedures; and (3) highlight the areas where Ex-Im Bank performance departs from portfolio risk management best practices and to provide specific recommendations for future action.

The evaluation determined that Ex-Im Bank should strengthen its loss reserve methodology and forecasting model as well as it risk management governance framework. Specifically, seven recommendations for corrective action were made for the Bank to address five findings:

- Ex-Im Bank lacks a systematic approach to identify, measure, price, and reserve for its portfolio risk (Finding A);
- Ex-Im Bank lacks formal policies and procedures for its loss reserve forecasting model which clearly define roles and responsibilities and provide for independent validation of the model's integrity (Finding B);
- Ex-Im Bank does not conduct portfolio stress testing in a systematic manner to assess potential exposures under challenging economic conditions (Finding C);
- Ex-Im Bank does not self-impose portfolio concentration sub-limits either by industry, geography, or asset class as internal guidance to inform management on risk and determine exposure fees in new transactions (Finding D); and
- Ex-Im Bank's current risk management framework and governance structure are not commensurate with the size, scope, and strategic ambitions of the institution (Finding E).

The Bank's management responses and status updates to the OIG's 2012 evaluation report are included in Appendix B. As of the date of this report, all seven of the prior recommendations were addressed by the Bank and are closed.

GAO Report (GAO-13-303) Export-Import Bank

On March 28, 2013, GAO issued its report entitled, *Export-Import Bank: Recent Growth Underscores Need for Continued Improvements in Risk Management*.[13] The Export-Import

[13] See GAO's *Export-Import Bank: Recent Growth Underscores Need for Continued Improvements in Risk Management* (GAO-13-303, dated March 28, 2013) report, available at http://www.gao.gov/assets/660/653373.pdf.

Bank Reauthorization Act of 2012 required GAO to conduct an evaluation of the Bank's growth in business and the effectiveness of its risk management.[14]

GAO made a total of four recommendations to Ex-Im Bank's Chairman to improve the Bank's internal risk processes:

> "We recommend that the Chairman of the Export-Import Bank of the United States take the following four actions:
>
> - To help improve the reliability of its loss estimation model, Ex-Im should assess whether it is using the best available data for adjusting loss estimates for longer-term transactions to account for global economic risk.
> - To conduct future analysis comparing the performance of newer and older business and to make future enhancements to its loss estimation model, Ex-Im should retain point-in-time, historical data on credit performance.
> - To help Congress better understand the financial risks associated with Ex-Im's portfolio, Ex-Im should report its stress test scenarios and results to Congress when such information becomes available.
> - To help manage operational risks stemming from Ex-Im's increased business volume, Ex-Im should develop workload benchmarks at the agency wide and functional area levels, monitor workload against these benchmarks, and develop control activities for mitigating risks when workloads approach or exceed these benchmarks."[15]

As of the date of this report, all four of the recommendations made by GAO have been implemented by the Bank and are closed.

GAO Report (GAO-13-620) Export-Import Bank

On May 30, 2013, GAO issued an additional report entitled, *Additional Analysis and Information Could Better Inform Congress on Exposure, Risk, and Resources*.[16] The Export-Import Bank Reauthorization Act of 2012 required GAO to conduct an evaluation of the Bank's Business Plan and analyses.[17] In writing the report, GAO's objectives were (1) to examine the extent to which the Business Plan and analyses of the Export-Import Bank justify bank exposure limits; (2) to evaluate the risk of loss associated with the increased exposure limit, changing composition of exposure, and compliance with congressional mandates; and (3) to analyze the adequacy of Ex-Im Bank resources to manage

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[14] *Supra* note 11.

[15] *Supra* note 13.

[16] See GAO's *Additional Analysis and Information Could Better Inform Congress on Exposure, Risk, and Resources* (GAO-13-620 dated May 30, 2013) report, available at http://www.gao.gov/assets/660/654925.pdf

[17] *Supra* note 11.

authorizations and to comply with congressional mandates. GAO made a total of four recommendations to improve the accuracy of Ex-Im Bank's forecasts of exposure and authorizations:

"To provide Congress with the appropriate information necessary to make decisions on Ex-Im's exposure limits and targets, we recommend that the Chairman of the Export-Import Bank of the United States take the following four actions:

To improve the accuracy of its forecasts of exposure and authorizations, Ex-Im should

- Compare previous forecasts and key assumptions to actual results and adjust its forecast models to incorporate previous experience; and
- Assess the sensitivity of the exposure forecast model to key assumptions and authorization estimates and identify and report the range of forecasts based on this analysis.

To help Congress and Ex-Im management understand the performance and risk associated with its sub portfolios of transactions supporting the small business, sub-Saharan Africa, and renewable energy mandates, Ex-Im should routinely report financial performance information, including the default rate and risk rating, of these transactions at the sub portfolio level.

To better inform Congress of the issues associated with meeting each of the bank's percentage-based mandated targets, Ex-Im should provide Congress with additional information on the resources associated with meeting the mandated targets."[18]

As of the date of this report, all four of the recommendations made by GAO are closed.

[18] *Supra* note 16.

RESULTS OF FOLLOW-UP REVIEW

Report On Portfolio Risk and Loss Reserve Allocation Policies (OIG-INS-12-02, September 28, 2012)

The following section outlines the reported findings and recommendations contained in OIG's 2012 report on portfolio risk and loss reserve allocation policies as well as an assessment of the corrective actions taken by Ex-Im Bank. In addition, the Report provides new recommendations and guidance for the Bank to further align its risk management policies and procedures with industry best practices.

2012 Evaluation Report – Recommendation 1

In the 2012 report, OIG concluded that Ex-Im Bank had not systematically identified and measured portfolio risk factors in its loss reserve models.

Finding A: Ex-Im Bank lacks a systematic approach to identify, measure, price, and reserve for its portfolio risk.

To address this concern, OIG recommended the following:	**1.** Ex-Im Bank should develop a systematic approach to identifying, measuring, pricing, and reserving for portfolio risk, including the identification of appropriate qualitative risk factors to account and reserve for such risk. Ex-Im Bank should incorporate these factors into its loss allowance analysis both retrospectively and prospectively. The former will ensure that Ex-Im Bank has properly reserved for existing exposure while the latter will address future exposure. **Status – Closed and New Recommendations.**

Assessment of Corrective Actions – Recommendation 1

In accordance with the Federal Credit Reform Act ("FCRA") Ex-Im Bank is required to estimate expected losses over the life of a transaction. As such, the Bank allocates reserves to cover estimated losses at the time of authorization and again during the annual re-estimate process. As part of this exercise, the Bank develops credit loss factors for its programs and submits them to the Office of Management and Budget ("OMB") for review and approval.[19] The loss factors are primarily based on the Bank's historical loss experience but Ex-Im Bank may selectively incorporate qualitative risk factors as part of the estimated credit loss factors.

[19] The loss factors seek to measure the various factors that affect the collectability of the portfolio or transaction.

Pursuant to OIG's recommendation, the Bank identified various qualitative adjustments that addressed model risk, portfolio concentration risk and global economic risk. As part of an OMB-approved pilot, the qualitative adjustments were then incorporated into the 2012 credit loss re-estimate process and required an additional reserve allocation of approximately $565 million. This amount was received from Treasury in FY 2013, pursuant to the re-estimate process.[20] OMB later informed the Bank that the use of portfolio concentration as a qualitative risk factor to modify the loss provision would be inconsistent with FCRA. As a result, the Bank discontinued the practice of establishing qualitative reserves for portfolio concentration as an addition to the reserves calculated for each individual credit.[21]

In FY 2013, Bank management identified the rapid growth of the long-term guarantee and direct loan programs as a potential risk factor that warranted additional loss reserves. Specifically, during the period from 2008 to 2012, the Bank's long-term-guarantee and direct loan programs witnessed a three-fold increase in annual authorizations (see Figure 1 below)[22] The underlying rationale for the additional reserves was that rapid loan growth may contribute to greater operational risk, leading to higher loan losses than the level suggested by empirical data derived from a normal growth period.

OMB opined that FCRA allowed the Bank to reserve for the risks associated with the rapid growth of the Bank's portfolio in prior years, as the future loss may differ from the historical loss on similar credits. Working together with OMB, the Bank created a qualitative factor that would help quantify this risk. The factor draws on the historical correlation between rapid balance sheet growth and an increase in expected losses as observed in various empirical studies.[23] In accordance with this analysis, Bank staff created an additional qualitative reserve equal to 40 percent of the Credit Loss Factors

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[20] OIG understands that Ex-Im Bank received approval from OMB on September 25, 2012, to implement the revised credit loss factors for use in its model for the FY 2015 Budget.

[21] Although OMB guidance does provide agencies certain flexibility to consider how qualitative risk factors may result in different loss outcomes from historical benchmarks, it argues that the use of a qualitative reserve factor for portfolio concentration is inconsistent with FCRA because "concentration raises the chance that the portfolio will experience either particularly high or particularly low levels of losses, without changing the mean, or expected, loss." OMB Letter to Ex-Im Bank dated November 7, 2013.

[22] In contrast, Ex-Im Bank staff grew at a modest 11 percent, resulting in a disproportionately higher workload for staff and greater operational risk. Although Ex-Im Bank has since added 59 positions to its staffing plan, it was generally unable to fill new positions or increase its workforce through the end of FY 2015, due to employee attrition and a hiring freeze prompted by the lapse in the Bank's authorization. This operational risk of human capital management continues to be a concern, and the OIG reported it as a top management challenge facing the Bank in FY 2016.

[23] For example, see Foos, Daniel and Weber, Martin and Norden, Lars, "Loan Growth and Riskiness of Banks," *Journal of Banking and Finance*, 34 (2009): 2929-2940, http://ssrn.com/abstract=1045001. The authors found that prior abnormal loan growth has a positive and highly significant influence on subsequent loan losses with a lag of two to four years.

("CLF") reserves allocated to the long-term guarantee and direct loan programs each year from FYs 2013-2015. In addition, the qualitative reserve for long-term aircraft transactions was increased from 40 to 95 percent in FY 2013, due to the addition of several large aircraft financings that year. Consequently, the weighted average increase in reserves for long-term transactions increased from 40 to 68 percent in FY 2013. In FY 2014, the qualitative reserve for long-term aircraft was reduced to the 40 percent level in line with the long-term non aircraft exposure.

In addition to the above qualitative reserve, the Bank implemented a minimum loss rate of 0.5 percent as a proxy for certain programs such as long term sovereign guarantees that have experienced zero to low historical loss experience. The selection of the 0.5 percent loss rate as a proxy is informed by empirical credit data provided by Moody's, a rating agency. Importantly, the Bank's use of a proxy loss rate is consistent with federal regulatory guidance provided in the OCC's "Interagency Policy Statement on the Allowance for Loan and Lease Losses" and the Federal Reserve Bank's "Qualitative factors and the Allowance for Loan and Lease losses in Community Banks."[24] The latter recommends the use of supportable proxies for new loan products for which actual historical loss experience or risk profiles are not readily available.

Finally, to address the risk of rapid changes in the global economy that may affect future performance of the portfolio, the Bank may adjust the prediction interval or "PI." The PI is an adjustment to the probability of default based on the standard error of the estimate of the probability of default. Bank staff utilized this approach in the years following the 2008 financial crisis, but found it no longer necessary during the past three fiscal years.

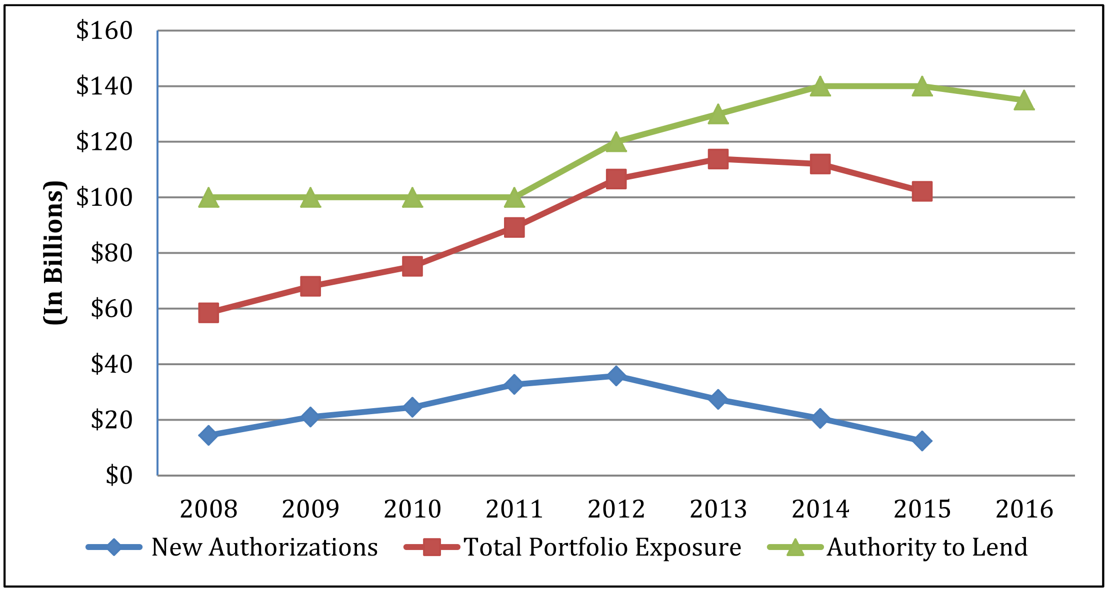
Table 2 provides the aggregate CLF allocation for qualitative risks for each fiscal year along with the corresponding risk adjustment. As indicated in Table 2, the aggregate amount of reserves for qualitative risk factors decreased from $1.3 billion in FY 2013 to $817 million in FY 2015. The decline resulted from a lower qualitative risk adjustment for aircraft-related exposure in FYs 2014 and 2015 (40 percent in FYs 2014 and 2015 versus 95 percent in FY 2013) and a lower overall CLF reserve allocation in FY 2014 and FY 2015 due to the better than expected performance of the long-term portfolio (see Appendix E for further details).

