

# DEFAULT RATE REPORT

AS OF  
MARCH 2017



FISCAL YEAR 2017 (Q2) DEFAULT EXPERIENCE  
EXPORT-IMPORT BANK OF THE UNITED STATES

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# Executive Summary

## MISSION

The mission of the Export-Import Bank (“EXIM Bank” or “Bank”) is to enable U.S. companies of all sizes to turn export opportunities into sales that maintain and create U.S. jobs and contribute to a stronger national economy. The Bank achieves this mission by providing export financing through its loan, guarantee, and insurance programs in cases where the private sector is unable or unwilling to provide financing. EXIM Bank also provides financing support when necessary to level the playing field for U.S. exporters that are in competition with foreign companies supported by financing from their official foreign export credit agencies (ECA).

## STATUTORY REQUIREMENT

On May 30, 2012, President Obama signed Public Law 112-122, the Export-Import Bank Reauthorization Act of 2012. Section 6 of the 2012 Reauthorization Act requires:

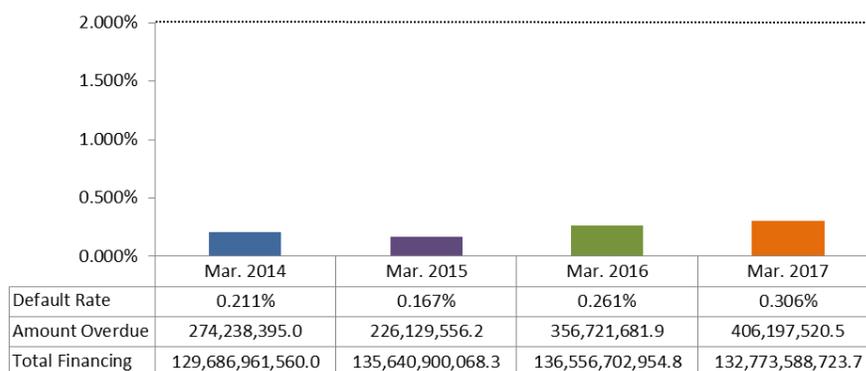
*“(1) MONITORING OF DEFAULT RATES.—Not less frequently than quarterly, the Bank shall calculate the rate at which the entities to which the Bank has provided short-, medium-, or long-term financing are in default on a payment obligation under the financing, by dividing the total amount of the required payments that are overdue by the total amount of the financing involved.”*

On December 4, 2015, President Obama signed Public Law 114-94, the Export-Import Bank Reform and Reauthorization Act of 2015, which reauthorized the Bank’s authority to conduct new business through 2019 and renewed this provision. As mandated, EXIM Bank continues to report on its default rate, as defined in the section above, on a quarterly basis corresponding to the quarters of the fiscal year. This report is as of March 2017 and is based on annually audited financial data.<sup>1</sup>

## DEFAULT RATE

The default rate<sup>2</sup> of the Export-Import Bank through March 31, 2017, is **0.306 percent** as shown in Exhibit 1. This rate reflects a “total amount of required payments that are overdue” (claims paid on guarantees and insurance transactions plus loans past due) equal to \$406.2 million divided by a “total amount of financing involved” (disbursements) equal to \$132.8 billion.<sup>3</sup> This financing amount is different from EXIM Bank’s current exposure because it includes repayments and excludes authorized amounts that have yet to disburse.

**Exhibit 1: Default Rate**



<sup>1</sup> The data used to produce this report is generated from the financial management system and same source accounting systems that produced the Bank’s previous annual audited financial statements. Although the external auditors do not express an opinion on the effectiveness of the Bank’s systems, the data used to support the financial statements is tested for accuracy on a sample basis. The Bank has received an unqualified opinion since 1989 regarding the presentation of the Bank’s financial statements.

<sup>2</sup> This default rate is different than the default rates published in the annual Budget Appendix due to differing definitions. The reported rate in the Budget Appendix reflects projected defaults over the life of the loan while the default rate in this report reflects actual defaults at a particular point in time.

<sup>3</sup> The default rate is based on disbursements (not authorized amounts) as a default cannot occur on a transaction that has been authorized but not yet disbursed.

# Default Rate

## CONGRESSIONAL INTENT

In discussions with the House Financial Service Committee (HFSC) related to the requirement on the monitoring of the default rate, the committee members cited former Chairman Fred Hochberg’s testimony as the type of information required by this provision. In his testimony on May 24, 2011 before the HFSC, Chairman Hochberg stated “as a result of our diligent review and management of credit, the Bank has a loan loss rate<sup>4</sup> [default rate] of roughly 1.5 percent – well below most commercial banks.” This report is produced in a manner consistent with the metric provided in the Chairman’s testimony.

## DEFINED

Section 6 of the 2012 Reauthorization Act mandated that the EXIM Bank calculate the “default on a payment obligation... by dividing the total amount of the required payments that are overdue by the total amount of the financing involved.” The “total amount of required

$$\text{Overdue Payments} = \text{Defaults Paid} + \text{Expenses} - \text{Recoveries}$$

$$\text{Total Financing} = \text{Disbursements (Active)}$$

payments that are overdue”, representing the numerator, is defined as claims paid on guarantees and insurance transactions as well as unpaid past due installments on loans in the Bank’s active portfolio. For guarantees and insurance transactions, upon default of a payment obligation<sup>5</sup>, EXIM Bank pays a claim to the guarantors or the insured parties. As this report is based on the Bank’s portfolio through March 2017, all expenses incurred related to the Bank’s recovery efforts are added to the amount overdue. Recoveries to that point reduce the amount overdue in connection to the specific claim paid or the loan in arrears. All recovered amounts are discounted to the time of claim payment or when the direct loan went into arrears. The “total amount of financing involved,” the denominator, is defined as the disbursed<sup>6</sup> financing under the Bank’s programs to support U.S. exports. After a credit is approved, the value of the goods and services financed by EXIM Bank is recorded once they are delivered (or disbursed) to the buyer. Depending on the type of goods and services financed, the delivery (or disbursement) can occur over a period of years.

## ACTIVE PORTFOLIO

EXIM Bank’s credits have a defined repayment schedule that generally ranges from one year to 15 years or more. Most credits have quarterly or semi-annual repayment terms; however, repayment terms can vary among EXIM Bank’s programs and products. A disbursed loan, guarantee, or insurance policy that has a repayment schedule where the final repayment date is after the date of this report is included as part of the active portfolio. Any installment due within the

**Active Credit Example:** A long term guarantee authorized in FY 2009 with a 10 year repayment term (the deal matures in FY 2019)

**Inactive Credit Example:** A long term guarantee in FY 1994 with a 10 year repayment term (the deal matured in FY 2004).

<sup>4</sup> The loan loss rate does not include the fees that the Bank charges for the transaction that it finances.

<sup>5</sup> Upon receipt of request for a claim payment by the lending institution, EXIM Bank performs claim procession functions.

<sup>6</sup> Disbursements include loans, guarantees, and insurance.

repayment schedule up to the date of this report that has not been paid is considered to be in default.

On the Bank's active portfolio, a total of \$132.8 billion of goods and services<sup>7</sup> have been delivered to foreign buyers of American-made products. These products are supported by EXIM Bank's loan, guarantees, and insurance programs. Of this amount, the Bank has gross defaults of \$410.3 million, incurred expenses related to those payments of \$1.5 million, and recovered \$5.6 million for net defaults of \$406.2 million. This results in a default rate through the time period ending March 2017 equal to 0.306 percent.

