DEFAULT RATE REPORT

AS OF
JUNE 2022

FISCAL YEAR 2022 (Q3) DEFAULT EXPERIENCE
EXPORT-IMPORT BANK OF THE UNITED STATES
TABLE OF CONTENTS

STATUTORY REQUIREMENT ......................................................................................................................... 2

EXECUTIVE SUMMARY ................................................................................................................................. 3
  ABOUT EXIM
  DEFAULT RATE

DEFAULT RATE ........................................................................................................................................... 5
  DEFINED
  COMPONENTS OF THE DEFAULT RATE
    NUMERATOR – OVERDUE PAYMENTS
    DENOMINATOR – TOTAL FINANCING
  EXPOSURE
  RESERVES
  DEFAULT RATE: BY SUB CATEGORY
    BY TYPE OF PRODUCT
    BY INDUSTRY SECTOR
    BY KEY MARKET
  DEFAULT RATE: BY MANDATE
    RISK RATING: BY MANDATE
This report is prepared in accordance with the requirements of 12 U.S.C. § 635g(g).

“(g) Monitoring of default rates on bank financing; reports on default rates; safety and soundness review

“(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.

“(2) ADDITIONAL CALCULATION BY TYPE OF PRODUCT, BY KEY MARKET, AND BY INDUSTRY SECTOR; REPORT TO CONGRESS—In addition, the Bank shall, not less frequently than quarterly—

(A) calculate the rate of default—
   (i) with respect to whether the products involved are short-term loans, medium-term loans, long-term loans, insurance, medium-term guarantees, or long-term guarantees;
   (ii) with respect to each key market involved; and
   (iii) with respect to each industry sector involved; and

(B) submit to the Committee on Banking, Housing, and Urban Affairs of the Senate and the Committee on Financial Services of the House of Representatives a report on each such rate and any information the Bank deems relevant.
**EXECUTIVE SUMMARY**

**About EXIM**
The Export-Import Bank of the United States (EXIM) is an independent executive branch agency with a mission to support American jobs through exports. EXIM provides financing to help U.S. companies compete for global sales through loan guarantee, direct loan, and insurance programs. EXIM financing is only available in cases where the private sector is unable or unwilling to provide financing (e.g., due to portfolio or regulatory considerations) or when U.S. exporters are facing foreign competition backed by official export credit support. EXIM charges fees commensurate with the risk associated with its transactions.

EXIM maintains a comprehensive risk management framework enabling the agency to effectively and responsibly fulfill its mission to support American jobs. This framework begins with due diligence and underwriting to ensure that each transaction has a reasonable assurance of repayment. Following approval, EXIM proactively manages transactions to reduce the risk of default, maximize recoveries, and protect the long-term financial interest of U.S. taxpayers.

**Default Rate**
The default rate is calculated pursuant to statutory requirements and reflects actual defaults at a point in time. EXIM’s default rate as of June 30, 2022, is **0.947 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) divided by a “total amount of financing involved” (disbursements). The default rate of 0.947 percent is below the statutory two percent cap at which EXIM’s lending cap would immediately freeze. Since March 2020, EXIM has pursued a risk mitigation

---

**Exhibit 1: Default Rate**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Rate</td>
<td>0.504%</td>
<td>0.531%</td>
<td>1.555%</td>
<td>0.947%</td>
</tr>
<tr>
<td>Amount Overdue</td>
<td>$567.3</td>
<td>$552.3</td>
<td>$1,524.5</td>
<td>$844.5</td>
</tr>
<tr>
<td>Total Financing</td>
<td>$112,559.3</td>
<td>$104,036.2</td>
<td>$98,051.2</td>
<td>$89,177.0</td>
</tr>
</tbody>
</table>

Data used to calculate the default rate is sourced from the agency’s financial management system of records.

---

1 12 U.S.C. 635g(g)(1). This default rate differs from those published in the Federal Credit Supplement for the President’s Annual Budget. 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 point in time. The Federal Credit Supplement can be found at https://www.whitehouse.gov/omb/supplemental-materials/.

2 12 U.S.C. § 635g(g)(1). The default rate is based on actual disbursements and not authorized financing amounts.