In addition to the above qualitative reserve adjustments, the Bank refined its CLF forecasting methodology by developing independent categorical variables that are

[24] For example, see the OCC's "Interagency Policy Statement on the Allowance for Loan and Lease Losses" available at https://www.federalreserve.gov/boarddocs/srletters/2006/SR0617a1.pdf The policy states "There may be times when an institution does not have its own historical loss experience upon which to base its estimate of the credit losses in a group of loans with similar risk characteristics. This may occur when an institution offers a new loan product or in the case of a newly established (i.e., de novo) institution. If an institution has no experience of its own for a loan group, reference to the experience of other enterprises in the same lending business may be appropriate, provided the institution demonstrates that the attributes of the group of loans in its portfolio are similar to those of the loan group in the portfolio providing the loss experience."

incorporated into the quantitative framework. The refinements adjust the calibration of the CLF model and do not add or subtract to the impact on reserves of qualitative factors.

Figure 1: Change in Ex-Im Bank Exposure by Fiscal Year



Source: Ex-Im Bank Annual Reports for FYs 2008 – 2015

Table 2: Aggregate CLF Allocation for Qualitative Risks				
Fiscal Year ($ in millions)	Non-Claim, Credit Reform Reserve without allocation for qualitative risks	Aggregate $ CLF reserve allocation for qualitative risks	Aggregate Non-Claim, Credit Reform Reserve	Qualitative On Top Percent Impact
2012	$2,455	$565	$3,020	23%
2013	$1,955	$1,335	$3,289	68%
2014	$2,706	$1,083	$3,789	40%
2015	$2,044	$817	$2,861	40%

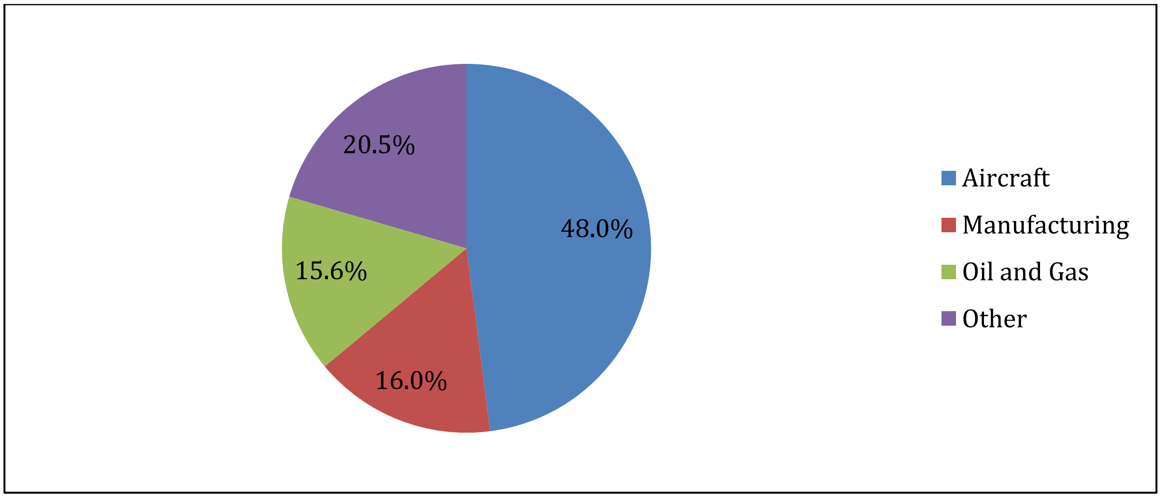
Source: Ex-Im Bank Data

Risks of Portfolio Concentration

As the official export credit agency of the United States, the demand for Ex-Im Bank financing is shaped by the global credit environment, the availability of financing in certain regions and industry sectors, and the characteristics of U.S. businesses seeking export credit financing. These factors have contributed to Ex-Im Bank's portfolio being concentrated in certain industries, markets, and obligors. As noted above, Ex-Im Bank attempted to address portfolio concentration risk by using it as a qualitative risk factor to increase reserves as part of the OMB-approved pilot. However, OMB later determined that this approach was inconsistent with the requirements of FCRA. Although the Bank's portfolio decreased in 2015, the risks of portfolio concentrations are consistent as evidenced by continued concentrations by industry, single obligor (debtor) and geographical regions.

With respect to industry concentrations, the Bank's credit exposure remains highly concentrated, with three industries—air transportation (48 percent), manufacturing (16 percent), and oil and gas (15.6 percent)—accounting for 80 percent of total exposure in FY 2015. Figure 2 below depicts Ex-Im Bank's credit exposure by industry type.

Figure 2: Portfolio Concentration by Industry (FY 2015)



Source: Ex-Im Bank Annual Report for FY 2015

Aircraft represents Ex-Im Bank's largest industry exposure, comprising 48 percent of the Bank's total exposure. The Bank supports the full range of U.S. manufactured commercial aircraft, ranging from small agricultural aircraft, helicopters and business aircraft to large commercial aircraft. In recent years, the global airline industry has experienced positive industry conditions, driven in large part by declining fuel prices, growth in passenger demand with limited capacity growth, and projected growth in operating margins of 11-13.5 percent in 2016.[25] In addition, Ex-Im Bank's aircraft portfolio benefits from a strong collateral position. For example, the value of the Bank's collateral exceeds the outstanding portfolio exposure amount by 40 percent due to a rapid amortization of principal on the underlying financing agreements.[26]

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[25] See Moody's report entitled, "Global Airline Industry: Margins to Rise on Lower Fuel Prices, Steady Demand Growth; Yields to Remain Flat," dated January 14, 2016, available through subscription at https://www.moodys.com/ and Deloitte's report entitled, "2016 Global aerospace and defense sector outlook poised for a rebound," dated January 2016 at https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Manufacturing/gx-manufacturing-2016-global-ad-sector-outlook.pdf.

[26] See the Export-Import Bank of the United States Annual Report 2014 at http://www.exim.gov/sites/default/files/reports/annual/EXIM-2014-AR.pdf.

Notwithstanding current favorable conditions, the aircraft industry is cyclical in nature and tracks macroeconomic cycles. Moreover, the sector is vulnerable to exogenous risks including global pandemics, concerns over airline safety due to terrorism, upward pressure on fuel prices, and technological obsolescence. As a result, residual values for aircraft can drop sharply as a result of these shocks. For example, in 2009, the market value of both narrow-body and wide-body aircraft declined by almost 20 percent, reflecting the global recession. Recognizing this risk, rating agencies may factor a 40-65 percent reduction in lease rates and resale values as part of a stress testing exercise.[27]

Ex-Im Bank also extends financing to a variety of international projects and foreign borrowers active in key commodity sectors including minerals such as iron ore and copper, oil and gas and liquefied natural gas ("LNG"). Market conditions in those commodity-based sectors weakened in 2015 and continued to deteriorate into the first quarter of 2016, resulting in further downward pressure on prices and sector margins.[28, 29] As reported in Ex-Im Bank's industry risk analysis, the Bank's exposure to certain commodity sectors including minerals, mining, oil and gas and LNG totaled $26.5 billion, or 27 percent of the Bank's total exposure of $98.5 billion as of December 2015.

The decline in commodity prices worldwide has also adversely affected certain developing countries that are dependent on exports of commodities to generate hard currency earnings. Rating agencies have highlighted the increased risk and signaled the downward rating of numerous commodity-exporting countries. For example, in a recent rating update on 18 oil-exporting countries, Moody's downgraded the credit ratings of four countries and placed another 12 on review for downgrade.[30] Of the 16 countries identified for a downgrade in the Moody's study, Ex-Im Bank has sovereign and/or project-related exposure to 15 of them. Ex-Im Bank management states that it has partially mitigated country risk inherent in its project-related financings through

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[27] The reduction in value is based on the levels for the long-term trend line that is determined by aircraft depreciation and the lease rate factor curve. For more information, see S&P's "Revised Cash Flow Assumptions and Stresses for Global Aircraft and Aircraft Engine Lease Securitizations," dated August 26, 2010, available through subscription at https://www.standardandpoors.com.

[28] For example, metal commodity prices have dropped for the third year in a row, falling by 10 to 45 percent over the past 12 months due in part to the ongoing excess industry supply, lower-than-expected demand from China and other developing markets and slow global growth. See Moody's "Sector Comment on Base Metals – Global: Recalibration Amid Fundamental Shift in Mining Sector," dated January 26, 2016, available through subscription at https://www.moodys.com/.

[29] See Moody's report entitled, "Sector In-Depth: Banks – Global: Risks from Low Oil Prices More Imminent," dated February 24, 2016, available through subscription at https://www.moodys.com/.

[30] See Moody's report entitled, "Sector In-Depth: Oil-Exporting Sovereigns—Global: Key Drivers of Rating Actions on 18 Issuers to Assess Impact of Sharp Fall in Oil Prices," dated March 4, 2016, available for subscription at https://www.moodys.com/MdcAccessDeniedCh.aspx?lang=en&cy=global&Source=https%3a%2f%2fwww.moodys.com%2fviewresearchdoc.aspx%3fdocid%3dPBC_1017659%26lang%3den%26cy%3dglobal.

the structuring of the transaction. Possible mitigants include the selection of a strong project sponsor, use of low cost technology and the use of offshore payment accounts.

Finally, single borrower concentrations are significantly high when measured against total exposure and the Bank's reserves. As Table 3 below illustrates, Ex-Im Bank's ten largest, individual obligor exposures totaled $30.9 billion or 30.3 percent of total exposure in FY 2015. Of the top ten, exposure to individual obligors ranges from 52 percent to 168 percent of total reserves at FYE 2015. The practice of managing or limiting exposure to a single obligor is a best practice observed by a large number of institutions including international banks, peer ECAs, and multilateral development banks.[31] For example, IFC, Export Development Canada and OPIC set limits on total exposure to a single borrower based on a stipulated level of economic capital and the riskiness of the Borrower.

Other peer institutions interviewed by OIG establish limits on the volume of financing provided to different countries, industries and obligors based on different criteria. Those criteria include percentage thresholds of economic capital and earnings, credit loss reserves, current industry conditions, nominal limits on the risk rating of the borrower, and program specific objectives. In a recent survey of financial institutions conducted by IACPM, 91 percent of respondents confirmed they use concentration limits to manage their portfolios. The survey consisted of 23 participants including ECAs (10), multilateral development banks (7) and other international financial institutions (6).[32]

Applying this practice to Ex-Im Bank would require a systematic approach to measuring concentrations, policies and attendant criteria to determine prudent soft limits on exposure concentrations and procedures to manage those exposures once identified. Since FCRA as interpreted by OMB does not permit supplemental qualitative reserves to be set aside for portfolio concentration risk, this risk could be managed through other mechanisms, such as co-financing with other ECAs to reduce concentration risk[33] or the use of risk transfer mechanisms in areas where the Ex-Im Bank portfolio has concentrated exposure. As discussed above, the 2015 Reauthorization Act authorizes a pilot program to share risks under the Bank's loan, guarantee, and insurance programs.

Ex-Im Bank policies and criteria should identify steps to be taken when soft limits are exceeded, including analysis of any additional risk presented when exceeding the soft

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[31] Although not directly comparable to Ex-Im Bank as a government banking corporation, U.S. bank regulators and the Basel Committee on Banking Supervision ("BCBS") limit single borrower or group credit exposure to 25 percent of a private bank's capital. For example, OCC regulatory guidance defines concentration to include direct, indirect, or contingent obligations that exceed 25 percent of the bank's capital structure. See http://www.occ.gov/publications/publications-by-type/comptrollers-handbook/Concentration-HB-Final.pdf.

[32] *Supra* note 3.

[33] In FY 2014 Ex-Im Bank maintained approximately $5 billion of co-financing exposure, principally in the aircraft sector.

limits and documentation that such risk was considered by the appropriate decision makers.

Table 3: Obligor Exposures (FY 2015)				
Obligor		Amount (in millions)	% Total Credit Loss Reserves	% Total Exposure
1	PEMEX	$6,754.4	168%	6.6%
2	Sadara Chemical Company	$4,180.0	104%	4.1%
3	Korean Air Lines	$3,110.0	77%	3.0%
4	Australia-Pacific LNG Processing Ltd.	$2,865.5	71%	2.8%
5	Papua New Guinea LNG Global Comp.	$2,594.9	65%	2.5%
6	Emirates Airlines	$2,588.1	65%	2.5%
7	Refinería de Cartagena	$2,506.6	63%	2.5%
8	Cathay Pacific Airways	$2,146.1	54%	2.1%
9	Ryanair Ltd.	$2,096.3	52%	2.0%
10	Various Government Entities of India	$2,085.2	52%	2.0%
Total Top Five Obligors		$19,504.8	485%	19.0%
Total Top Ten Obligors		$30,927.1	771%	30.3%

Source: Ex-Im Bank Financial Reports

The OIG closed recommendation 1 from the OIG's 2012 Report and issued two new recommendations in this report.