## EXPOSURE

EXIM Bank's exposure differs from the total financing amount because it includes repayments and authorized amounts that have yet to disburse. As of March 31, 2017, the Bank's exposure stood at \$79.3 billion. The Bank's Charter, as amended by the Export-Import Bank Reform and Reauthorization Act of 2015, stipulates that the Bank shall not have an exposure exceeding \$135.0 billion. Additionally, Section 6(A) of the Charter now requires that:

*“(3) Freezing of lending cap if default rate is 2 percent or more. If the rate calculated under section 8(g)(1) is 2 percent or more for a quarter, the Bank may not exceed the amount of loans, guarantees, and insurance outstanding on the last day of that quarter until the rate calculated under section 8(g)(1) is less than 2 percent.”*

As of March 31, 2017, the default rate is 0.306 percent, which is below the 2 percent threshold identified in Section 6(A) of the Charter. With the current default rate below 2 percent, EXIM Bank's current lending cap remains \$135.0 billion.

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<sup>7</sup> This includes local costs, capitalized interest during construction, and foreign content derived from co-financing and short-term commitments.

# Default Rate

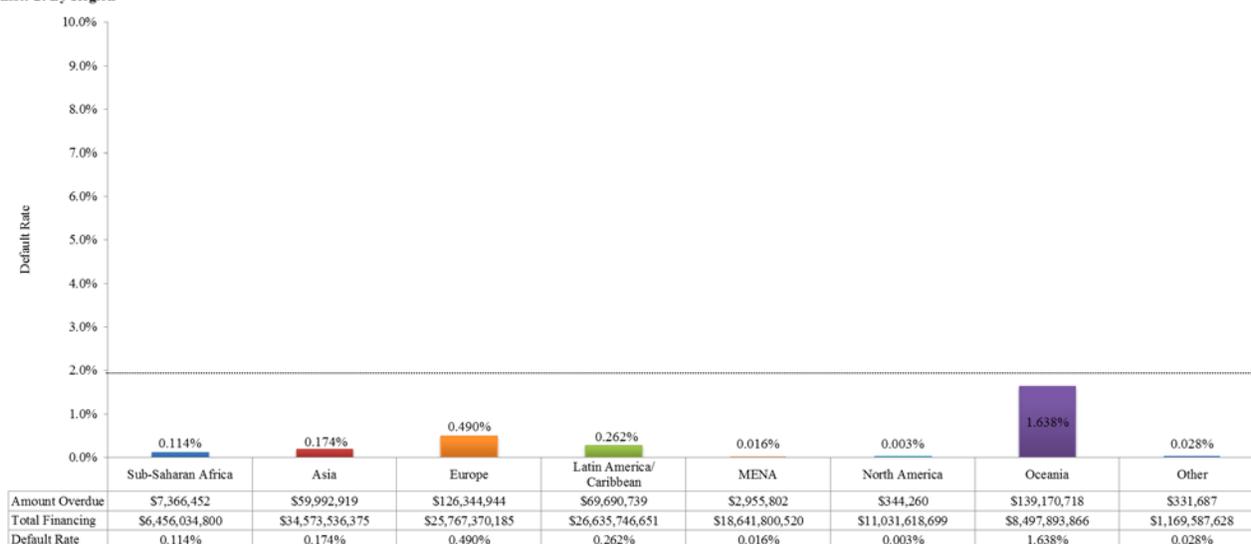
## DEFAULT RATE: BY SUB CATEGORY

Section 6 of the 2012 Reauthorization Act requires:

“(2) ADDITIONAL CALCULATION BY TYPE OF PRODUCT, BY KEY MARKET, AND BY INDUSTRY SECTOR; REPORT TO CONGRESS.—“

As mandated by the 2012 Reauthorization Act and defined above, EXIM Bank has calculated default rates based on each sub category as of March 31, 2017.

Exhibit 2: By Region



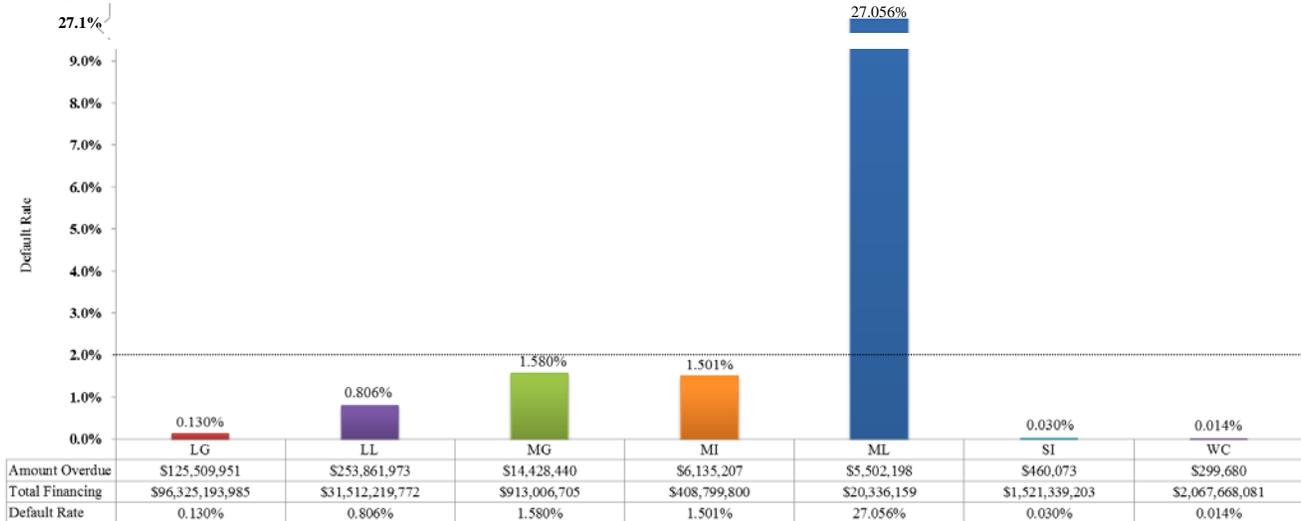
### BY REGION

EXIM Bank breaks out its transactions into seven regions: Africa, Asia, Europe, Latin America/Caribbean, Middle East/North Africa (MENA), North America, Oceania, and other. As shown in Exhibit 2, EXIM Bank’s default rate is below 2 percent within each of these regions.

### BY PRODUCT LINE

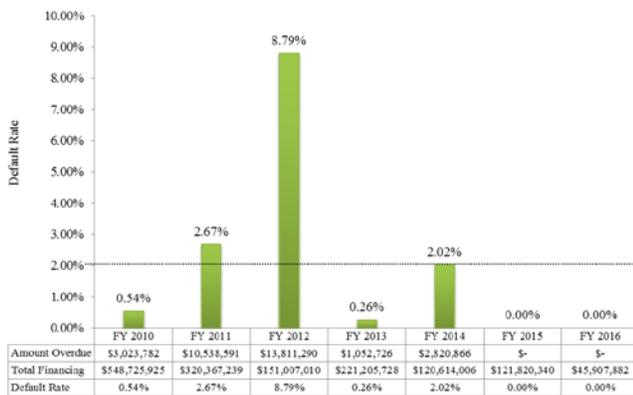
EXIM Bank’s loans, guarantees, and insurance program are broken out by separate product lines: Long Term Guarantees (LG), Long Term Loans (LL), Medium Term Guarantees (MG), Medium Term Insurance (MI), Medium Term Loans (ML), Short Term Insurance (SI) and Working Capital Guarantees (WC). In general, Short Term Insurance and Working Capital Guarantees transactions are less than 1 year, Medium Term Loan and Guarantee transactions are between 1 and 7 years and under \$10 million and finally, Long Term Loan and Guarantee transactions are over 7 years or over one year and \$10 million and above.