3 12 U.S.C. § 635e(a)(3)
strategy of providing liquidity relief to its borrowers most impacted by the global economic effects associated with COVID-19 while simultaneously engaging in recovery and restructuring efforts with distressed credits to minimize potential losses to taxpayers. As a result of these efforts, the risk associated with the pandemic to EXIM’s portfolio has been minimized. There were no additional COVID-related defaults or liquidity relief needed during the past quarter. The default rate decreased this quarter from 1.068 percent in March 2022 as EXIM processed the sale of repossessed collateral related to a COVID-19 default. While the quarterly default rate has temporarily decreased, EXIM notes the agency also continues to experience heightened stress to its portfolio from transactions directly impacted by the Russian invasion of Ukraine and associated global sanctions. In addition, EXIM is monitoring economic weakness due to the situation in Ukraine and other factors that may have an impact on EXIM’s portfolio. Payment of certain claims associated with these events are expected to occur in the following quarter, and would result in an increase in EXIM’s default rate.
EXIM’s statute requires that the default rate be calculated “by dividing the total amount of the required payments that are overdue by the total amount of the financing involved.”

The default rate is based on the total financing of EXIM’s active credit portfolio. Any disbursed loan, guarantee, or insurance policy that will mature after the date of this report is included as part of the active portfolio. Any claim payments made for guarantees and insurance transactions and any direct loan payments in arrears in EXIM’s active portfolio are considered to be in default.

Data used to calculate the default rate is derived from information contained in EXIM’s financial system of record, which records all accounting data for all authorized transactions.

**Components of the Default Rate**

**Numerator – Overdue Payments**
The “total amount of required 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 EXIM’s active portfolio, net of any recovered amounts collected and expenses incurred related to recovery efforts. The breakdown of the components of overdue payments is provided below.

\[
\text{Overdue Payments} = \text{Defaults} + \text{Expenses} - \text{Recoveries}
\]

\[
\text{Total Financing} = \text{Disbursements (Active)}
\]

1. **Active Credit Example**: A long-term guarantee authorized in FY 2014 with a 10-year repayment term (the transaction matures in FY 2024)
2. **Inactive Credit Example**: A long-term guarantee in FY 1994 with a 10-year repayment term (the transaction matured in FY 2004)

**Overdue Payments**

\[
\begin{align*}
\text{Overdue Payments} & = \$1,029.8M \quad \text{(Defaults)} + \$3.9M \quad \text{(Expenses)} - \$189.2M \quad \text{(Recoveries)} \\
\end{align*}
\]

\[
\text{Overdue Payments} = \$844.5M
\]

**Defaults**
Defaults are calculated differently for direct loans, loan guarantees, and insurance transactions. For loan guarantees and insurance transactions, upon default of a payment obligation by the foreign buyer of the U.S. export, EXIM pays a claim to the guarantors or the insured parties. These claim payments represent defaults paid. For loans, all monies 30 days or more past due are considered defaults. As part of its portfolio management, EXIM may work with borrowers and lenders to restructure troubled transactions to minimize the risk of loss. When transactions are amended to include provisions for full repayment of the defaulted amounts, such payments are no longer overdue. As of June 2022, EXIM has paid out $620.3

---

4 12 U.S.C. § 635g(g)(1)
million in claims and other liquidity relief and had $409.5 million in loans past due in its active portfolio for a total of $1,029.8 million in defaults paid for transactions in its active portfolio.

Recoveries
Recoveries made after a default are applied to the specific claim paid or to the loan in arrears and thereby reduce the amount overdue. All recovered amounts are discounted to the time of claim payment or when the direct loan went into arrears. As of June 2022, EXIM has recovered $189.2 million for transactions in its active portfolio. These recoveries, as well as fees collected from borrowers, are used to offset default claims paid. Recovery efforts occur on a continuous basis, and EXIM frequently collects recoveries for several years after the initial default.

Expenses
All expenses incurred related to EXIM’s recovery efforts are added to the amount overdue. As of June 2022, EXIM has incurred $3.9 million of expenses related to the recovery process for transactions in its active portfolio.

Denominator – Total Financing
The “total amount of financing involved,” the denominator, is defined as the disbursed financing associated with EXIM’s active portfolio.

Total Financing = $89,177.0M

Disbursements
After a credit is approved, the value of the goods and services financed by EXIM is recorded once the goods are delivered to the buyer. Under the guarantee and insurance programs, the private sector provides transaction financing, and the transaction is guaranteed or insured by EXIM. The guaranteed or insured party notifies EXIM when a shipment of goods has occurred or services have been provided, and EXIM records a non-cash “disbursement” to reflect the value of the goods and services guaranteed or insured by EXIM. Under the direct loan program, the goods and services are financed directly by EXIM. Funds are disbursed to pay for the goods or services delivered to the buyer, and a loan receivable, with appropriate loss reserves, is reflected in EXIM’s financial system of record.\(^5\) Depending on the type of goods and services financed, the delivery (or disbursement) can occur over a period of several years.