NEW RECOMMENDATION

OIG recommends that Ex-Im Bank take additional steps to mitigate its portfolio concentration risks including:

1. Establish policies and attendant criteria to determine prudent soft limits on exposure concentrations and procedures to manage those exposures once identified, including options for reducing concentrated exposures, mitigating the risks of concentration exposures, or consideration of concentration risks in the transaction approval process.

2. As part of the implementation of the risk sharing pilot program as provided for in the 2015 Reauthorization Act, assess the potential role of the risk sharing program in mitigating portfolio concentration risk.

Management Response:

Please see Appendix A, Management Response and OIG Evaluation.

2012 Evaluation Report – Recommendation 2

In the 2012 report, Ex-Im Bank OIG concluded that the Bank would benefit from a more comprehensive model risk management program that included a sound model validation process and a more formal framework for model governance.

Finding B: Ex-Im Bank lacks formal policies and procedures for its loss reserve forecasting model which clearly define roles and responsibilities and provide for independent validation of the model's integrity.

To address this concern, OIG recommended the following:	**2.** Together with external subject matter experts, OCFO should design and implement a formal governance framework for the use of financial models. This framework should include policies and procedures for model-validation including external validation of the model's integrity, model ownership and testing. **Status – Closed and New Recommendations.**

Assessment of Corrective Actions – Recommendation 2

Bank management agreed to the recommendation and has taken several initiatives to satisfy the conditions of the recommendation in recent years. Those initiatives included both internal policy enhancements and external validation of the financial models by third party subject matter experts.

Enhancement of Internal Process and Governance framework

In 2015, the Ex-Im Bank Enterprise Risk Committee ("ERC") adopted several internally prepared documents designed to strengthen the financial governance framework of the Bank.[34] These documents included Financial Model Risk Management and Governance Policy, a Risk Appetite Statement, and a Portfolio Risk Mitigation Policy. The documents provide high level guidance to improve the Bank's risk management architecture. For example, the Financial Model Risk Management and Governance Policy cite broad principles related to model development, model validation, and model use. Further, it tasks the Chief Banking Officer ("CBO") and the Chief Financial Officer ("CFO") with oversight of the underwriting and monitoring models associated with transaction credit ratings. In addition, it establishes that the CFO is responsible for the CLF model used to calculate reserve requirements. As part of the forthcoming CRO review, OIG will conduct a comprehensive assessment of the Bank's internal risk management policies.[35]

[34] The ERC serves as an internal forum for senior management to discuss strategic risks across the agency.

[35] As mentioned above, the Reauthorization Act requires OIG to evaluate the Bank's portfolio risk management procedures and the implementation of the duties assigned to the CRO and to submit a written report with its findings to Congress no later than December 4, 2016.

External Validation of Ex-Im Bank financial models

In support of prior OIG recommendations, Ex-Im Bank's Audit Committee initiated an independent review of the Bank's CLF and internal risk scoring models. The over-arching objective of these assignments was to confirm the conceptual soundness of the various models and to provide recommendations to address any findings observed by the third party consultants. With the dissolution of the Audit Committee by the 2015 Reauthorization Act, the responsibility for the validation of the CLF and internal risk rating models was assumed by the Bank's Chief Operating Officer ("COO").

<u>Independent Verification and Validation ("IVV") of the Bank's CLF Model</u>: In FY 2015, Ex-Im Bank's Audit Committee engaged Summit Consulting, LLC ("Summit"), to conduct an IVV of the Bank's CLF model. The scope of the engagement required an analysis of the reasonability of the CLF model and source data used for the data inputs. Summit refers to this portion of the CLF model process as work stream one (Data) and work stream two (Model Specification). The IVV exercise determined that the "documentation, operation, inputs and outputs, and methodology of the CLF model to be reasonable, pending minor changes." The report identified several recommendations for improvement which were presented to senior management.

As disclosed in Summit's report, the scope of the assignment did not include an assessment of the reasonableness of the Bank's application of the CLF model including the use of the qualitative and quantitative risk components, the reasonableness of the overall loss reserve process and the calculation of the dollar loss reserve amount. Following Summit's CLF model, these factors would be evaluated as part of work stream three (Model Calculations) and work stream four (Dollar Loss Reserve Estimation). In several meetings with the OIG, Bank management confirmed its intention to complete the second half of the IVV analysis in FY 2016.

<u>Independent review of the Bank's Budget Cost Level ("BCL") risk ratings for transactions</u>: In FY 2015 Ex-Im Bank's Audit Committee engaged S&P Capital IQ Risk Solutions ("S&P") to conduct an independent review of the Bank's BCL risk ratings for transactions. The work was divided into several phases and performed sequentially:

Phase One: Conceptual Soundness of Internal BCL Risk Rating Models. This phase reviewed the methodology employed in 11 internal financial models and the extent of alignment with S&P's risk methodology. Evaluative criteria for alignment included the extent to which: (i) similar credit factors were examined, (ii) similar weightings were ascribed to the risk factors and their impact on the final risk score, and (iii) there was sufficient documentation to support the rating model and methodology.

Of the 11 financial models reviewed, S&P determined that one was "broadly aligned," seven were "somewhat aligned," and three were "not aligned." Pursuant to S&P methodology, "broadly aligned" denotes the model under review exhibits a good degree of alignment with best practice methodologies, with a limited number of non-substantial methodological differences, "somewhat aligned" denotes the model exhibits risk dimensions similar to best practices with some differences in the weighting of those risk dimensions; and "not aligned" denotes a large number of major methodological differences.

In addition, the report provided eight over-arching recommendations to align the Bank's internal rating system with industry standards, as well as model specific suggestions designed to ensure congruency with best practices. Table 4 below provides a summary of the eight principal recommendations, while Appendix F provides the related excerpts from S&P's report that support their recommendations.

Table 4: S&P Recommendations – Phase One

No.	Details
1	S&P recommends that Ex-Im Bank improve documentation for model development and model implementation.
2	S&P recommends that Ex-Im Bank implement better defined objective scoring criteria and model architecture.
3	S&P recommends that Ex-Im bank utilize additional sector specific models to better assess the unique risks particular to an industry.
4	S&P recommends that Ex-Im Bank develop a dual risk rating structure which would clearly differentiate between obligor PD risk and transaction level LGD risk.
5	S&P recommends that Ex-Im Bank develop a model validation function that is functionally independent.
6	S&P recommends to eliminate differences between origination and monitoring models.
7	S&P recommends that Non-sovereign country risk should be used in models as an important direct risk assessment driver.
8	S&P recommends that any criterion considered as part of the risk assessment of the Board memorandum should be correspondingly reflected as a direct risk factor of the relevant risk rating model.

Source: S&P Reports Provided to Bank staff

Phase Two: Outcomes Benchmarking. This phase provides a measure of alignment between the two selected Ex-Im Bank rating models (Transportation Risk Rating Model and the Long-Term Corporate Risk Rating Model) and S&P rating methodologies. A sample of Ex-Im Bank transactions was rated using the S&P Credit Assessment Scorecards. The rating outcomes were then compared with the BCL rating using the Bank's Risk Rating Model outputs, thus providing a direct comparison of rating outcomes.

As indicated in Table 5, the combination of Phases One and Two resulted in the following model risk assessments: (i) the Transportation model was assigned a conceptual soundness rating of "broadly aligned" while the outcomes benchmarking conferred a rating of "somewhat aligned" based on the unsecured BCL outcome and "not aligned" based on the secured BCL rating; and (ii) the Long-Term Corporate model was assigned a conceptual soundness rating of "somewhat aligned and an outcomes benchmarking rating of "broadly aligned."

Phase Three: Assessment of Model Validation Findings. This phase builds on the earlier assessments of conceptual soundness and outcomes benchmarking and provides an overall assessment of model risk utilizing four categories: (i) Fit for use; (ii) Conditional use-Lower risk; (iii) Conditional use-Higher risk; and (iv) Not fit for use. Pursuant to S&P methodology, "Conditional use-Lower risk indicates that the model is acceptable but has limited documentation and/or control design issues that in aggregate do not greatly impact the functioning of the model. Conditional use-Higher risk indicates that the model is acceptable with conditions but has one or more documentation and/or control design issues that in aggregate significantly impact the functioning of the model.

Table 5: S&P Recommendations – Phases Two and Three

Risk Rating model	Conceptual Soundness	Outcomes Benchmarking	Phase Three: Overall Assessment
Transportation:[36] - Unsecured	Broadly aligned	Somewhat aligned	Conditional use – Lower risk
- Secured	Broadly aligned	Not aligned	Conditional use – Lower risk
Long-Term Corporate:	Somewhat aligned	Broadly aligned	Conditional use – Lower risk

Source: S&P reports provided to Bank staff

In addition to the overall model risk assessment, S&P recommended: (i) that Ex-Im Bank take appropriate model risk management actions to prevent credit scoring model's performance deterioration including recalibrating or developing a new credit scoring model; and (ii) that Ex-Im Bank regularly conduct outcomes testing of model results including back-testing (comparing predicted values to actual outcomes) and benchmarking of model outcomes.

OIG understands that Ex-Im Bank management has convened an interdivisional taskforce, coordinated by the CPC and comprised of representatives of the applicable operating divisions, to determine how the general and model-specific recommendations will be implemented and to develop a time frame for completion.

The OIG closed recommendation 2 from the OIG's 2012 Report and issued two new recommendations in this report.

NEW RECOMMENDATIONS

To ensure conceptual soundness and consistency with best practices addressed in the Summit and S&P reviews of Ex-Im Bank's financial models, OIG recommends that the Bank undertake the following initiatives:

3. Engage an independent expert to complete the second half of the Credit Loss Factors ("CLF") validation exercise in FY 2016 and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the CLF model.

[36] Based on the unsecured and secured BCL risk rating outcomes.

4. Engage an independent expert to evaluate the remaining models as part of phase three testing of the BCL review, beginning with project finance, and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the risk rating models.

Management Response:

Please see Appendix A, Management Response and OIG Evaluation.

2012 Evaluation Report – Recommendation 3

In the 2012 report, Ex-Im Bank OIG concluded that the Bank would benefit from a systematic approach to stress testing.

Finding C: Ex-Im Bank conduct portfolio stress testing in a systematic manner to assess potential exposures under challenging economic conditions.	
To address this concern, OIG recommended the following:	**3.** Ex-Im Bank should develop a systematic approach to stress testing and should conduct stress testing at least annually as part of its re-estimate process. **Status – Closed and New Recommendations.**

Assessment of Corrective Actions – Recommendation 3

The OCFO has historically conducted top down portfolio stress testing on an annual basis. However, the Bank advised the OIG that it planned to conduct portfolio stress testing on a semi-annual basis, which began the second quarter of FY 2016.[37] As part of this exercise, OCFO staff uses a Monte Carlo simulation approach to create a loss estimate based on 20,000 simulations. In addition, the Bank periodically stress tests its largest obligors by measuring the impact of ratings downgrade on those obligors using the Board of Governors of the Federal Reserve System's ("Board") Comprehensive Capital Analysis and Review ("CCAR") adverse and severely adverse scenarios.[38, 39]

In recent years there has been an abundance of guidance from U.S. banking authorities regarding stress testing. For bank holding companies ("BHC") with $50 billion or more

[37] According to Bank staff, the results of the first semi-annual stress testing of the portfolio were presented to the RMC and were documented in the Bank's quarterly Default Rate Report dated March 31, 2016.

[38] For more information, see http://www.federalreserve.gov/bankinforeg/stress-tests/CCAR/201503-comprehensive-capital-analysis-review-preface.htm.

[39] For more information, see http://exim.gov/sites/default/files/oig/audit/Audit-of-Export-Import-Bank-of-the-United-States-Fiscal-Year-2014-Financial-Statements-OIG-AR-15-001.pdf

in total assets, the BHCs are subjected to annual CCAR and Dodd-Frank Act supervisory stress testing ("DFAST") assessments as well as a mid-cycle stress test. Although federal regulatory guidance for financial institutions may not be directly applicable to federal agencies, it does provide a useful benchmark for best practices related to stress testing procedures.[40]

The importance of portfolio stress testing as a key risk management tool was confirmed in a recent survey of the risk and credit portfolio management practices of ECAs and international financial institutions with 65 percent of respondents citing scenario analysis and stress testing as a key objective for the CPM function.[41] Finally, the Bank's Charter requires the RMC, working with the OCFO, to oversee "periodic stress testing on the entire Bank portfolio, reflecting different market, industry, and macroeconomic scenarios, and consistent with common practices of commercial and multilateral development banks."[42]

The OIG closed and recommendation 3 from the OIG's 2012 Report and issued one new recommendation in this report.

NEW RECOMMENDATIONS

5. OIG recommends that Ex-Im Bank further develop the scope (e.g., sector and one obligor) and frequency of stress testing protocols to analyze potential vulnerabilities due to the Bank's portfolio concentrations and incorporate the results of the stress testing into key risk management policies including the Bank's risk appetite statement, risk tolerance levels, and the use of risk sharing as provided for in the 2015 Reauthorization Act.

Management Response:

Please see Appendix A, Management Response and OIG Evaluation.