Exhibit 3: By Product Line

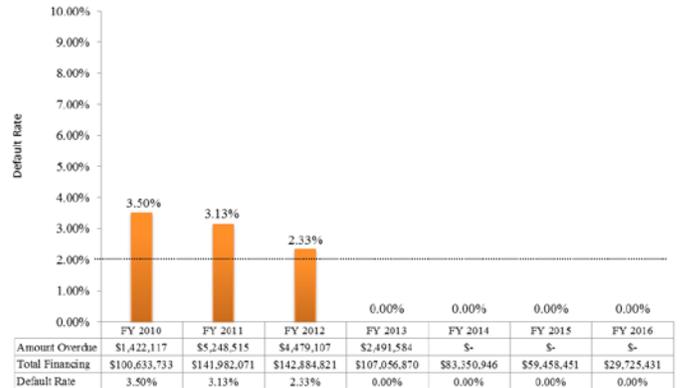


As shown in Exhibit 3, all products except the medium-term loan program have a default rate below 2 percent. The default rate in the medium-term loan program is high due to an overall low level of total financing and one default. In previous reports, the Bank’s default rate for the medium-term guarantees and insurance transactions were more than 2 percent. The Bank had and continues to take steps to improve the medium-term portfolio. First, the Bank has moved to using underwriting standards similar to those of the long-term portfolio, which includes – but is not limited to – requiring collateral. The Bank has also established a monitoring group for this portfolio to proactively restructure distressed deals and prevent defaults or enhance recoveries. Finally, the Office of the Inspector General has significantly increased actions against fraudulent cases. As a result of the Bank’s actions, the default rates for both Medium Term Guarantee and Medium Term Insurance products have declined from 7.13 percent and 9.40 percent, respectively, in June 2012, to 1.580 percent and 1.501 percent, respectively, as of March 31, 2017. Medium Term Guarantees and Insurance represent 1.00 percent of the total amount of EXIM Bank financing.

Exhibit 4: Medium Term Guarantees (Recent Cohorts)



Medium Term Insurance (Recent Cohorts)

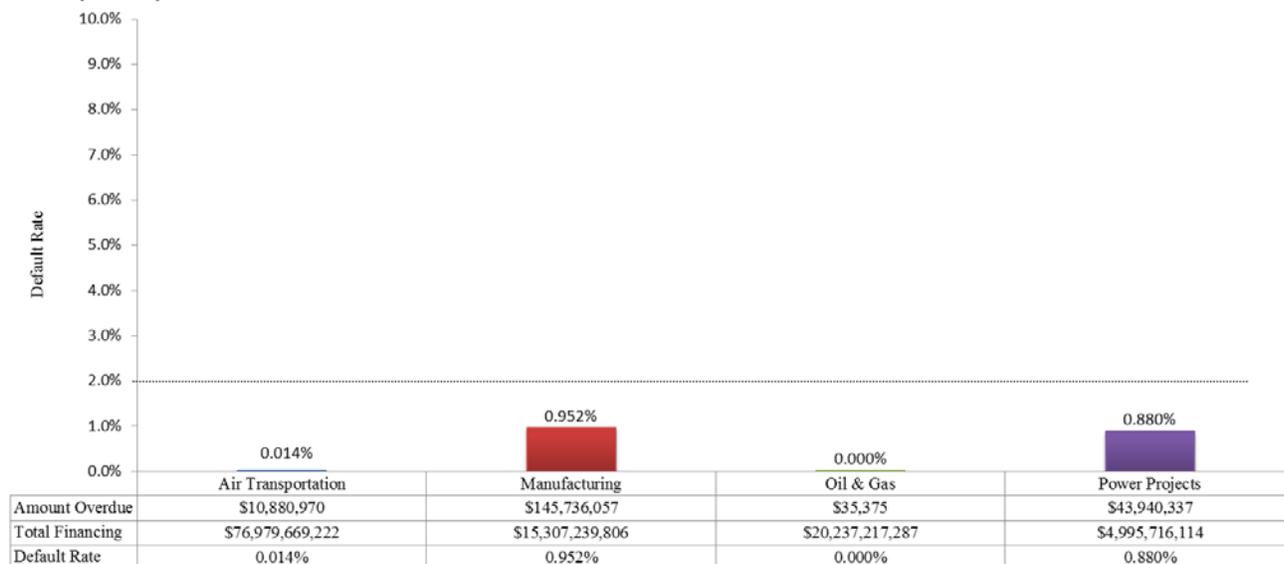


The performance of the medium-term products can be attributed to high defaults three to seven years ago. After implementing the above-referenced changes in underwriting and monitoring practices, EXIM Bank has begun to see its medium-term portfolio’s default rate improve dramatically. For medium-term products, defaults normally occur by the third year. This means authorizations since FY 2012 act as a good proxy for future trends in the medium-term products. As shown in Exhibit 4, for all transactions approved since FY 2012, the medium-term portfolio, including both active and matured transactions, default rates have, on average, dropped to approximately 2 percent except for a few cohorts slightly above the threshold.

## BY INDUSTRY

EXIM Bank's four largest industries are: Air Transportation, Manufacturing, Oil & Gas, and Power Projects<sup>8</sup>. Although these sectors account for 88.5 percent of the total amount of EXIM Bank financing, they have experienced a default rate below 2 percent as shown in Exhibit 5.

Exhibit 5: By Industry



## BY KEY MARKETS

EXIM Bank has exposure in more than 164 countries as of March 31, 2017. As shown in Exhibit 6, the top ten markets, except for Australia, have experienced a default rate well below 2 percent.<sup>9</sup>

Exhibit 6: Key Markets



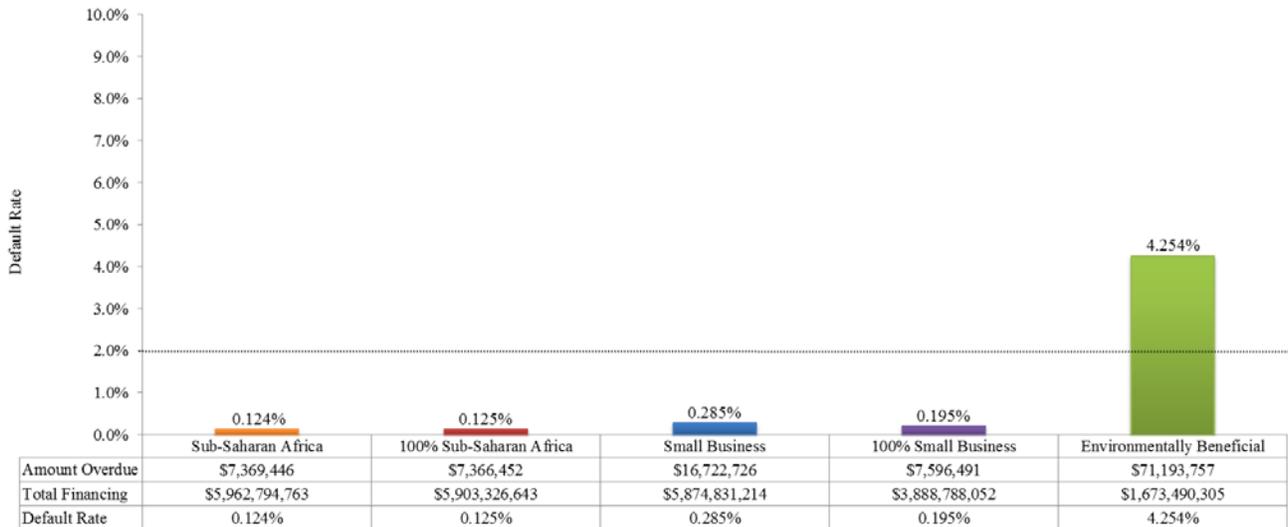
<sup>8</sup> Formerly named "Aircraft", "Mining – Oil & Gas" and "Utilities – Power Projects" respectively.