---

\(^5\) EXIM adheres to the provisions of the Federal Credit Reform Act of 1990, as amended (2 U.S.C. §§ 661-661f), when executing its reserving practices.
**Default Rate Calculation**

As of June 2022, the total amount of the required payments that are overdue ($844.5 million) divided by the total amount of the financing involved ($89,177.0 million) equated to a default rate of 0.947 percent for EXIM.

\[
\text{EXIM Default Rate (Jun. 2022)} = \frac{\$844.5M}{\$89,177.0M} = 0.947% 
\]

**Exposure**

EXIM’s exposure differs from the total financing amount. Exposure includes authorized outstanding and undisbursed principal balance of direct loans, loan guarantees, and insurance. Total financing amount refers only to disbursements.

As of June 2022, EXIM’s total exposure stood at $36.9 billion. EXIM’s total exposure may not exceed $135.0 billion.\(^6\) Additionally, EXIM’s statute\(^7\) requires:

\[\text{“(3) Freezing of lending cap if default rate is 2 percent or more. If the rate calculated under section 635g(g)(1) of this title is 2 percent or more for a quarter, the Bank may not exceed the amount of loans, guarantees, and insurance outstanding on the last day of that quarter until the rate calculated under section 635g(g)(1) is less than 2 percent.”}\]

As of June 2022, EXIM’s default rate of 0.947 percent is below the two percent threshold. With the current default rate below two percent, EXIM’s total exposure cap remains $135.0 billion.

**Reserves**

In addition to reserve requirements under the *Federal Credit Reform Act of 1990*, as amended, EXIM must maintain a certain level of total reserves to protect against future losses.\(^8\)

\[\text{“(6(b) Reserve Requirement. The Bank shall build to and hold in reserve, to protect against future losses, an amount that is not less than 5 percent of the aggregate amount of disbursed and outstanding loans, guarantees, and insurance of the Bank.”}\]

As of the end of FY 2021, EXIM total reserves equaled $3.1 billion, which was 9.6 percent of EXIM’s outstanding exposure ($32.2 billion).

---

\(^6\) 12 U.S.C. § 635e(a)(1)
\(^7\) 12 U.S.C. § 635e(a)(3)
\(^8\) 12 U.S.C. § 635e(b)
DEFAULT RATE – BY SUBCATEGORIES

DEFAULT RATE: BY SUBCATEGORY

As required by statute, EXIM has calculated default rates based on each subcategory as of June 30, 2022.9

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

By Type of Product

EXIM offers loans, guarantees, and insurance products. EXIM reports the default rate for: medium-term loans; long-term loans; insurance; medium-term guarantees; and long-term guarantees.10 In general, medium-term transactions have a tenor greater than one year and are under $25 million and long-term transactions are all transactions greater than seven years or more than $25 million. As of June 30, 2022, all products had a default rate below two percent. Exhibit 2 provides a breakout of the default rate by product.

Exhibit 2: Default Rate by Product

<table>
<thead>
<tr>
<th>Amount Overdue (in millions)</th>
<th>MT Guarantees</th>
<th>MT Loans</th>
<th>LT Guarantees</th>
<th>LT Loans</th>
<th>Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$10.0</td>
<td>$</td>
<td>$423.8</td>
<td>$409.5</td>
<td>$2.2</td>
</tr>
<tr>
<td>Total Financing (in millions)</td>
<td>$883.5</td>
<td>$</td>
<td>$62,985.5</td>
<td>$21,939.5</td>
<td>$1,824.7</td>
</tr>
<tr>
<td>Default Rate (%)</td>
<td>1.134%</td>
<td>0.000%</td>
<td>0.571%</td>
<td>1.866%</td>
<td>0.123%</td>
</tr>
</tbody>
</table>

9 12 U.S.C. § 635g(g)(2)

10 EXIM reports the default rates by product in accordance with 12 U.S.C. § 635g(g)(2)(A)(i). Currently, there are no short-term loans in EXIM's active portfolio, and therefore no short-term loan default rate is reported. Consistent with Section 54002(a) of the Export-Import Bank Reform and Reauthorization Act of 2015 (P.L. 114-94, Div. E), the medium-term program's financing cap was expanded from $10 million to $25 million, effective May 2019. The default rate of medium-term financing is calculated on the categorization of the transaction at the time of authorization.
By Industry Sector
The four largest industries in EXIM’s active portfolio are Air Transportation, Manufacturing, Oil & Gas, and Power Projects. These sectors account for 87.7 percent of the total amount of EXIM financing. All the industry sectors experienced a default rate below two percent as shown in Exhibit 3.