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[40] The U.S. banking authorities consist of the Federal Deposit Insurance Corporation ("FDIC"), the Board of Governors of the Federal Reserve System ("Board"), and the Office of the Comptroller of the Currency ("OCC"). For example, see http://www.federalreserve.gov/bankinforeg/srletters/sr1107a1.pdf.

[41] In 2015, sixty-five (65) percent of respondents in a survey of the risk and credit portfolio management practices of export credit agencies and international financial institutions cited scenario analysis and stress testing as a key objective for the CPM function. *Supra* note 3.

[42] Charter, *supra* note 5 at 62.

2012 Evaluation Report – Recommendation 4

In the 2012 report, Ex-Im Bank OIG concluded that the Bank would benefit from the implementation of sub-limits to address portfolio concentrations.

Finding D: Ex-Im Bank does not self-impose portfolio concentration sub-limits either by industry, geography, or asset class as internal guidance to inform management on risk and determine exposure fees in new transactions.

To address this concerns, OIG recommended the following:	**4.** Ex-Im Bank should implement soft portfolio concentration sub-limits based on industry, geography, or asset class as internal guidance to manage risk tolerance levels and return parameters. Once exposure limits are in place, these guidelines can inform future pricing, risk management decisions, and business development new transactions. **Status – Closed and New Recommendations.**

Assessment of Corrective Actions – Recommendation 4:

Ex-Im Bank initially disagreed with the recommendation to implement soft portfolio concentration sub-limits, arguing that the practice would be "inconsistent with the demand-driven nature of Ex-Im's mandate and business … [and that] any limits would impede the Bank's ability to meet demand as well as adversely impact the Ex-Im Bank's competitiveness compared to other officially supported Export Credit Agencies."

In response, OIG clarified that the intent of the recommendation was to set "soft" limits or "informal thresholds" for portfolio concentration levels designed to inform future pricing and portfolio risk management decisions by advising Ex-Im Bank's Board of Directors of the incremental portfolio exposure consequences of each new transaction. The Bank subsequently changed its position and agreed to implement OIG's recommendation. In addition, the ERC recently approved the use of soft portfolio limits as part of the Bank's overall portfolio risk mitigation policies. In response to the above actions, OIG changed the status of the recommendation from "Unresolved" to "Open".

In 2014 the Bank engaged the Economist Intelligence Unit ("EIU") to analyze the Bank's portfolio concentrations, to develop a portfolio risk dashboard model and to outline various policy options that would enable the Bank to achieve its portfolio concentration limits. According to the Statement of Work ("SOW") dated July 23, 2014, EIU was engaged to develop a risk dashboard for three purposes: (i) to assess the macro-economic impact of outside factors on the Bank's current portfolio, including concentration and other portfolio risks; (ii) to determine how new transactions impact the overall risk profile of the Bank's portfolio; and (iii) to identify soft portfolio limits, and recommend actions to mitigate the risk once the soft limits are reached.

EIU developed a portfolio risk dashboard that allows Bank staff to view current exposures by region (North America, Latin America/Caribbean, Europe, Africa, Asia, Oceana, and other); industry (aircraft, manufacturing oil and gas, power and other);

credit rating (investment grade or non-investment grade); and counterparty type (sovereign or non-sovereign). The model includes four different metrics including exposure amount, the percentage share of the total portfolio, the predicted probability of payment event and the estimated default percentage.

Although the model provides a useful tool to aggregate and report portfolio exposures, certain refinements would enhance its effectiveness as a risk management tool. For example, as presently configured, the model bases the proposed exposure limits on the current portfolio allocations and the two percent default rate cap mandated by Congress. Based on the historical loss data of the various products, credit risk ratings, and geographical regions, the model determines how much additional exposure the Bank can book in each category (region, industry, credit rating and counterparty type), and still remain under the default cap.

In adopting this approach, the model accepts the current portfolio allocation and assumes that the default cap is the appropriate soft portfolio limit for each category. Other peer institutions reviewed by OIG set portfolio sub-limits using other criteria, including percentage thresholds of credit loss reserves and earnings, current industry conditions, nominal limits on the risk rating of the borrower, and program specific objectives. Ex-Im Bank should further expand the model to use criteria to determine prudential soft portfolio limits that may differ from the default cap based on the Bank's risk appetite statement. Also, the current model does not analyze or provide soft portfolio limits for one obligor concentrations, a concentration risk discussed earlier in this report. Including large obligors as one of the categories measured in the model and risk dashboard would aid consideration and mitigation of that risk. Another improvement to the current model would be to analyze the potential impact of covariance or correlation of risk factors, industries and regions. This is particularly important for those sectors where the Bank currently has large industry and geographical concentrations. The outcome of this analysis would enhance the model's predicative capability and inform the process of setting prudent sub-limits.

Based on our assessment of the corrective actions taken in FY 2015, OIG closed recommendation 4 from the OIG's 2012 Report and issued two new recommendations in this report.

NEW RECOMMENDATIONS

OIG recommends that certain enhancements be made to the EIU risk dashboard to improve its effectiveness as a risk management tool. Specifically,

6. In addition to the two percent default cap, Bank staff should establish additional criteria for the setting of prudent soft limits on exposure concentrations, including one obligor related concentrations. This may include percentage thresholds of credit loss reserves and earnings, current industry conditions, current exposure, nominal limits on the risk rating of the borrower and program specific objectives.
7. Analyze the potential impact of covariance or correlation of risk factors, industries and regions on the probability distribution of losses of the credit portfolio. The

outcome of this analysis would enhance the model's predicative capability and inform the process of setting prudent soft limits.

Management Response:

Please see Appendix A, Management Response and OIG Evaluation.

2012 Evaluation Report – Recommendations 5 to 7

In the 2012 report, Ex-Im Bank OIG found that the Bank lacked written policies for several key risk management areas and therefore the recommendation stated that certain key risk policies should be adopted, specifically a portfolio risk mitigation policy and a financial model governance policy. The OIG provided additional clarification of key risk management policies the Bank should develop and implement in several e-mails dating back to December 2014, including an ERM risk assessment, a statement of the Bank's risk appetite framework, portfolio risk mitigation policies, and a financial model governance policy.

Finding E: Ex-Im Bank's current risk management framework and governance structure are not commensurate with the size, scope, and strategic ambitions of the institution.	
To address this concern, OIG recommended the following:	**5.** Ex-Im Bank should create the position of CRO to oversee the design and implementation of an agency-wide risk management function. The CRO should have sufficient independence in the organizational structure from the business units whose activities and exposures it reviews. Working with Ex-Im Bank senior management and the Board of Directors, the CRO would be responsible for drafting, presenting, and then implementing approved key risk policies including a portfolio risk mitigation policy, a financial model governance policy, as well as broader financial governance issues. **Status – Closed.**
	6. Ex-Im Bank's Board of Directors should amend its by-laws to include the oversight of an agency-wide risk management function covering the full range of credit, operational, and other risks. **Status - Closed.**
	7. Ex-Im Bank should review current risk metrics and reporting procedures with a view to enhance transparency and to better inform key stakeholders. **Status – Closed and New Recommendations.**

Assessment of Corrective Actions – Recommendations 5 to 7

Recommendation 5 Assessment*:* Ex-Im Bank created the position of CRO in FY 2014 and structured the position with organizational independence. In addition, Bank management drafted key risk policies including a Portfolio Risk Mitigation Policy and a Financial Model Risk Management and Governance Policy.

In addition, the 2015 Reauthorization Act mandates that the Bank appoint a CRO who shall "oversee all issues relating to risk within the Bank; and reports to the President of the Bank." Under Sec 3(l) of the Act, the Bank is expected to appoint a CRO with prior experience in practical financial risk evaluation practices.[43] The duties of the CRO shall include the following:

- To be responsible for all matters related to managing and mitigating all risk to which the Bank is exposed, including the programs and operations of the Bank;
- To establish policies and processes for risk oversight, the monitoring of management compliance with risk limits, and the management of risk exposures and risk controls across the Bank;
- To be responsible for the planning and execution of all Bank risk management activities, including policies, reporting, and systems to achieve strategic risk objectives;
- To develop an integrated risk management program that includes identifying, prioritizing, measuring, monitoring, and managing internal control and operating risks and other identified risks;
- To ensure that the process for risk assessment and underwriting for individual transactions considers how each such transaction considers the effect of the transaction on the concentration of exposure in the overall portfolio of the Bank, taking into account fees, collateralization, and historic default rates; and
- To review the adequacy of the use by the Bank of qualitative metrics to assess the risk of default under various scenarios.

Based on our assessment of the corrective actions taken in FYs 2014 and 2015, OIG closed recommendation 5 from the OIG's 2012 Report.

Recommendation 6 Assessment: Ex-Im Bank management initially disagreed with the recommendation, stating that "the role of the Board of Directors of Ex-Im Bank is set forth in the Charter and does not include the recommended oversight function." The Bank's response alluded to the possibility of the Audit Committee "undertak[ing] certain projects regarding risk management…." The recommendation continued to remain "Unresolved" in 2015 subject to the Bank's reauthorization, which became effective on December 4, 2015.

[43] 2015 Reauthorization Act, *supra* note 2.

The 2015 Reauthorization Act mandated that the Bank establish a Risk Management Committee ("RMC") and dissolve the former Audit Committee. Accordingly, the Bank established the RMC, comprised of the Board of Directors, with the President and First Vice President of the Bank serving as ex-officio members. The duties of the RMC include:

(i) Oversee, in conjunction with the OCFO of the Bank: periodic stress testing on the entire bank portfolio, reflecting different market, industry, and macroeconomic scenarios, and consistent with common practices of commercial and multilateral development banks, and the monitoring of industry, geographic, and obligor exposure levels; and

(ii) Review all required reports on the default rate of the bank before submission to Congress.

The regular attendees of an RMC meeting include the members, ex-officio members, the CFO, COO, OGC, CBO, CRO and Chief of Staff. Absent a full Board, the committee has met on a quarterly basis with meetings held to review and discuss the Bank's risk management activities and default report for the first and second quarters of FY 2016 (February 10, 2016 and May 18, 2016, respectively). The standing agenda covers four items: (1) an overview of authorizations, cancellations, and portfolio exposure; (2) an industry risk report; (3) a regional risk report; and (4) the default report.

The OIG closed Recommendation 6 from the OIG's 2012 Report to reflect the above considerations.

Recommendation 7 Assessment: Ex-Im Bank agreed to implement recommendation 7 and carried out several initiatives to improve the transparency of its current risk metrics and reporting procedures. For example, as required by the 2012 Reauthorization Act, the Bank submits a quarterly "Default Rate Report" to Congress on the current default rate of its active portfolio and by specific subcategories—product type, key market and industry sector.[44] The report also includes the current default rate by region and product line, an aging summary of credits in arrears, and the historical default rate since inception of the Bank and credit reform as of the respective quarter. Lastly, the default report contains the most recent results of the Bank's stress testing of its portfolio.

Ex-Im Bank has further improved transparency through its monthly internal report on "Major Delinquent Debt, Impaired Credits & Watch List" (formerly the "Impaired Credits & Watch List") utilized for management reporting and decision-making. The report outlines transactions where the Borrower's ability to service repayment of Ex-Im Bank credits has been affected (i.e., "impaired credits") or could be affected (i.e., "watch list" items). In addition, the report also provides an overview of the Bank's portfolio as

[44] See Export-Import Bank Reauthorization Act of 2012 at http://www.gpo.gov/fdsys/pkg/PLAW-112publ122/pdf/PLAW-112publ122.pdf. Pub. L. No. 112-122, 126 Stat. 357 (2012).

of the most recent fiscal year end and a list of major claims and recoveries (i.e., "major delinquent debt"). The latter is a new addition to the report: a list comprised of long-term credits where a claim has been paid or a direct loan is in payment default and/or the Bank is engaged in recovery efforts. Additional reports prepared by Ex-Im Bank in FY 2015 include individual transaction sensitivity analyses, stress testing by sector (e.g., airline), and risk reports by industry and region (e.g., commodities and Latin America/Caribbean).

However, in carrying out this follow-up review, OIG observed that Ex-Im Bank practices can be further enhanced to improve transparency and to better inform key stakeholders on risk management issues and the performance of its portfolio. For example, the Bank would benefit from changes in the monitoring and/or reporting of certain credit metrics, such as impaired credits, BCL risk rating and the current default rate. Such enhancements would help the Bank to identify emerging risks and to put in place appropriate prevention or mitigation measures, and to inform, in a timely manner, key stakeholders.

Ex-Im Bank's credit metrics – transparency and reporting

Impaired credits: Although Ex-Im Bank has enhanced its current risk metrics and reporting procedures, the OIG found that the Bank can further improve the classification and reporting of impaired credits for the purpose of promoting transparency and better decision making. In reviewing the Bank's Management's Discussion and Analysis of Results of Operation and Financial Condition ("MD&A") and Notes to the Financial Statements ("Notes") sections of the annual reports[45] and monthly internal reports on impaired credits and watch list, OIG found that the Bank has changed the definition of impaired credits in the MD&A section several times, most recently beginning in FY 2013 (see Table 7 below).[46, 47, 48] The net effect of the changes narrowed the definition for classifying a credit as impaired. However, neither the rationale for the definitional changes nor the deviations from the definition in classifying credits as impaired were disclosed by the Bank to enable users to understand the effect and management's perspective on the performance of the portfolio.