<sup>9</sup> The 10 key markets reflect top ten markets by total financing.

## DEFAULT RATE: BY MANDATE

EXIM Bank has congressional mandates to support Small Business, Environmentally Beneficial, and Sub-Saharan Africa transactions. Transactions consistent with these mandates account for 10.2 percent of the total amount of EXIM Bank financing. All mandates, except for environmentally beneficial transactions, have experienced a default rate below 2 percent as shown in Exhibit 7.

Exhibit 7: Mandates



Note: "Sub-Saharan Africa" and "Small Business" categories includes all transactions up to and including 100 percent while the "100% Sub-Saharan Africa" and "100% Small Business" categories only include transactions that are 100 percent.

## RISK RATING: BY MANDATE

EXIM Bank risk rates its portfolio using a 1 – 11 budget cost level (BCL) scale. The ratings are based, in general, on a borrower's (1) ability to make payments, as indicated by relevant economic factors and (2) willingness to pay, as indicated by payment record and political and social factors. Four categories, ratings 1 through 4, are roughly equivalent to "creditworthy" or "investment grade" private bond ratings. Three categories, ratings 9 to 11, are for countries either unable to pay fully, even with extended repayment periods, or currently unwilling to make a good faith effort. EXIM Bank does not use the BCL scale for the working capital and multi-buyer products as the Bank uses a portfolio analysis approach to evaluate these programs.

Using the BCL at time of authorization and based on the authorized amount, EXIM Bank's active portfolio's weighted average risk rating is 3.66, corresponding to an investment grade portfolio. In the chart below are the weighted average BCL for the various Bank mandates.

Category	Budget Cost Level
Sub-Saharan Africa	5.50
100% Sub-Saharan Africa	5.59
Small Business	3.50
100% Small Business	4.06
Environmentally Beneficial	4.07
<b>Active Portfolio</b>	<b>3.66</b>

# Aging Report

## AGING REPORT: SUMMARY

The Aging Report covers medium- and long-term credits that have principal payments in arrears that are not otherwise covered in the default rate. For insurance and guarantees, the aging report captures overdue principal payments for which the Bank has not paid a claim. Loan arrears account for principal payments that have been in arrears for less than 30 days. Principal payments that have been in arrears for more than 30 days are captured in the default rate. As of March 31, 2017, a total of approximately \$4.1 million in principal payments for medium- and long-term credits are in arrears. Approximately \$1.0 million in loan principal payments have been in arrears for less than 30 days.

**76% of Insurance & Guarantee Arrears are Cured**

Historically, a large majority of principal arrears are eventually cured (i.e. payment is received.) Since FY 2013, on average, 76 percent of insurance and guarantee arrears have been cured.

## CREDITS IN ARREARS

<b>Guarantees &amp; Insurance in Arrears</b>		<b>Loans in Arrears</b>	
<b>Days Overdue</b>	<b>Amount Overdue</b>	<b>Days Overdue</b>	<b>Amount Overdue</b>
Less Than 30 Days	\$958,218	Less Than 30 Days	\$0
30 to 60 Days	\$665,916	30 to 60 Days	N/A
60 to 90 Days	\$1,330,324	60 to 90 Days	N/A
90 to 150 Days	\$1,135,103	90 Days or More	N/A
<b>Total</b>	<b>\$4,089,561</b>	<b>Total</b>	<b>\$0</b>

## INSURANCE & GUARANTEES

As of March 31, 2017, \$4.1 million in principal payments for medium- and long-term insurance and guarantees are in arrears, and \$1.0 million worth of principal payments (or 23.4 percent of total arrears) is less than 30 days overdue.

## DIRECT LOANS

As of March 31, 2017, there were no principal installments arrears for less than 30 days for active direct loans.

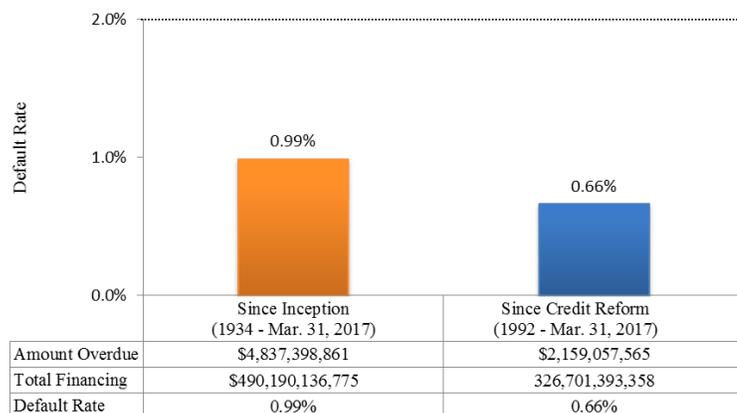
# Historical Default Rates

## HISTORICAL DEFAULT RATE

EXIM Bank was established in 1934. Since then, the Bank has disbursed \$490.0 billion in guarantees, insurance, and direct loans. On all of EXIM Bank's disbursements, the Bank has defaults<sup>10</sup> of \$13.3 billion and recoveries of \$8.5 billion, resulting in a historical default rate of 0.99 percent.

Looking at more recent experience, on credits authorized since 1992, the start of Federal Credit Reform Act (FCRA), the Bank has disbursed \$326.7 billion in guarantees, insurance, and direct loans. Of these disbursements, EXIM has defaults of \$6.6 billion and recoveries of \$4.4 billion, resulting in a default rate of 0.66 percent. The Bank has historically collected more than 50 cents on the dollar for claims paid. EXIM Bank's historical default rates since 1934 and since 1992 are highlighted in Exhibit 8.

Exhibit 8: Historical Default Rate



## COMPONENTS OF HISTORICAL DEFAULT RATE: CALCULATION

	Since Inception (1934 - Mar. 31, 2017)	Since Credit Reform (1992 - Mar. 31, 2017)
<b>Total amount of required payments that are overdue</b>	<b>\$4,837,398,861</b>	<b>\$2,159,057,565</b>
Defaults	13,301,074,597	6,608,562,918
Less Recoveries	8,463,675,735	4,449,505,354
<b>Total amount of financing involved</b>	<b>\$490,190,136,775</b>	<b>\$326,701,393,358</b>
Disbursements	490,190,136,775	326,701,393,358
<b>Default Rate</b>	<b>0.99%</b>	<b>0.66%</b>

<sup>10</sup> This includes claims paid on guarantees and insurance transactions as well as direct loans in arrears and write-offs. It also includes non-discounted recovery amounts, but does not include any recovery expenses as that data was not available for this time frame.