Exhibit 3: Default Rate by Industry Sector

<table>
<thead>
<tr>
<th>Industry</th>
<th>Amount Overdue ($ millions)</th>
<th>Total Financing ($ millions)</th>
<th>Default Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Transportation</td>
<td>$317.0</td>
<td>$52,048.8</td>
<td>0.609%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$137.2</td>
<td>$10,756.2</td>
<td>1.275%</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>$0.0</td>
<td>$12,846.4</td>
<td>0.000%</td>
</tr>
<tr>
<td>Power Projects</td>
<td>$8.7</td>
<td>$2,566.9</td>
<td>0.339%</td>
</tr>
</tbody>
</table>
By Key Market
As of June 30, 2022, EXIM had exposure in more than 150 countries. As shown in Exhibit 4, the top ten markets, except for Australia and India, have experienced a default rate below two percent. The higher default rate for Australia is due to one default in 2015. While there has not been a major default in India since 2020, the Total Financing for exports to India has continued to fall as transactions matured and have rolled off the active portfolio, thereby increasing the country’s default rate from 1.649 percent in December 2021 to 2.408 percent in June 2022.

Exhibit 4: Default Rate by Key Market

<table>
<thead>
<tr>
<th>Country</th>
<th>Amount Outstanding ($ millions)</th>
<th>Total Financing ($ millions)</th>
<th>Default Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>$ -</td>
<td>$ 7,253.2</td>
<td>0.000%</td>
</tr>
<tr>
<td>China</td>
<td>$ 61</td>
<td>$ 5,964.5</td>
<td>0.001%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>$ 6.1</td>
<td>$ 5,350.9</td>
<td>0.000%</td>
</tr>
<tr>
<td>Turkey</td>
<td>$ 3.3</td>
<td>$ 5,197.9</td>
<td>0.000%</td>
</tr>
<tr>
<td>Australia</td>
<td>$ 136.5</td>
<td>$ 4,677.7</td>
<td>0.035%</td>
</tr>
<tr>
<td>Korea, South</td>
<td>$ 0.2</td>
<td>$ 4,287.2</td>
<td>0.000%</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>$ -</td>
<td>$ 4,043.2</td>
<td>0.000%</td>
</tr>
<tr>
<td>Ireland</td>
<td>$ -</td>
<td>$ 3,794.0</td>
<td>0.000%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>$ -</td>
<td>$ 3,257.7</td>
<td>0.000%</td>
</tr>
<tr>
<td>India</td>
<td>$ 76.4</td>
<td>$ 3,172.2</td>
<td>2.428%</td>
</tr>
</tbody>
</table>

11 The ten key markets reflect top ten markets by total financing.
**Default Rate: By Mandate**

EXIM has congressional mandates to support small business, environmentally beneficial, and Sub-Saharan Africa transactions, as further detailed below.

### EXIM Mandates

**Small Business Mandate** (12 U.S.C. § 635(b)(1)(E)(v)): “the Bank shall make available... an amount to finance exports directly by small business concerns (as defined under section 632 of title 15) which shall be not less than 30 percent of such authority for each fiscal year.”

**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...”

**Sub-Saharan Africa Mandate** (12 U.S.C. § 635(b)(9)(A)): “The Board of Directors of the Bank shall ... promote the expansion of the Bank’s financial commitments in sub-Saharan Africa...”

Transactions associated with these mandates account for 11.9 percent of the total amount of EXIM financing. As of June 30, 2022, Small Business and Sub-Saharan Africa transactions have experienced a default rate below two percent as shown in Exhibit 5. The Environmentally Beneficial default rate increased from 5.651 percent in March 2022 to 8.934 percent in June 2022 with a default of a water treatment project in Sri Lanka.