In classifying credits as impaired, OIG found that the Bank did not always follow the definition in place at the time of reporting. For example, in FY 2015 Ex-Im Bank defined

[45] Specifically, the MD&A and Notes sections of the Bank's annual reports.

[46] See Appendix G of this report for a schedule of the various definitions of impaired credits utilized by the Bank.

[47] OCFO management was advised in 2011 by Deloitte, the independent public accounting firm that conducts the agency's financial statements audit, that Ex-Im Bank was not obligated to publish total impaired credits in its annual report under federal accounting standards.

[48] OIG notes that the Bank's definition of defaults and delinquency as reported in the Notes section of the Annual Report has not changed.

impaired credits as "those transactions risk rated from 9 to 11 ***and*** on the verge of impairment due to political, commercial, operational, and/or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of EXIM Bank credits."[49] (Emphasis added) A review of the transaction level details supporting the total amount for impaired credits reported in the MD&A section of the 2015 annual report and September 2015 impaired credits and watch list report included credits with risk ratings of 7, 8 and 12, and a working capital guarantee.[50]

Table 6: Impaired Credits – Examples of Definitional Changes		
FY	**MD&A Section of the Annual Report**	**Amount (in millions)**
2012	Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims or (3) non-delinquent loans and claims above a certain risk rating.	$817.0
2013	Impaired credits are defined as those transactions risk rated from 9 to 11 (refer to section VII, "Portfolio-Risk Rating System and Risk Profile," for the explanation of risk ratings), ***or*** on the verge of impairment due to political, commercial, operational and/or technical events or situations, and/or force majeure that have affected the borrower's ability to service repayment of Ex-Im Bank credits.	$434.0[51]
2014 & 2015	Impaired Credits are defined as those transactions risk rated as Budget Cost Level ("BCL") 9-11 ***and*** on the verge of impairment due to political, commercial, operational and/or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of Ex-Im Bank credits.	$294.3 & $468.1 (respectively)

Source: Ex-Im Bank's Annual Reports for FYs 2012 – 2015

As indicated in Ex-Im Bank's annual reports, impaired credits represent a key credit metric utilized by Bank management in assessing the health of its portfolio.[52] As a key metric, Bank management and stakeholders would benefit from a consistent and precise definition and approach for classifying credits as impaired, for both internal and

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[49] See the Export-Import Bank of the United States Annual Report 2015 at http://www.exim.gov/sites/default/files/reports/annual/EXIM-2015-AR.pdf.

[50] Ex-Im Bank portfolio data as of FYE 2015; 2015 Annual Report, *supra* note 49; and Ex-Im Bank's Impaired Credits and Watch List as of September 2015.

[51] The decline in the amount reported in 2013 is due to the successful restructuring of the $420 million Boleo transaction resulting in improvement to the credit.

[52] In the MD&A section of the 2015 Annual Report, Bank management identified "distinct characteristics" or "lenses" for use in understanding and addressing variations and external risks to the Bank's portfolio. One of those "lenses" identified is "Portfolio Loss Reserves & Major Impaired Credits." 2015 Annual Report, *supra* note 49 at 38-43.

external reporting purposes. According to Bank staff, the ERC discussed and approved the change in definition of impaired credits at the June 2014 meeting. However, the ERC's discussion and approval of the definitional changes was not accurately documented in the meeting minutes.[53]

According to OMB Circular A-136, Bank management is responsible for the MD&A and has "considerable discretion with respect to the presentation, subject to the required components and the pervasive requirement that the MD&A not be misleading. The MD&A provides management with a vehicle for communicating insights about the entity, increasing the understandability of financial information, and providing information about the entity, its operations, service levels, successes, challenges, and future."[54] The OMB Circular states further that the MD&A "should be regarded as required supplementary information" and should also include "forward-looking information, details about the possible effects of the most important existing performance and financial demands, events, conditions, and trends.... Management should include important problems that need to be addressed, and actions that have been planned or taken to address those problems."[55]

Table 7 below depicts the total amount of impaired credits reported by the Bank in the MD&A section of the annual report for FYs 2010 through 2015. OIG notes that the increase in impaired credits in FY 2015 was largely due to the exposure to (1) Jabiru Satellite ($139.1 million), (2) (b) (4), (b) (5) ($97.2 million) and (3) (b) (4), (b) (5) ($54.7million) that was offset by the removal of (b) (4), (b) (5) ($100.0 million) from the impaired credits list.

Table 7: Impaired Credits – Total Amount Reported						
(in millions)	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**
Total	$666.2	$495.0	$817.0	$434.0	$294.3	$468.1
% Change	-	-25.7%	65.1%	-46.9%	-32.2%	59.1%
% of Reserves	13.0%	12.2%	17.8%	9.4%	5.8%	11.7%
% of Exposure	0.9%	0.6%	0.8%	0.4%	0.3%	0.5%

Source: Export-Import Bank's Annual Reports FYs 2010 – 2015 and Bank Data

<u>BCL risk rating of portfolio</u>: BCL risk ratings are a critical factor in determining the appropriate level of credit loss reserve and subsidy that is allocated to an individual transaction. OIG's review of internal Bank documents and interviews with Bank staff confirmed that the current practice is to review a transaction's BCL risk rating once a year and within six months of the Borrower's fiscal year end, unless a material adverse

[53] Ex-Im Bank's Summary Minutes of ERC Meeting Held on June 20, 2014 (Revised), approved on October 21, 2014.

[54] For more information, see OMB Circular A-136 Financial Reporting at https://www.whitehouse.gov/sites/default/files/omb/assets/OMB/circulars/a136/a136_revised_2015.pdf.

[55] Ibid.

credit development occurs.[56] As a result, a transaction's BCL risk rating may lag recent credit events (positive or negative) and provide a less accurate assessment of the portfolio's overall risk profile.

Quarterly or semi-annual BCL rating assessments would provide a more accurate reflection of the Bank's overall risk profile, inform future credit decisions and allow the Bank to adjust the loss reserve level as appropriate. This is particularly important in periods when sectors of the Bank's portfolio are experiencing downward credit migration. For example, the Bank's risk rating for new business has increased since FY 2012, reflecting the writing of additional business with a higher risk rating than the portfolio weighted average in recent years.[57] Table 8 below depicts the risk rating for the Bank's portfolio for FYs 2010 through 2015.

Table 8: Ex-Im Bank BCL Risk Rating of Portfolio

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Exposure	4.13	3.87	3.66	3.72	3.75	3.93
New Business	3.87	3.81	3.23	3.88	4.09	4.27

Source: Ex-Im Bank's Impaired Credits & Watch List (Internal Reports) and Bank Data

<u>Default rate</u>: Pursuant to its Charter, Ex-Im Bank is required to report its default rate to Congress quarterly on both an aggregate basis and according to specific subcategories. Those include by type of product, by key market and by industry sector. The Charter defines default rate as "the total amount of payments that are overdue divided by the total amount of financing involved."[58] According to its default report, Ex-Im Bank implements this requirement as follows:

$$\frac{\textbf{Overdue Payments} = \textbf{Defaults paid} + \textbf{Expenses} - \textbf{Recoveries}}{\textbf{Total Financing} = \textbf{Total Disbursements}}$$

Ex-Im Bank calculates the statutory numerator of "total amount of required payments that are overdue" as the total amount of claims paid on guarantees and insurance transactions, as well as unpaid past due installments on loans in the Bank's active portfolio, plus expenses incurred related to the Bank's recovery efforts, offset by net recoveries to date. As the Bank applies the statutory definition, recoveries to date reduce the amount overdue in connection to the specific claim paid or the loan in

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56 Ex-Im Bank's Asset Monitoring Division's *Asset Monitoring System: Report Optimization Project Optimization Manual* dated May 19, 2010 (revised September 30, 2013)

57 For further information, see Appendix H of this report for a breakdown of BCL risk ratings and total exposures for FY 2012 to FY 2015.

58 Charter, *supra* note 5 at 68.

arrears. As such, the default rate reported pursuant to the statutory definition is a net loss rate or net charge-off rate, rather than a gross default rate or delinquency rate.

Second, the denominator of the Bank's default ratio is defined as the "total amount of financing involved," which the Bank calculates as total amounts disbursed during the time period measured. In contrast, the FDIC and FRB require member banks to calculate delinquency and net charge off rates using average loans outstanding for the measured period, rather than total disbursements.[59]

Although Ex-Im Bank is required to calculate and report its default rate as stipulated by statute, the statutory definitions are not necessarily aligned with comparable reporting required by the FDIC or Federal Reserve for commercial banks. In addition, net loss rates, standing alone, do not provide clarity into how the risks of a transaction or portfolio are allocated. As S&P stated when recommending that the Bank develop risk models using separate calculations of "probability of default" and "loss given default," the use of a net loss rate is less precise as it incorporates recoveries in the default rate whereas the use of a standalone or gross default rate provides a better understanding of the drivers of the different components of a transaction's risk (see Appendix F).

In addition to the reporting of default rate required by the Charter, the Bank could enhance transparency and better inform key internal and external stakeholders by calculating and reporting additional risk metrics for credit programs and a net charge off ratio using average outstandings for the measured period in line with common practices. The use of additional metrics could better inform managers as to the level and types of risks and allow for a meaningful comparison with both rating agency data and the performance of its peers.

The OIG closed recommendation 7 from the OIG's 2012 Report and issued a new recommendation in this report.

NEW RECOMMENDATIONS

8. Ex-Im Bank should develop and implement formal procedures to enhance the timeliness of the aggregation and reporting of risk management data, including the development of a consolidated dashboard for senior management that reports important risk management data on a monthly basis. This should include but not be limited to the following:

    - Aggregate portfolio concentrations on a sector, country and one obligor basis, delineating variance with established portfolio limits;

[59] Common practice as observed by U.S. financial regulatory agencies is to utilize the ratio of net charge offs to average outstandings. For more information see "Charge-Off and Delinquency Rates on Loans and Leases at Commercial Banks," Board of Governors of the Federal Reserve System available at http://www.federalreserve.gov/releases/chargeoff/about.htm.

- Aggregate credit metrics of the portfolio including impaired loans and defaults; and
- Aggregate migration of risk ratings in specific sectors and obligors together with an average BCL risk rating for the portfolio.

Management Response:

Please see Appendix A, Management Response and OIG Evaluation.

CONCLUSION

In carrying out its mandate, Ex-Im Bank faces a diverse spectrum of risks including credit risk, portfolio concentration risk, market risk, and operational risk. In addition, the Bank faces emerging risk trends and a challenging economic environment in several key sectors. Therefore, it is of significant importance that the Bank has a robust risk management and governance framework to achieve long-term success, operate on a self-sustaining basis, and protect U.S. taxpayers from significant portfolio losses.

Since the publication of OIG's September 2012 report, Ex-Im Bank has made important progress in strengthening its risk management practices. Specifically, OIG found that the Bank had completed corrective actions to address and close all seven prior recommendations. Nevertheless, in conducting this review, OIG found that certain internal policies and processes could be improved to strengthen the risk management practices of the Bank. To this end, this report formulates new recommendations to improve the assessment of portfolio risks, the aggregation and reporting of risk management data and the overall risk management architecture of the Bank.

APPENDIXES

Appendix A: Management Response and OIG Evaluation

EXPORT-IMPORT BANK
OF THE UNITED STATES

July 22, 2016

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

Dear Deputy Inspector General 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) "Follow-Up Report on Portfolio Risk and Loss Reserve Allocation Policies" (July 2016) ("Risk Management"). Management continues to support the OIG's work which complements the Bank's efforts to continually improve its processes. The Bank appreciates that the OIG follow up report notes the important progress made by the Bank in strengthening its risk management processes and governance framework. As of March 31, 2016 the Bank's default rate was 0.261%.

EXIM Bank is proud of the strong and cooperative relationship it has with the OIG and that all of the recommendations from the initial 2012 report have been implemented, validated, and closed by the OIG. The Bank strives to continuously improve its processes and is pleased that the OIG inspection cited the Bank's implementation of several new policies including a Financial Model Risk Management and Governance Policy, a Risk Appetite Statement, Portfolio Risk Mitigation Policy, soft portfolio limits, and protocols for portfolio stress testing overall and by industry and region.

The Bank is committed to full cooperation with the OIG and agrees to all eight recommendations in the follow-up report and will work with staff on implementing all recommendations.

Recommendation 1: Establish policies and attendant criteria to determine prudent soft limits on exposure concentrations and procedures to manage those exposures once identified, including options for reducing concentrated exposures, mitigating the risk of concentration exposures, or consideration of concentration risks in the transaction approval process.

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811 Vermont Avenue, N.W. Washington, D.C. 20571

Management Response: The Bank agrees with this recommendation.In February 2016, the Enterprise Risk Committee (ERC) approved the use of soft limits including the consideration of these limits during the due diligence process of new transactions. As directed by the ERC in February 2016, the Bank has directed staff to continue to improve the soft portfolio limit model recognized by OIG as a useful tool. The Bank will work with staff to establish policies and attendant criteria to determine prudent soft limits on exposure concentrations. Staff will be directed to establish these policies with a focus on developing procedures to manage those exposures once identified, including options for reducing concentrated exposures, mitigating the risk of concentration exposures, or consideration of concentration risks in the transaction approval process. As a part of this process, Management has already approved the inclusion in transaction Board memoranda of the portfolio effects of transactions under consideration by the Board of Directors.