# Stress Tests

In addition to measuring the current default rate, EXIM Bank also examined the current portfolio to measure the future default rate under stressed scenarios. EXIM Bank performs regular stress testing of its portfolio to identify how the current portfolio may perform in the future under stressed scenarios. As the Basel Committee on Banking Supervision states, “Stress testing is an important risk management tool that is used by banks as part of their internal risk management.” The following section describes what stress testing is, why it is important, how to do stress testing, EXIM Bank stress test protocol, and recent results from EXIM Bank’s stress tests.

## WHAT IS STRESS TESTING?

The Federal Deposit Insurance Corporation has defined stress testing as “a forward-looking quantitative evaluation of stress scenarios that could impact a banking institution’s financial condition and capital adequacy.”<sup>11</sup> The Federal Reserve has provided a similar definition: “For purposes of this guidance, stress testing refers to exercises used to conduct a forward-looking assessment of the potential impact of various adverse events and circumstances on a banking organization.”<sup>12</sup> In sum, stress testing is forward-looking in nature and there are multiple stressed scenarios that could impact the current portfolio and current default rates.

## WHY IS STRESS TESTING IMPORTANT?

EXIM Bank follows a formalized stress testing protocol. Consistent with Federal Reserve guidance, the Bank’s stress testing builds capacity to understand the Bank’s risks and the potential impact of stressful events and circumstances on the Bank’s financial condition. Stress testing is an important tool for portfolio management and risk mitigation. Furthermore, the International Monetary Fund has stated: “Stress testing has become an essential and very prominent tool in the analysis of financial sector stability and development of financial sector policy.”<sup>13</sup> The World Bank has concurred, stating, “Regular stress testing of the financial system is the main tool of macroprudential monitoring.”<sup>14</sup> Finally, EXIM Bank’s Inspector General recommended that “EXIM Bank should develop a systematic approach to stress testing and should conduct stress testing at least annually as part of its re-estimate process.”<sup>15</sup> Based on industry best practices and EXIM’s commitment to a comprehensive risk management framework the Bank has implemented a stress testing protocol.

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<sup>11</sup> Baxter, William R. and Thomas F. Lyons. “Stress Testing Credit Risk at Community Banks,” *Supervisory Insights*. The Federal Deposit Insurance Corporation. Vol. 9, No. 1 (Summer 2012).

<https://www.fdic.gov/regulations/examinations/supervisory/insights/sisum12/index.html>

<sup>12</sup> Guidance on Stress Testing for Banking Organizations with Total Consolidated Assets of More than \$10 Billion. SR Letter 12-7 Attachment. Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency. May 14, 2012. <https://www.federalreserve.gov/bankinforeg/srletters/sr1207a1.pdf>

<sup>13</sup> “European Union: Publication of Financial Sector Assessment Program Documentation—Technical Note on Stress Testing of Banks,” IMF Country Report No. 13/68, March 2013. International Monetary Fund. <https://www.imf.org/external/pubs/ft/scr/2013/cr1368.pdf>

<sup>14</sup> Buncic, Daniel; Melecky, Martin. 2012. Macroprudential stress testing of credit risk : a practical approach for policy makers. Policy Research working paper ; no. WPS 5936. Washington, DC: World Bank.

<http://documents.worldbank.org/curated/en/994091468251373046/Macroprudential-stress-testing-of-credit-risk-a-practical-approach-for-policy-makers>

<sup>15</sup> “Report on Portfolio Risk and Loss Reserve Allocation Policies.” OIG-INS-12-02, September 28, 2012. Office of the Inspector General, Export-Import Bank of the United States. <http://www.exim.gov/sites/default/files/oig/reports/Final-20Report-20Complete-20Portfolio-20Risk-20120928-1.pdf>

## HOW DOES STRESS TESTING WORK?

The International Association of Credit Portfolio Managers made two overarching recommendations for portfolio stress testing.<sup>16</sup> The first was:

The institution should have a “top down” stress-testing process in place to analyze the impact of extreme economic events on the credit risk of the overall credit portfolio.

The second recommendation was:

The institution should supplement the “top down” approach with a “bottom up” stress-testing process to measure the impact of adverse events on obligors, or sets of obligors, with significant exposures in the credit portfolio.

This paper was also cited in EXIM Bank Inspector General’s report on the Bank’s portfolio risk as a model to follow.

## EXIM BANK STRESS TESTING PROTOCOL

EXIM Bank looked at different ways to perform both a top down analysis on the entire portfolio as well as a bottom up approach on certain sets of obligors. For the top down stress test the Bank decided to use a monte-carlo simulation approach, consistent with best practice. This approach allows the Bank to look at numerous scenarios. A report published by the Society of Actuaries found that “the Monte Carlo simulation is one of the most widely used methods of stress testing.”<sup>17</sup> This allows the Bank to use a forward looking approach that looks at numerous scenarios. The simulation takes every transaction in the Bank’s exposure and simulates whether it defaulted or not during the remainder of its term, based on the Bank’s most current loss rate model. In the default simulation, the total default amount less recoveries is calculated. This loss rate model has been recently reviewed by the Government Accountability Office and the Office of Management and Budget, as well as audited by Deloitte & Touche and KPMG. Each portfolio simulation takes every transaction and sums their respective default amounts. The total is the Bank’s loss for that simulation. The Bank then runs this same simulation 20,000 times to create a distribution of possible losses. There are a variety of outcomes and by creating a distribution it allows the Bank to look at the extreme tails of the distribution to see how the portfolio performs at its worst. This basically means that the Bank looked at 20,000 different lives of the portfolio. In some lives perhaps many more defaults occur than expected, others have fewer defaults than expected. By running so many different lives of the portfolio the Bank can isolate those times where many more defaults occur and look at the impact. The Bank is also able to put probabilities around the chance that these events could occur. Furthermore, the Bank looked at the results of these scenarios if NO recoveries occur. This is an extreme scenario as the Bank regularly collects more than 50 cents on the dollar for claims paid. Recoveries do take time and this scenario can show what the stressed default rate could reach with no recoveries, albeit temporarily.

Next, for the bottom-up approach, the Bank looked at some of its largest obligors and using applicable data from the Federal Reserve’s Comprehensive Capital Analysis and Review (CCAR) adverse and severely adverse scenarios. These scenarios were applied to the particular obligors and for the adverse scenario the average risk

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<sup>16</sup> *Sound Practices in Credit Portfolio Management*. Ed. Gene D. Guill and Charles Smithson. The International Association of Credit Portfolio Managers. 2005. [www.iacpm.org/about-us/IACPM\\_Sound\\_Practices.pdf](http://www.iacpm.org/about-us/IACPM_Sound_Practices.pdf)

<sup>17</sup> Guo, Lijia. "Effective Stress Testing in Enterprise Risk Management." (2008). <https://soa.org/library/monographs/other-monographs/2008/april/mono-2008-m-as08-1-guo.pdf>

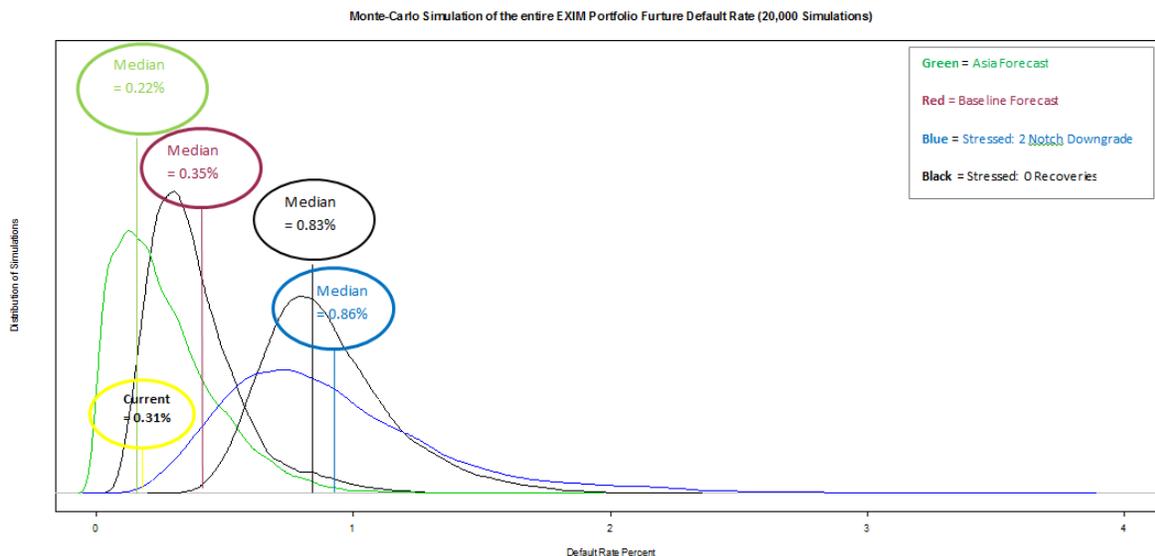
rating, which measure the risk of each obligor similar to a Moody's or S&P credit rating but using a 1-8 scale. The Bank measured the impact on these obligors under the adverse and severely adverse scenario, resulting in a 1.2 notch and 2.5 notch downgrades, respectively. In effect, this would increase the riskiness for a typical transaction by 30 percent for adverse scenarios and 63 percent for severely adverse scenarios.

Next, the Bank ran another 20,000 trial simulations of the entire portfolio, but this time, based on the results of the obligor specific stress tests, each obligor was downgraded by two notches. This effectively moves an A1 rated credit to a Baa3 credit or a Baa3 to a Ba3 on the Moody's scale. These various scenarios allow the Bank to look at its risk profile from a variety of perspectives and helps the Bank ascertain the current risk within the portfolio.

## EXIM BANK STRESS TESTING RESULTS

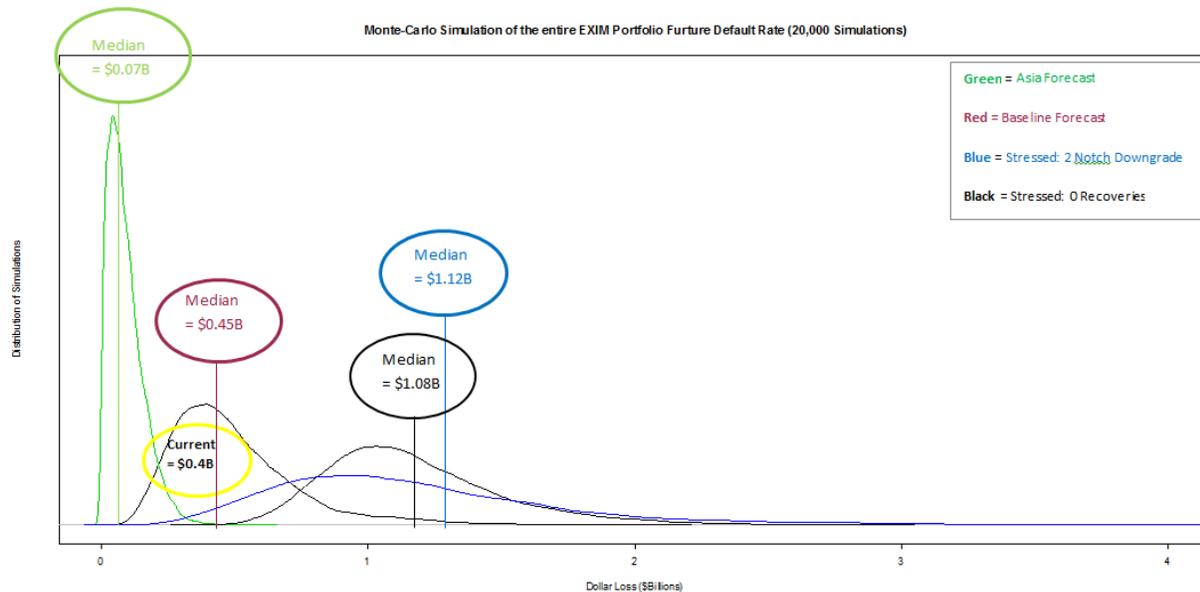
The results of the Bank's 20,000 trial monte-carlo simulation can be seen in the graph below. The default rate at end of March 2017 was 0.306 percent. Under the baseline forecast the median default rate for the current non-overdue portfolio is 0.35 percent with a 95 percent confidence level that it will be at 0.76 percent or lower. Under a stressed scenario where all of the ratings were downgraded by 2 notches, the median default rate would increase to 0.86 percent with a 95% confidence level that the default rate would be below 1.41 percent. Finally, under a stressed scenario where none of the defaults were ever recovered the median default rate would be 0.83 percent, with a 95 percent confidence level that it would be below 1.78 percent.

An addition to this year's stress test was the addition of stress testing the Asia portfolio. The entire Asia portfolio has a current default rate of 0.17 percent at the end of March 2017. Under the baseline forecast for the current Asia portfolio the median default rate is 0.22 percent. This rate increases to 0.66 percent at the 95 percent confidence level.



In addition to calculating the percentages, which is on the same scale as the default rates discussed earlier in this report, the Bank calculated the total dollar loss of this distribution. The amount overdue for the portfolio as of March 31, 2017 is \$0.4 billion. Under the baseline forecast the median loss amount for the current non-overdue

portfolio is \$0.45 billion. Under a stressed scenario where all of the ratings were downgraded by 2 notches, the median loss amount would increase to \$1.12 billion, and a stressed scenario where none of the defaults were ever recovered the median loss amount would be \$1.08 billion. For the Asia portfolio, the median loss amount would be \$0.07 billion.



These results are a reduction in risk compared to the results from the last stress test performed at the end of March 2017, given that the portfolio has not added new large transactions, the current transaction have been repaying leading to a reduction in exposure, and the risk profile of the portfolio has not markedly changed year-over-year and. The median under the baseline forecast in March 2017 is 0.35 percent compared to 0.47 percent in FY 2015.

## EXIM BANK FUTURE STRESS TESTING

EXIM Bank is committed to continuous improvement and is always looking to improve stress testing. The Bank stress tested the aircraft portfolio in Q4 FY 2014, the Latin America/Caribbean portfolio in Q4 FY 2015, the European portfolio Q2 FY 2016, and the Oil & Gas portfolio in Q4 FY 2016. The Bank will continue to look into other industries and regions where it has large exposures. The Bank used the definition of a large exposure from the Basel Committee’s Core Principles for Effective Banking Supervision.<sup>18</sup> In those core principles the committee states, “ten per cent or more of a bank’s capital is defined as a large exposure.” The Bank will be able to see if certain industries or region have a higher risk profile in the tails of its distribution along with its expected default rate. The Bank is also looking into the impact of correlation within industries and regions it is concentrated. These tests will inform the Bank as to the extent of this impact on potential future losses. During the year the Bank will look for additional ways to improve its stress testing methodology. The Bank will continue to report the results of these future stress test scenarios to the U.S. Congress.