Recommendation 2: As part of the implementation of the risk sharing pilot program as provided for in the 2015 Reauthorization Act, assess the potential role of the risk sharing program in mitigating portfolio concentration risk.

Management Response: The Bank agrees with this recommendation, and has already begun to assess the potential role of the risk sharing program in mitigating portfolio concentration risk as part of the implementation of the risk sharing pilot program as provided for in the 2015 Reauthorization Act, including the posting of a Sources Sought Notification to FedBizOpps.Gov on July 6th 2016.

Recommendation 3: Engage an independent expert to complete the second half of the Credit Loss Factors ("CLF") validation exercise in FY 2016 and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the CLF model.

Management Response: The Bank agrees with this recommendation, has posted a request for proposal and is currently reviewing proposals for an independent expert to complete the second half of the Credit Loss Factors validation exercise in FY 2016. Additionally, staff will be directed to address the recommendations put forth in the final report. Further, the Bank will place oversight of the project with individuals who are not responsible for development or use of the CLF model, such as those within the Office of the Chief Financial Officer group in charge of internal controls and A123 implementation.

Recommendation 4: Engage an independent expert to evaluate the remaining models as part of phase three testing of the BCL review, beginning with project finance, and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the risk rating models.

Management Response: The Bank agrees with this recommendation, and will engage an independent expert to evaluate the remaining models as part of phase three testing of the BCL review and direct staff to address the recommendations put forth in the final report. Further, oversight of the project will be placed with individuals who are not responsible for development or use of the risk rating models, such as those within the OCFO group in charge of internal controls and A123 implementation.

Recommendation 5: OIG recommends that Ex-Im Bank further develop the scope (e.g., sector and one obligor) and frequency of stress testing protocols to analyze potential vulnerabilities due to the Bank's portfolio concentrations and incorporate the results of the stress testing into key risk management policies including the Bank's risk appetite statement, risk tolerance levels and the use of risk sharing as provided for in the 2015 Reauthorization Act.

Management Response: The Bank agrees with this recommendation, and has already developed and circulated a credit level stress testing policy and a portfolio level stress testing policy. The Bank has already changed its stress testing protocol from annual to every six months. The Bank will direct staff to further develop the scope of stress testing protocols and incorporate the results of the stress testing into key risk management policies including the Bank's risk appetite statement, risk tolerance levels and the use of risk sharing as provided for in the 2015 Reauthorization Act.

Recommendation 6: In addition to the two percent default cap, Bank staff should establish additional criteria for the setting of prudent soft limits on exposure concentrations, including one obligor related concentration. This may include percentage thresholds of credit loss reserves and earnings, current industry conditions, current exposure, nominal limits on the risk rating of the borrower and program specific objectives.

Management Response: The Bank agrees with this recommendation, and will direct staff to establish additional criteria for the setting of prudent soft limits on exposure concentrations, including one obligor related concentration while recognizing that the Bank's long time policy has been to meet demand as long as it meets the requirement of reasonable assurance of repayment as established in the Bank's Charter.

Recommendation 7: Analyze the potential impact of covariance or correlation of risk factors, industries and regions on the probability distribution of losses of the credit portfolio. The outcome of this analysis would enhance the model's predicative capability and inform the process of setting prudent soft limits.

Management Response: The Bank agrees with this recommendation, and will direct staff to analyze the potential impact of covariance or correlation of risk factors, industries and regions on the expected loss of the credit portfolio.

Recommendation 8: Ex-Im Bank should develop and implement formal procedures to enhance the timeliness of the aggregation and reporting of risk management data, including the development of a consolidated dashboard for senior management that reports important risk management data on a monthly basis. This should include but not be limited to the following:

- Aggregate portfolio concentrations on a sector, country and one obligor basis, delineating variance with established portfolio limits;
- Aggregate credit metrics of the portfolio including impaired loans and defaults; and
- Aggregate migration of risk ratings in specific sectors and obligors together with an average BCL risk rating for the portfolio.

Management Response: The Bank agrees with this recommendation, and is currently providing risk management data to senior management on a monthly basis. The Bank appreciates that the OIG has recognized the improvements made to regular risk management reports such as the Major Delinquent Debt, Impaired Credits & Watch List report, which aids the Bank in risk assessment of individual credits on a monthly basis, and the Default Rate Report, which as of March 31, 2016 reported the Bank's default rate at 0.261%. The Bank will direct staff to implement formal procedures to further enhance the timeliness of the aggregation and reporting of risk management data, including the development of a consolidated dashboard for senior management that reports important risk management data on a monthly basis.

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 Ex-Im 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
Executive Vice President and Chief Operating Officer
Export-Import Bank of the United States

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OIG Evaluation

On July 22, 2016, Ex-Im Bank provided its management response to a draft of this report, agreeing with the eight recommendations. The response identified the Bank's actions taken or planned 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 eight reported recommendations and OIG's assessment of the response are as follows:

RECOMMENDATION 1

Recommendation 1: Establish policies and attendant criteria to determine prudent soft limits on exposure concentrations and procedures to manage those exposures once identified, including options for reducing concentrated exposures, mitigating the risks of concentration exposures, or consideration of concentration risks in the transaction approval process.

Management Response: The Bank agrees with this recommendation. In February 2016, the Enterprise Risk Committee (ERC) approved the use of soft limits including the consideration of these limits during the due diligence process of new transactions. As directed by the ERC in February 2016, the Bank has directed staff to continue to improve the soft portfolio limit model recognized by OIG as a useful tool. The Bank will work with staff to establish policies and attendant criteria to determine prudent soft limits on exposure concentrations. Staff will be directed to establish these policies with a focus on developing procedures to manage those exposures once identified, including options for reducing concentrated exposures, mitigating the risk of concentration exposures, or consideration of concentration risks in the transaction approval process. As a part of this process, Management has already approved the inclusion in transaction Board memoranda of the portfolio effects of transactions under consideration by the Board of Directors.

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

Recommendation2: As part of the implementation of the risk sharing pilot program as provided for in the 2015 Reauthorization Act, assess the potential role of the risk sharing program in mitigating portfolio concentration risk.

Management Response: The Bank agrees with this recommendation, and has already begun to assess the potential role of the risk sharing program in mitigating portfolio concentration risk as part of the implementation of the risk sharing pilot program as provided for in the 2015 Reauthorization Act, including the posting of a Sources Sought Notification to FedBizOpps.Gov on July 6th 2016.

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: Engage an independent expert to complete the second half of the Credit Loss Factors ("CLF") validation exercise in FY 2016 and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the CLF model.

Management Response: The Bank agrees with this recommendation, has posted a request for proposal and is currently reviewing proposals for an independent expert to complete the second half of the Credit Loss Factors validation exercise in FY 2016. Additionally, staff will be directed to address the recommendations put forth in the final report. Further, the Bank will place oversight of the project with individuals who are not responsible for development or use of the CLF model, such as those within the Office of the Chief Financial Officer group in charge of internal controls and A123 implementation.

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 4

Recommendation 4: Engage an independent expert to evaluate the remaining models as part of phase three testing of the BCL review, beginning with project finance, and to address the recommendations put forth in the final report. To ensure adequate independence of the review process, oversight of the project should be placed with individuals who are not responsible for development or use of the risk rating models.

Management Response: The Bank agrees with this recommendation, and will engage an independent expert to evaluate the remaining models as part of phase three testing of the BCL review and direct staff to address the recommendations put forth in the final report. Further, oversight of the project will be placed with individuals who are not responsible for development or use of the risk rating models, such as those within the OCFO group in charge of internal controls and A123 implementation.

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 5

Recommendation 5: OIG recommends that Ex-Im Bank further develop the scope (e.g., sector and one obligor) and frequency of stress testing protocols to analyze potential vulnerabilities due to the Bank's portfolio concentrations and incorporate the results of the stress testing into key risk management policies including the Bank's risk appetite statement, risk tolerance levels, and the use of risk sharing as provided for in the 2015 Reauthorization Act.

Management Response: The Bank agrees with this recommendation, and has already developed and circulated a credit level stress testing policy and a portfolio level stress testing policy. The Bank has already changed its stress testing protocol from annual to every six months. The Bank will direct staff to further develop the scope of stress testing protocols and incorporate the results of the stress testing into key risk management policies including the Bank's risk appetite statement, risk tolerance levels and the use of risk sharing as provided for in the 2015 Reauthorization Act.

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 6

Recommendation 6: In addition to the two percent default cap, Bank staff should establish additional criteria for the setting of prudent soft limits on exposure concentrations, including one obligor related concentrations. This may include percentage thresholds of credit loss reserves and earnings, current industry conditions, current exposure, nominal limits on the risk rating of the borrower and program specific objectives.

Management Response: The Bank agrees with this recommendation, and will direct staff to establish additional criteria for the setting of prudent soft limits on exposure concentrations, including one obligor related concentration while recognizing that the Bank's long time policy has been to meet demand as long as it meets the requirement of reasonable assurance of repayment as established in the Bank's Charter.

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 7

Recommendation 7: Analyze the potential impact of covariance or correlation of risk factors, industries and regions on the probability distribution of losses of the credit portfolio. The outcome of this analysis would enhance the model's predicative capability and inform the process of setting prudent soft limits.

Management Response: The Bank agrees with this recommendation, and will direct staff to analyze the potential impact of covariance or correlation of risk factors, industries and regions on the expected loss of the credit portfolio.

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 8

Recommendation 8: Ex-Im Bank should develop and implement formal procedures to enhance the timeliness of the aggregation and reporting of risk management data, including the development of a consolidated dashboard for senior management that reports important risk management data on a monthly basis. This should include but not be limited to the following:

- Aggregate portfolio concentrations on a sector, country and one obligor basis, delineating variance with established portfolio limits;
- Aggregate credit metrics of the portfolio including impaired loans and defaults; and
- Aggregate migration of risk ratings in specific sectors and obligors together with an average BCL risk rating for the portfolio.

Management Response: The Bank agrees with this recommendation, and is currently providing risk management data to senior management on a monthly basis. The Bank appreciates that the OIG has recognized the improvements made to regular risk management reports such as the Major Delinquent Debt, Impaired Credits & Watch List report, which aids the Bank in risk assessment of individual credits on a monthly basis, and the Default Rate Report, which as of March 31, 2016 reported the Bank's default rate at 0.261%. The Bank will direct staff to implement formal procedures to further enhance the timeliness of the aggregation and reporting of risk management data, including the development of a consolidated dashboard for senior management that reports important risk management data on a monthly basis.

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 9: Summary of Management's Comments on the Recommendations				
Rec. No.	Corrective Action: Taken or Planned	Expected Completion Date[60]	Resolved: Yes or No[61]	Open or Closed[62]
1.	The Bank will to establish policies and attendant criteria for determining prudent soft limits	No target completion date	Yes	Open

[60] Ex-Im Bank OIG has requested target completion dates for each of the outstanding recommendations.

[61] "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.

[62] Upon determination by Ex-Im Bank OIG that the agreed upon corrective action has been completed and is responsive to the recommendation, the recommendation can be closed.

Table 9: Summary of Management's Comments on the Recommendations				
Rec. No.	**Corrective Action: Taken or Planned**	**Expected Completion Date[60]**	**Resolved: Yes or No[61]**	**Open or Closed[62]**
	on exposure concentrations with a focus to manage those exposures or consider concentration risks in the transaction approval process.	provided		
2.	The Bank has begun to assess the potential role of the risk sharing program in mitigating portfolio concentration risk. This includes the posting of a solicitation of interest through FedBizOpps.Gov.	No target completion date provided	Yes	Open
3.	The Bank is currently reviewing responses to a request for proposal for an independent expert to complete the second half of the CLF validation exercise. The Bank will address recommendations in the final report and place oversight of the project with individuals who are not responsible for the development or use of the CLF model.	No target completion date provided	Yes	Open
4.	The Bank will engage an independent expert to evaluate the remaining BCL risk rating models. The Bank will address recommendations in the final report and place oversight of the project with individuals who are not responsible for the development or use of the risk rating models.	No target completion date provided	Yes	Open
5.	The Bank has developed credit and portfolio level stress testing policies and changed its stress testing protocol from annual to every six months. The Bank will further develop the scope of its stress testing protocols and incorporate the results into the	No target completion date provided	Yes	Open

Table 9: Summary of Management's Comments on the Recommendations				
Rec. No.	**Corrective Action: Taken or Planned**	**Expected Completion Date**[60]	**Resolved: Yes or No**[61]	**Open or Closed**[62]
	Bank's key risk management policies.			
6.	The Bank will establish additional criteria for setting prudent soft limits on exposure concentrations, including one obligor concentrations.	No target completion date provided	Yes	Open
7.	The Bank will analyze the potential impact of covariance and correlation of risk factors, industries and regions on the expected loss of the credit portfolio.	No target completion date provided	Yes	Open
8.	The Bank is currently providing risk management data to senior management on a monthly basis and will implement formal procedures to further enhance the timeliness and aggregation of the reporting of the data. This will include the development of a consolidated dashboard that reports risk management data on a monthly basis.	No target completion date provided	Yes	Open

Appendix B: Summary of OIG's 2012 Report on Portfolio Risk Policies

In our 2012 evaluation report on Ex-Im Bank's portfolio risk and loss reserve allocation policies, we identified several areas needing improvement with respect to the Bank's current loss reserve allocation and portfolio risk management policies and procedures.[63] In addition, we noted that Ex-Im Bank's current governance structure was not commensurate with the size, scope, and strategic ambitions of the institution. Since the publication of OIG's September 2012 report, the Bank has made important progress in strengthening its risk management practices. This report seeks to document the progress made, but also to highlight areas for additional improvement.