<sup>18</sup> “Core Principles for Effective Banking Supervision,” Basel Committee on Banking Supervision. Bank for International Settlements. 2012. <http://www.bis.org/publ/bcbs230.pdf>

# Appendix

## COMPONENTS OF DEFAULT RATE: *DISBURSEMENTS*

Under the direct loan program the goods and services are financed directly by EXIM Bank. Funds are disbursed to the supplier to pay for the goods or services delivered to the buyer and a loan receivable with appropriate loss reserves are reflected on the Bank's books.

Under the guarantee and insurance programs, the private sector provides the financing and the transaction is guaranteed or insured by EXIM Bank. The guaranteed or insured party notifies EXIM Bank when a shipment of goods has occurred and EXIM Bank records a non-cash "disbursement" to reflect the value of the goods guaranteed by EXIM Bank. An appropriate loss reserve is also recorded on the Bank's books.

As of March 2017, on the Bank's active portfolio, a total of \$132.8 billion of goods and services have been delivered to foreign buyers and supported by EXIM Bank under the loan, guarantee and insurance programs.

## COMPONENTS OF DEFAULT RATE: *GROSS DEFAULTS*

EXIM Bank pays claims honoring the terms of either the guarantee or the insured transaction. On EXIM Bank's active portfolio, the Bank has paid out \$150.9 million in defaults. For loans, all monies past due are considered defaults. As of March 2017, for the active portfolio, \$259.4 million is past due. This totals \$410.3 million in claims paid and overdue loans.

The gross default rate is derived from the amounts paid on guarantees and insurance transactions as well as past due loan installments divided by the amount disbursed. This rate does not include the money recovered or related recovery expenses. On the \$132.8 billion of disbursements, the Bank has gross defaults of \$410.3 million, resulting in a default rate of 0.309 percent.

## COMPONENTS OF DEFAULT RATE: *RECOVERIES AND EXPENSES*

EXIM Bank has an active recovery group that seeks to recuperate on losses related to claim payments and non-performing loans. On EXIM Bank's active portfolio, the Bank has recovered \$5.6 million and incurred \$1.5 million of expenses related to the recovery process.<sup>19</sup> These recoveries, as well as fees collected from borrowers, are used to offset claims paid. The Bank expects to recover additional amounts on these transactions in future years.

## COMPONENTS OF DEFAULT RATE: *CALCULATION*

<b>Total amount of required payments that are overdue</b>	<b>\$406,197,521</b>
Gross Defaults Paid	410,296,556
Expenses	1,499,383
Less Recoveries	5,598,419
<b>Total amount of financing involved</b>	<b>\$132,773,588,724</b>
Disbursements	132,773,588,724
<b>Default Rate</b>	<b>0.306%</b>

<sup>19</sup> For the purpose of calculation of the default rate, the amounts recovered are discounted to the time of claim payment.

## DEFAULT RATE: BY COUNTRY

	<u>Financing</u>	<u>Claim Paid</u>	<u>Recovery</u>	<u>Expenses</u>	<u>Overdue</u>	<u>Default</u>
<b>Asia</b>	<b>34,573,536,375</b>	<b>60,921,570</b>	<b>1,329,945</b>	<b>401,294</b>	<b>59,992,919</b>	<b>0.17%</b>
Bangladesh	533,767,118	-	-	-	-	0.00%
Burma	4,813,980	-	-	-	-	0.00%
China	6,701,069,721	-	-	2,359	2,359	0.00%
Hong Kong	3,773,299,311	-	-	-	-	0.00%
India	8,343,683,433	7,376,113	1,329,945	60,512	6,106,680	0.07%
Indonesia	2,111,319,556	10,955,099	-	-	10,955,099	0.52%
Japan	278,504,383	-	-	-	-	0.00%
Kazakhstan	672,445,898	-	-	4,820	4,820	0.00%
Korea, South	5,859,209,016	-	-	264,710	264,710	0.00%
Laos	160,000	-	-	-	-	0.00%
Malaysia	93,106,292	-	-	-	-	0.00%
Mongolia	360,641,704	-	-	-	-	0.00%
Pakistan	791,214,035	42,590,358	-	68,892	42,659,250	5.39%
Philippines	555,619,969	-	-	-	-	0.00%
Singapore	2,330,427,601	-	-	-	-	0.00%
Sri Lanka	71,714,695	-	-	-	-	0.00%
Taiwan	410,282,154	-	-	-	-	0.00%
Tajikistan	80,000,000	-	-	-	-	0.00%
Thailand	946,930,093	-	-	-	-	0.00%
Uzbekistan	78,359,556	-	-	-	-	0.00%
Vietnam	576,967,858	-	-	-	-	0.00%
<b>Europe</b>	<b>25,767,370,185</b>	<b>127,878,017</b>	<b>1,663,571</b>	<b>130,498</b>	<b>126,344,944</b>	<b>0.49%</b>
Albania	36,737,164	-	-	52,233	52,233	0.14%
Austria	222,357,605	-	-	-	-	0.00%
Azerbaijan	590,424,916	-	-	-	-	0.00%
Belgium	11,513,827	144,884	35,797	-	109,087	0.95%
Bulgaria	158,308,831	-	-	-	-	0.00%
Czech Republic	76,175,418	-	-	-	-	0.00%
Denmark	140,272	-	-	-	-	0.00%
France	66,465,322	-	-	-	-	0.00%
Germany	1,217,527,995	-	-	-	-	0.00%
Greece	810,000	-	-	-	-	0.00%
Hungary	68,520,000	-	-	-	-	0.00%
Ireland	6,912,635,707	-	-	49,148	49,148	0.00%
Italy	3,417,997	-	-	-	-	0.00%
Latvia	29,040	-	-	-	-	0.00%
Luxembourg	1,995,538,429	-	-	-	-	0.00%
Netherlands	1,354,599,308	-	-	-	-	0.00%
Norway	1,546,434,472	-	-	-	-	0.00%
Poland	479,234,469	-	-	-	-	0.00%
Romania	37,235,357	705,530	-	10,238	715,768	1.92%
Russia	1,522,990,127	-	-	-	-	0.00%