Overall, we believe Ex-Im Bank would benefit from a comprehensive assessment of both agency-wide risk factors and portfolio risk mitigation techniques. The results of this assessment would inform the design of a robust risk management framework that in our estimation is critical to the Bank's long term ability to manage its growing portfolio.

Table 10: Management's Responses to 2012 Report

Finding	Recommendation	Management Response
Finding A: Ex-Im Bank lacks a systematic approach to identify, measure, price, and reserve for its portfolio risk.	Ex-Im Bank should develop a systematic approach to identifying, measuring, pricing, and reserving for portfolio risk, including the identification of appropriate qualitative risk factors to account and reserve for such risk. Ex-Im Bank should incorporate these factors into its loss allowance analysis both retrospectively and prospectively. The former will ensure that Ex-Im Bank has properly reserved for existing exposure while the latter will address future exposure.	Ex-Im Bank agreed with the recommendation.
Finding B: Ex-Im Bank lacks formal policies and procedures for its loss reserve forecasting model which clearly define roles and responsibilities and provide for independent validation of the model's integrity.	Together with external subject matter experts, OCFO should design and implement a formal governance framework for the use of financial models. This framework should include policies and procedures for model-validation including external validation of the model's integrity, model ownership and testing.	Ex-Im Bank agreed with the recommendation.

[63] *Supra* note 1.

Table 10: Management's Responses to 2012 Report		
Finding	**Recommendation**	**Management Response**
Finding C: Ex-Im Bank does not conduct portfolio stress testing in a systematic manner to assess potential exposures under challenging economic conditions.	Ex-Im Bank should develop a systematic approach to stress testing and should conduct stress testing at least annually as part of its re-estimate process.	Ex-Im Bank agreed with the recommendation.
Finding D: Ex-Im Bank does not self-impose portfolio concentration sub-limits either by industry, geography, or asset class as internal guidance to inform management on risk and determine exposure fees in new transactions.	Ex-Im Bank should implement soft portfolio concentration sub- limits based on industry, geography, or asset class as internal guidance to manage risk tolerance levels and return parameters. Once exposure fees are in place, these guidelines can inform future pricing, risk management decisions, and business development new transactions.	Ex-Im Bank initially disagreed with this recommendation. Upon clarification, the Bank subsequently changed its position and agreed to implement OIG's recommendation to implement soft portfolio concentration sub-limits.
Finding E: Ex-Im Bank's current risk management framework and governance structure are not commensurate with the size, scope, and strategic ambitions of the institution.	Ex-Im Bank should create the position of CRO to oversee the design and implementation of an agency-wide risk management function. The CRO should have sufficient independence in the organizational structure from the business units whose activities and exposures it reviews. Working with Ex-Im Bank senior management and the Board of Directors, the CRO would be responsible for drafting, presenting, and then implementing approved key risk policies including a portfolio risk mitigation policy, a financial model governance policy, as well as broader financial governance issues.	Management first disagreed but later agreed to hire a CRO.
	Ex-Im Bank's Board of Directors should amend its by-laws to include the oversight of an agency-wide risk management function covering the full range of credit, operational, and other risks.	Management disagreed with this recommendation.
	Ex-Im Bank should review current risk metrics and reporting procedures with a view to enhance transparency and to better inform key stakeholders.	Ex-Im Bank agreed with the recommendation.

Appendix C: Background on Ex-Im Bank's Charter 2015

With the passage of the Export-Import Bank Reform and Reauthorization Act of 2015 (the "Act"), the Bank's Charter was renewed for an additional five-year period.[64, 65] The Act included additional provisions related to risk management as summarized below:

1. <u>Enact an exposure cap "freeze" if the Bank's default rate rises to 2 percent or more</u>: Under Sec. 6(a), the aggregate outstanding exposures are capped at $135 billion for each fiscal year from 2015 to 2019. In addition, the exposure cap is subject to a "freeze" if the Bank's default rate[66] rises to 2 percent or more. Under the freeze, the exposure would be capped at the amount outstanding as of the last day of the quarter and would remain in place until the default rate falls under 2 percent.
2. <u>Build and hold a reserve of 5 percent or more for the aggregate amount of disbursed and outstanding commitments</u>: Under Sec. 6(b), the bank is required to "build to and hold in reserve" an amount not less than 5 percent of the aggregate amount of disbursed and outstanding loans, guarantees, and insurance of the Bank to protect against future losses.
3. <u>Establish an "Office of Ethics" in the Bank</u>: Under Sec. 3(k), the Office of Ethics provides oversight for all ethics issues within the Bank. The duties include administrative actions to establish or enforce standards of official conduct, referral of alleged ethics violations to the OIG, reporting of violations to appropriate Federal or State authorities and issuance of general ethical guidance on Bank matters.
4. <u>Appoint a Chief Risk Officer who shall "oversee all issues relating to risk within the Bank; and report to the President of the Bank"</u>: Under Sec. 3(l), the Bank is expected to appoint a Chief Risk Officer with prior experience in practical financial risk evaluation practices. The duties of the Chief Risk Officer shall include the following:
    - To be responsible for all matters related to managing and mitigating all risk to which the Bank is exposed, including the programs and operations of the Bank;
    - To establish policies and processes for risk oversight, the monitoring of management compliance with risk limits, and the management of risk exposures and risk controls across the Bank;

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[64] 2015 Reauthorization Act, *supra* note 2.

[65] Charter, *supra* note 5.

[66] Default Rate, as defined by Ex-Im Bank, is the total amount of required payments that are overdue divided by a total amount of financing involved.

- To be responsible for the planning and execution of all Bank risk management activities, including policies, reporting, and systems to achieve strategic risk objectives;
- To develop an integrated risk management program that includes identifying, prioritizing, measuring, monitoring, and managing internal control and operating risks and other identified risks;
- To ensure that the process for risk assessment and underwriting for individual transactions considers how each such transaction considers the effect of the transaction on the concentration of exposure in the overall portfolio of the Bank, taking into account fees, collateralization, and historic default rates; and
- To review the adequacy of the use by the Bank of qualitative metrics to assess the risk of default under various scenarios.

5. <u>Terminate the Bank's Audit Committee and establish a "Risk Management Committee":</u> Under Sec. 3(m), the members of the Board, along with the President and First Vice President of the Bank, form the Risk Management Committee. In conjunction with Ex-Im Bank OCFO, the Risk Management Committee shall provide oversight to periodic stress testing of the entire Bank portfolio and the monitoring of industry, geographic, and obligor exposure levels. The oversight will ensure that portfolio stress testing covers different market, industry, and macroeconomic scenarios following the common practices of commercial and multilateral banks. In addition, the Risk Management Committee is responsible to review all required reports on the default rate of the Bank before submission to Congress under Sec. 8(g).
6. <u>Establish a pilot program to share risks under its loan, guarantee, and insurance programs</u>: Under Sec. 51008, the Bank may enter into contracts to engage in risk transfer activities. The aggregate amount of liability the Bank may transfer through risk- sharing may not exceed $10 billion in any fiscal year. The Bank is required to report annually on the use of the pilot program.

Appendix D: Model Risk Management and Governance

U.S. financial regulators have cited several components of a sound model risk management program, including:

- *Sound model validation process*, including the confirmation of conceptual soundness, ongoing monitoring, process verification and benchmarking; and ongoing review of assumptions and an outcomes analysis, including back-testing.
- *External validation of the model's integrity*, which is designed to confirm a model's integrity and performance. Validation requires a degree of independence from model development and use. Ideally, validation should be undertaken externally by competent, impartial sources not responsible for developing the model.
- *A formal system of governance*, which establishes an effective framework with defined roles and responsibilities for clear communication of model limitations and assumptions, as well as the authority to restrict model usage.

Model validation typically consists of three separate components: a review of the developmental evidence, process verification and outcome analysis. A description of each is provided below in Table 11.

Table 11: Model Validation

Component	Description
Developmental Evidence	Developmental evidence focuses on the reasonableness of the conceptual approach and quantification techniques of the model. This analysis typically considers the following: • Documentation and support for the appropriateness of the logic and specific risk quantification techniques used in the model. • Confirmation of model sensitivity to key assumptions and data inputs used. • Support for the reasonableness and validity of model results.
Process Verification	Process verification considers data inputs, formulae, and model output reporting. It typically evaluates the following: • Internal controls. • The reconciliation of source data systems with model inputs. • The usefulness and accuracy of model outputs and reporting. • The benchmarking of model processes against industry practices for similar models.
Outcome Analysis	Outcome analysis focuses on model output and reporting to assess the model's predictive ability. This may include the following qualitative and quantitative techniques: • Checking qualitative reasonableness to assess whether the model is generally producing expected results. • Back-testing which compares the model's predicted results to observed actual results. • Benchmarking of model output to compare predicted results generated by the model being validated with predicted results from other models or sources.

Source: FDIC Supervisory Insights – Model Governance

Appendix E: Qualitative Risk Factors

Table 12: Qualitative Risk Factors Used on Top of the Quantitative Model			
#	**Factor**		**Aggregate $ CLF Allocation for Qualitative Risks (in millions)**
FY 2012			
1	Minimum Loss Rate	0.5%	$565
2	Prediction Interval ("PI") Level	No PI	
3	Portfolio Growth Percent Increase to Loss Rate		
	Region	7%	
	Industry	13%	
	Aircraft	1%	
Qualitative on Top Percent Impact		**23%**	
FY 2013			
1	Minimum Loss Rate	0.5%	$1,335
2	Prediction Interval Level	No PI	
3	Portfolio Growth Percent Increase to Loss Rate		
	Long Term Non-Aircraft	40%	
	Aircraft	95%	
	Other Programs/Products	0%	
Qualitative on Top Percent Impact		**68%**	
FY 2014			
1	Minimum Loss Rate	0.5%	$1,083
2	Prediction Interval Level	No PI	
3	Portfolio Growth Percent Increase to Loss Rate		
	Short Term	0%	
	Medium Term	0%	
	Long Term	40%	
Qualitative on Top Percent Impact		**40%**	
FY 2015			
1	Minimum Loss Rate	0.5%	$817
2	Prediction Interval Level	No PI	
3	Portfolio Growth Percent Increase to Loss Rate		
	Short Term	0%	
	Medium Term	0%	
	Long Term	40%	
Qualitative on Top Percent Impact		**40%**	

Source: Ex-Im Bank's Loss Rate Reports for 2012 - 2015 (Internal Reports)

Appendix F: S&P Recommendations

Table 13: S&P Recommendations	
S&P Recommendations	**S&P Findings**
1. S&P recommends that Ex-Im Bank improve documentation for model development and model implementation. “Model development documentation should provide detailed information about the development process used for the model and detailed information about the testing by model developers. Thorough development documentation is the key for ensuring continuity of knowledge about the model and minimizing key-person dependency risks. This documentation is also a key document for managing model risk, and is reviewed by the model validation group and internal or external audit departments. Model implementation documentation is another critical part of model documentation that provides information about the model technical specifications (model structure and process flow) and User’s Guidelines on procedures for operating the model and providing inputs for the model. The above described documentation types are often supplemented by a separate document (or section) dedicated to on-going model governance describing the processes and plans for maintaining and updating key model parameters and assumptions, security and change control procedures.”	Federal guidance provides that model documentation “should provide a thorough understanding of how the model works (model theory) and allows a new user to assume responsibility for the model's use (operational procedures).” However, S&P stated, “Export-Import models do not have the appropriate level or type of documentation to accomplish these two objectives, and the level of documentation is below common practices and expectations for the model's intended use... Enhanced documentation for all Export-Import Bank models is needed to allow for institutional knowledge to be carried forward and allow effective improvement of models/methodologies going forward…most of the BCL risk rating models did not have sufficient technical documentation to explain how the model was developed, nor adequate instruction as to how they should be utilized.”
2. S&P recommends that Ex-Im Bank implement better defined objective scoring criteria and model architecture: “All models should use weights or similar transparent and consistent algorithms for deriving risk scores and ensure a well-controlled and replicable rating process. In order to ensure that risk ratings are both consistent and accurate, the criteria used to determine the appropriate rating should be precise. For all quantitative and	S&P found that “while the ratings assigned to a credit are generally well supported and documented in the sample of reviewed Export-Import credit files (board memos), the models do not adequately codify the rating analysis level of detail and thought process. We find that the design of expert judgment scorecards needs to be consistent with the rating analyst’s thought process, allowing the thought process to be codified in a transparent, replicable and auditable manner.”