	<u>Financing</u>	<u>Claim Paid</u>	<u>Recovery</u>	<u>Expenses</u>	<u>Overdue</u>	<u>Default</u>
Slovak Republic	67,139,509	-	-	-	-	0.00%
Slovenia	8,555,516	-	-	-	-	0.00%
Spain	562,836,643	61,924,352	-	-	61,924,352	11.00%
Switzerland	59,970,000	-	-	-	-	0.00%
Turkey	5,487,527,032	1,273,448	-	18,879	1,292,327	0.02%
Ukraine	279,443,825	63,829,802	1,627,774	-	62,202,028	22.26%
United Kingdom	3,000,801,402	-	-	-	-	0.00%
<b>Latin America/ Caribbean</b>	<b>26,635,746,651</b>	<b>70,532,441</b>	<b>1,063,871</b>	<b>222,169</b>	<b>69,690,739</b>	<b>0.26%</b>
Argentina	157,511,338	-	-	-	-	0.00%
Aruba	545,551	-	-	-	-	0.00%
Barbados	4,358,306	-	-	-	-	0.00%
Brazil	4,188,432,591	7,866,237	728,566	84,992	7,222,662	0.17%
Cayman Islands	70,594,977	-	-	-	-	0.00%
Chile	3,090,276,829	1,090,312	79,366	24,702	1,035,648	0.03%
Colombia	3,336,185,461	676,347	-	-	676,347	0.02%
Costa Rica	95,507,754	-	-	-	-	0.00%
Dominican Republic	427,820,052	388,011	11,562	-	376,448	0.09%
Ecuador	63,887,506	-	-	-	-	0.00%
El Salvador	20,734,803	-	-	-	-	0.00%
Grenada	9,000	-	-	-	-	0.00%
Guatemala	9,004,960	-	-	-	-	0.00%
Guyana	45,000	-	-	-	-	0.00%
Honduras	190,920,982	681,501	163,612	-	517,889	0.27%
Jamaica	15,756,516	54,224	-	-	54,224	0.34%
Mexico	12,491,230,934	59,775,810	80,765	46,973	59,742,018	0.48%
Panama	892,716,741	-	-	47,756	47,756	0.01%
Paraguay	12,312,125	-	-	-	-	0.00%
Peru	792,882,319	-	-	9,608	9,608	0.00%
Suriname	6,190	-	-	-	-	0.00%
Trinidad And Tobago	114,635,503	-	-	-	-	0.00%
Uruguay	143,436,546	-	-	-	-	0.00%
Venezuela	507,097,962	-	-	8,139	8,139	0.00%
Virgin Islands (British)	9,836,705	-	-	-	-	0.00%
<b>Middle East/ North Africa</b>	<b>18,641,800,520</b>	<b>2,880,742</b>	<b>-</b>	<b>75,060</b>	<b>2,955,802</b>	<b>0.02%</b>
Algeria	211,268,826	-	-	-	-	0.00%
Bahrain	228,405,625	-	-	-	-	0.00%
Egypt	665,591,402	-	-	44,220	44,220	0.01%
Israel	808,815,328	-	-	-	-	0.00%
Jordan	90,000	-	-	-	-	0.00%
Kuwait	625,976,179	19,299	-	-	19,299	0.00%

	<u>Financing</u>	<u>Claim Paid</u>	<u>Recovery</u>	<u>Expenses</u>	<u>Overdue</u>	<u>Default</u>
Lebanon	25,835	-	-	-	-	0.00%
Morocco	1,022,468,408	-	-	-	-	0.00%
Oman	74,980,472	-	-	-	-	0.00%
Qatar	1,008,000,000	-	-	20,057	20,057	0.00%
Saudi Arabia	6,844,272,663	2,861,443	-	10,784	2,872,227	0.04%
United Arab Emirates	211,268,826	-	-	-	-	0.00%
<b>North America</b>	<b>11,031,618,699</b>	<b>336,315</b>	<b>36,635</b>	<b>44,580</b>	<b>344,260</b>	<b>0.00%</b>
Canada	3,490,814,573	-	-	44,580	44,580	0.00%
Private Export Funding Corp.	1,551,618,338	-	-	-	-	0.00%
United States	5,989,185,788	336,315	36,635	-	299,680	0.01%
<b>Oceania</b>	<b>8,497,893,866</b>	<b>139,111,999</b>	<b>-</b>	<b>58,719</b>	<b>139,170,718</b>	<b>1.64%</b>
Australia	5,177,544,443	139,111,999	-	58,719	139,170,718	2.69%
New Zealand	715,783,188	-	-	-	-	0.00%
Papua New Guinea	2,604,566,235	-	-	-	-	0.00%
<b>Sub-Saharan Africa</b>	<b>6,456,034,800</b>	<b>8,306,975</b>	<b>1,504,396</b>	<b>563,873</b>	<b>7,366,452</b>	<b>0.11%</b>
Angola	758,166,448	-	-	8,071	8,071	0.00%
Cameroon	91,066,699	-	-	-	-	0.00%
Ethiopia	2,251,523,720	-	-	-	-	0.00%
Gabon	10,762,005	-	-	-	-	0.00%
Ghana	624,490,233	1,489,526	6,905	117,569	1,600,189	0.26%
Kenya	1,247,563,122	-	-	46,458	46,458	0.00%
Mauritius	4,315,810	1,438,304	-	-	1,438,304	33.33%
Nigeria	146,123,728	-	-	-	-	0.00%
Senegal	34,937,108	5,379,146	1,497,491	391,775	4,273,430	12.23%
South Africa	1,281,754,477	-	-	-	-	0.00%
Tanzania	3,851,527	-	-	-	-	0.00%
Zambia	1,479,923	-	-	-	-	0.00%
<b>Other</b>	<b>1,169,587,628</b>	<b>328,496</b>	<b>-</b>	<b>3,191</b>	<b>331,687</b>	<b>0.03%</b>
Various - Insurance	1,169,587,628	328,496	-	3,191	331,687	0.03%
<b>Grand Total</b>	<b>132,773,588,724</b>	<b>410,296,556</b>	<b>5,598,419</b>	<b>1,499,383</b>	<b>406,197,521</b>	<b>0.306%</b>

# Definitions

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**Active Portfolio** – Maturity date is after the date of this report (transaction currently active)

**Administrative Expenses** – Expenses of the day-to-day operation of the Bank. Majority of expenses are compensation and benefits. Does not include program costs

**Allowances** – Accumulated provisions against which future loan write-offs would be made

**Defaults** – Payment from EXIM Bank to guaranteed or insured party plus unpaid past due loan installments

**Default Rate** – Defaults less recoveries plus expenses over total amount financed on active portfolio

**Disbursements** – Goods and services delivered to foreign buyers and supported by EXIM Bank under the loan, guarantee and insurance programs

**Loan Arrears** - Direct loan repayment currently overdue. For defaulted credits, this includes the entire amount outstanding. For rescheduled sovereign credits, this includes the underlying credits which are still active based upon the original payment terms

**Nominal Discount Rates** - A forecast of nominal or market interest rates for the current year based on the economic assumptions for the following Fiscal Year Budget as presented by the Office of Management and Budget in Circular A-94 Appendix C

**Recoveries** – Money recovered on guarantees and insurance that have defaulted and a claim has been paid out. For direct loans in arrears, this includes funds recovered after missed payments

**Program Costs** - Cost related to loan, guarantee, and insurance transactions where the fees are insufficient to cover prudent reserves

# Mandates

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**Environmentally Beneficial Mandate (12 U.S.C. 635i-5(b)(1))** - “The Bank shall encourage the use of its programs to support the export of goods and services that have beneficial effects on the environment or mitigate potential adverse environmental effects...”

**Small Business Mandate (12 U.S.C. 635(b)(1)(E)(v))** - “EXIM Bank shall make available, from the aggregate loan, guarantee, and insurance authority available to it, an amount to finance exports directly by small business concerns (as defined under section 3 of the Small Business Act) which shall be not less than 25 percent of such authority for each fiscal year.”

**Sub-Saharan Africa Mandate (12 U.S.C. 635(b)(9)(a))** - “The Board of Directors of the Bank shall ...take prompt measures, consistent with the credit standards otherwise required by law, to promote the expansion of the Bank’s financial commitments in sub-Saharan Africa...”