Table 13: S&P Recommendations	
S&P Recommendations	**S&P Findings**
qualitative factors included in each models, the following should be outlined and documented in policies for the reference of all personnel involved: - weights or other scoring mechanisms/protocols - criteria for assigning each risk level that determine risk ratings – e.g. ratio benchmark/ranges, qualitative objectified criteria."	
3. S&P recommends that Ex-Im Bank utilize additional sector specific models to better assess the unique risks particular to an industry sector. "The exact number of models ultimately employed to some extent depends on the assessment of the cost/benefit of developing more versus less sector-specific models. Since there is a wide range of practices in financial institutions with respect to the number of models used for large corporate and project portfolios - it is difficult to provide a standard benchmark since the definition of a 'model' differs by institution, nevertheless, a rough estimate is between 6-20 sector specific models, dependent on portfolio composition. At a minimum, we would recommend separate models be used for Banks versus Non-Bank Financial Institutions (including financial leasing) and Manufacturing vs. Oil & Gas (a detailed portfolio review would be needed for more specific recommendations)."	S&P found that given the Bank's portfolio sector concentrations (i.e. Transportation, Manufacturing, Oil & Gas), "the number of sector-specific models applied is somewhat below industry standards and may be insufficient for the range of exposures within portfolio. This indicates that model risk factors, benchmarks/metrics, and factor weights may not be sufficiently differentiated by sector."
4. S&P recommends that Ex-Im Bank develop a dual risk rating structure similar to best practice and peer institution approaches... Such a framework would clearly differentiate between obligor PD risk and transaction level LGD risk."	S&P found that "the Bank's risk rating architecture uses a 'hybrid' approach where the customer-level default risk rating is first determined… then adjusted according to the nature of each of the customer's credit facilities. They state that although this practice is still in use, "most of comparable (peer) institutions and an increasing number of banks worldwide are using or planning to use a dual risk rating framework with separate default and recovery rating systems (which is also a Basel II requirement) to improve differentiation

Table 13: S&P Recommendations	
S&P Recommendations	**S&P Findings**
	and better understanding of the drivers of the different components of a transaction's risk." Since the Export-Import Bank system does not have a separate Facility Risk Rating (FRR) system for the explicit rating of Loss Given Default (LGD) and Exposure at Default (EAD), this results in the recovery potential being embedded in the BCL rating as an adjustment. This could potentially complicate and impact the accuracy of the PD estimates"
5. S&P recommends that Ex-Im Bank develop a model validation function that is functionally independent: "The Export-Import Bank "should establish a system of independent, ongoing assessment of the bank's credit risk management processes. Instituting a model validation function that is structurally independent from the model developers and users is recommended....The model validation role which is functionally independent from the individuals responsible for developing and monitoring the risk models used in the Export-Import risk rating framework, should also control and monitor the model override process, develop guidelines for selecting which models to use and play a critical role in all model risk management processes. All model components, including input, processing, and reporting, should be subject to on-going validation (this applies equally to models developed in-house and to those purchased from or developed by vendors). Export-Import Bank should formalize all model risk management activities with policies and procedures to implement them. Model risk management policies should be consistent with regulatory standards (OCC Bulletin 2011-12 / Federal Reserve Bulletin SR 11-7) and also be commensurate with the Bank's relative complexity, business activities, corporate culture, and overall organizational structure."	"A few model governance-related issues have been identified during our review, for example, Export-Import does not have an independent validation group to monitor and manage the ongoing performance of the rating systems and processes. The absence of testing and validation of implemented risk rating techniques is another important issue, since it does not allow for a continuous learning and improvement process around the models, where issues are diagnosed, and corrective actions taken in a continuous and timely fashion. While it is generally good practice for banks to ensure that all models undergo the full validation process, the risk rating process should at the very least undergo a high-level independent review on a regular basis - at least annually but more frequently if warranted - to determine whether it is working as intended. Such a review could simply affirm previous validation work, suggest updates to previous validation activities, or call for additional validation activities where needed. Additional tests (e.g. back-testing or independent benchmarking) could determine whether the assumptions are valid and the models perform as intended in more detail."

Table 13: S&P Recommendations	
S&P Recommendations	**S&P Findings**
6. S&P recommends to eliminate differences between origination and monitoring models. "To ensure a uniform credit culture and methodology across individual transactions is used across different divisions we recommend that differences between monitoring and origination models be eliminated. Potential future changes in economic conditions should be taken into consideration in a formalized way when assessing individual credits under stressful conditions. Generally, stress testing should involve identifying possible events or future changes in economic conditions that could have unfavorable effects on a bank's credit exposures. Typical areas that should be examined include: (a) economic or industry downturns; (b) market-risk events, and (c) liquidity stresses. The stress testing in common practices can range from relatively simple alterations in assumptions about one or more financial, economic or structural variable to the highly sophisticated stress-testing projection models. Irrespective of the method of stress testing used, the output of these tests should be reviewed periodically by senior management and appropriate action taken where needed (e.g. the results exceed agreed tolerances). In best practice institutions such outputs are also incorporated into the process for assigning and updating policies and limits.	S&P found a lack of consistency between the models used for origination and monitoring: "While Export-Import has in place a system for monitoring the overall composition and quality of the credit portfolio, the system lacks consistency with origination models. This could lead to increased model risks since model users may need to adjust model results for definitions, factors and methodologies that differ from model to model making comparisons difficult. Standard practices in Financial Institutions indicate a level of consistency between front and back end models is recommended. This is particularly the case for Ex-Im's TPMD and Project Finance Monitoring models where we observe the largest level of differences from the front end….To ensure continued effectiveness of risk ratings as a key tool to manage credit risk and prevent loan losses, the risk rating system should be designed to be dynamic enough to capture information about downside scenarios. The bank's internal risk rating system should have a structured process for ensuring responsiveness to indicators of potential or actual deterioration in credit risk."
7. S&P recommends that Non-sovereign country risk should be used in models as an important direct risk assessment driver. "S&P's believe the analysis of non-sovereign country risk is important for addressing the major factors that affect the operating conditions in a specific country where an entity conducts business. Under the S&P criteria, the combined assessments for country risk,	S&P found that "the Non-Sovereign Country Risk scores used in the Export-Import risk rating system consists of similar components as those outlined above, but the component is not used as a direct scoring factor (apart from the Project Finance framework) within the risk scoring models. Based on the latest documented internal recommendation for the use of non-sovereign ratings within Ex-Im's corporate and financial institution long-term scoring models, to eliminate redundancy, the non-sovereign

Table 13: S&P Recommendations	
S&P Recommendations	**S&P Findings**
industry risk, and competitive position determine the basis of a company's business risk profile assessment "	BCL is used only as a limiting factor ('cap') to the overall BCL rating – the final BCL cannot be more than one notch better than the non-sovereign BCL without additional documented justification."
8. S&P recommends that any criterion considered as part of the risk assessment of the Board memorandum should be correspondingly reflected as a direct risk factor of the relevant risk rating model.	S&P found that "While the ratings assigned to a credit are generally well supported ...this analysis takes place outside of the models themselves. The model structure and documentation generally does not adequately codify the rating analysis level of detail and thought process embedded in the loan approval documents." certain transaction risks identified in the Board memorandums

Source: S&P Reports Provided to Bank Staff

Appendix G: Impaired Credits – Definitions

Table 14: Impaired Credits – Definitions			
FY	Annual Report Section and Definition	Total (in millions)	
		MD&A[67]	Notes[68]
2008	Management's Discussion and Analysis of Results of Operation and Financial Condition ("MD&A"): The MD&A did not contain a definition of impaired credits. However, the section did report an amount for credits classified as "impaired." Notes to the Financial Statements ("Notes"): Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims, or (3) non-delinquent loans and claims above a certain risk rating. Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans, guaranteed loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans, guaranteed loans and rescheduled claims, or (3) non-delinquent loans, guaranteed loans and claims above a certain risk rating.	$767.4	$3,428.7
2009	MD&A: The MD&A did not contain a definition of impaired credits. However, the section did report an amount for credits classified as "impaired." Notes: Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims, or (3) non-delinquent loans and claims above a certain risk rating. Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans, guaranteed loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans, guaranteed loans and rescheduled claims, or (3) non-delinquent loans, guaranteed loans and claims above a certain risk rating.	$825.0	$4,100.7
2010	MD&A: The MD&A did not contain a definition of impaired credits. However, the section did report an amount for credits classified as "impaired." Notes: Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and	$666.2	$4,351.9

[67] As of FYE, the amount reported is for those credits classified as "impaired" per the Bank's Annual Report.

[68] For FYs 2010 – 2015, Ex-Im Bank provided the total amount of impaired assets.

Table 14: Impaired Credits – Definitions			
FY	Annual Report Section and Definition	Total (in millions)	
		MD&A[67]	Notes[68]
	claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims, or (3) non-delinquent loans and claims above a certain risk rating.		
2011	MD&A: The MD&A did not contain a definition of impaired credits. However, the section did report an amount for credits classified as "impaired." Notes: Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims, or (3) non-delinquent loans and claims above a certain risk rating.	$495.0	$2,718.0
2012	MD&A and Notes: Ex-Im Bank generally considers a credit impaired if it meets one or more of the following: (1) delinquent loans and claims with an amount of $50,000 or more past due at least 90 days, (2) rescheduled loans and rescheduled claims or (3) non-delinquent loans and claims above a certain risk rating.	$817.0	$2,634.6
2013	MD&A: Impaired credits are defined as those transactions risk rated from 9 to 11 (refer to section VII, "Portfolio-Risk Rating System and Risk Profile," for the explanation of risk ratings), or on the verge of impairment due to political, commercial, operational and/or technical events or situations, and/or force majeure that have affected the borrower's ability to service repayment of Ex-Im Bank credits. Notes: Impaired credits are defined as those transactions risk rated from 9 to 11 or on the verge of impairment due to political, commercial, operational and/or technical events or situations and/or "Acts of God" that have affected the borrower's ability to service repayment of Ex-Im Bank credits.	$434.0	$2,267.9
2014	MD&A: Impaired Credits are defined as those transactions risk rated as Budget Cost Level ("BCL") 9-11 and on the verge of impairment due to political, commercial, operational and/or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of Ex-Im Bank credits. Notes: Impaired credits are defined as those transactions risk rated from 9 to 11, or on the verge of impairment due to political, commercial, operational and/ or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of Ex-Im Bank credits.	$294.3	$2,027.1

Table 14: Impaired Credits – Definitions			
		Total (in millions)	
FY	Annual Report Section and Definition	MD&A[67]	Notes[68]
2015[69]	MD&A: Impaired Credits are defined as those transactions risk rated as Budget Cost Level ("BCL") 9-11 and on the verge of impairment due to political, commercial, operational and/or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of EXIM Bank credits. Notes: Impaired credits are defined as those transactions risk rated from 9 to 11, and on the verge of impairment due to political, commercial, operational and/ or technical events or situations, and/or Acts of God that have affected the Borrower's ability to service repayment of EXIM Bank credits.	$468.1	$2,375.5

Source: Ex-Im Bank's Annual Reports for FYs 2008 – 2015 and Impaired Credits & Watch Lists (Internal Reports)

[69] OIG notes an earlier posting of the FY 2015 MD&A and Notes sections of the annual report differed (i.e., "and" versus "or", respectively). However, the Bank in the final posting of the full annual report to the web corrected the difference after notification by OIG.

Appendix H: BCL Risk Rating Classification and Total Exposure

Table 15: BCL Risk Rating Classification Categories and Exposure

Risk Classification	Total Exposure Amount, % of Portfolio and % Change				% Growth FY 2012 to FY 2015
	FY 2012	FY 2013	FY 2014	FY 2015	
1	$2,814.9	$2,382.7	$2,266.4	$2,046.4	-10.1%
	2.6%	2.1%	2.0%	2.0%	
	-	-15.4%	-4.9%	-9.7%	
2	$24,143.6	$23,584.6	$23,231.2	$20,554.5	-5.3%
	22.6%	20.7%	20.7%	20.1%	
	-	-2.3%	-1.4%	-12.1%	
3	$23,172.9	$22,754.0	$23,163.7	$18,705.5	-6.9%
	21.7%	20.0%	20.7%	18.3%	
	-	-1.8%	1.8%	-19.2%	
4	$18,341.0	$23,866.0	$22,148.3	$20,073.7	3.1%
	17.2%	21.0%	19.8%	19.6%	
	-	30.1%	-7.2%	-9.4%	
5	$12,759.5	$16,630.9	$16,998.0	$13,335.6	1.5%
	12.0%	14.6%	15.2%	13.0%	
	-	30.3%	2.2%	-21.5%	
6	$7,521.1	$7,196.8	$8,331.1	$8,992.9	6.1%
	7.1%	6.3%	7.4%	8.8%	
	-	-4.3%	15.8%	7.9%	
7	$1,924.1	$2,290.8	$2,297.4	$2,877.5	14.4%
	1.8%	2.0%	2.1%	2.8%	
	-	19.1%	0.3%	25.3%	
8	$1,267.0	$1,267.6	$1,268.2	$2,642.7	27.8%
	1.2%	1.1%	1.1%	2.6%	
	-	0.05%	0.05%	108.4%	
9	$942.5	$452.2	$596.4	$853.3	-3.3%
	0.9%	0.4%	0.5%	0.8%	
	-	-52.0%	31.9%	43.1%	
10	$32.0	$21.6	$20.9	$16.5	-19.8%
	0.03%	0.02%	0.02%	0.02%	
	-	-32.5%	-3.2%	-21.1%	
11	$486.2	$501.4	$416.5	$598.8	7.2%
	0.5%	0.4%	0.4%	0.6%	
	-	3.1%	-16.9%	43.8%	
12	$643.4	$544.7	$547.7	$605.5	-2.0%
	0.6%	0.5%	0.5%	0.6%	
	-	-15.3%	0.6%	10.6%	

Source: Ex-Im Bank's Accounting Manual 2012 and Bank Data for FYs 2012 - 2015

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