![Exhibit 5: Default Rate by Mandates](image)

**Exhibit 5: Default Rate by Mandates**

<table>
<thead>
<tr>
<th>Amount Overdue ($ millions)</th>
<th>Sub-Saharan Africa</th>
<th>100% Sub-Saharan Africa</th>
<th>Small Business</th>
<th>100% Small Business</th>
<th>Environmentally Beneficial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Financing ($ millions)</td>
<td>$5,120.8</td>
<td>$5,092.8</td>
<td>$4,261.5</td>
<td>$2,617.6</td>
<td>$1,265.5</td>
</tr>
<tr>
<td>Default Rate (%)</td>
<td>0.933%</td>
<td>0.938%</td>
<td>1.219%</td>
<td>0.026%</td>
<td>8.934%</td>
</tr>
</tbody>
</table>

Note: “Sub-Saharan Africa” and “Small Business” categories include all transactions that are partially or wholly attributed to these respective categories. The “100% Sub-Saharan Africa” and “100% Small Business” categories only include transactions that are wholly attributed to these categories.
**Risk Rating: By Mandate**

EXIM risk rates its portfolio using a 1 – 11 budget cost level (BCL) scale. The ratings are based, in general, on a borrower’s ability to make payments, as indicated by relevant economic factors, and 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, while four categories between 5 and 8 are considered equivalent to “non-investment grade” bond ratings. Three categories, ratings 9 to 11, are for countries that are considered either unable to pay fully, even with extended repayment periods, or currently unwilling to make a good faith effort at repayment. EXIM does not use the BCL scale for its working capital and multi-buyer insurance products, as these products are evaluated using a portfolio analysis approach.

Using the BCL at the time of authorization and based on the authorized amount, EXIM’s active portfolio’s weighted average risk rating is 4.22, approximately corresponding to an investment grade portfolio. Exhibit 6 provides the weighted average BCLs for the various EXIM mandates.

### Exhibit 6: Weighted Average BCL by Mandate

<table>
<thead>
<tr>
<th>Category</th>
<th>Budget Cost Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>5.06</td>
</tr>
<tr>
<td>100% Sub-Saharan Africa</td>
<td>5.06</td>
</tr>
<tr>
<td>Small Business</td>
<td>4.25</td>
</tr>
<tr>
<td>100% Small Business</td>
<td>5.52</td>
</tr>
<tr>
<td>Environmentally Beneficial</td>
<td>3.90</td>
</tr>
<tr>
<td><strong>Active Portfolio</strong></td>
<td><strong>4.22</strong></td>
</tr>
</tbody>
</table>
In addition to measuring the current default rate, EXIM regularly examines the current portfolio to measure the future default rate under stressed scenarios, as well as to identify how the current portfolio may perform in the future under stressed scenarios. As the Basel Committee on Banking Supervision states, “Stress testing should be used as a risk management tool” for risk identification, monitoring, and assessment. The following section describes what stress testing is, why it is important, how stress testing works, EXIM stress test protocol, and recent results from EXIM’s stress tests.

Overall, the results of EXIM’s June 2022 standard stress tests are in line with prior stress tests given that, up until the start of the COVID-19 pandemic, transactions were generally repaying on time, leading to a reduction in exposure.

WHAT IS STRESS TESTING?
The Federal Deposit Insurance Corporation defines stress testing as “a forward-looking quantitative evaluation of stress scenarios that could impact a banking institution’s financial condition and capital adequacy.” 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.” 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 follows a formalized stress testing protocol. Consistent with Federal Reserve guidance, EXIM’s stress testing assesses EXIM’s risks and the potential impact of stressful events and circumstances on EXIM’s financial condition. Stress testing is an important tool for portfolio management and risk mitigation. Furthermore, the International Monetary Fund states: “Stress testing has become an essential and very prominent tool in the analysis of financial sector stability and development of financial sector policy.” The World Bank concurs, stating, “Regular stress testing of the financial system is the main tool of macroprudential monitoring.” Finally, EXIM’s Inspector General recommended that “EXIM should develop a systematic approach to stress testing and should conduct stress testing at least annually as part of its re-estimate process.” Based on industry best practices and EXIM’s commitment to a comprehensive risk management framework EXIM implemented a stress testing protocol in FY 2014.

---

15 Ibid.
HOW DOES STRESS TESTING WORK?
The International Association of Credit Portfolio Managers made two overarching recommendations for portfolio stress testing:\(^\text{19}\)

1. 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; and

2. 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.

EXIM STRESS TESTING PROTOCOL
On an annual basis, EXIM looks at different ways to perform both a top-down stress test analysis on the entire portfolio as well as a bottom-up approach on certain sets of obligors. For the top-down stress test, EXIM decided to use a Monte Carlo simulation approach, consistent with best practice. This approach allows EXIM 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.”\(^\text{20}\) This allows EXIM to use a forward-looking approach over numerous scenarios. The simulation takes every transaction in EXIM’s exposure and simulates whether it defaulted or not during the remainder of its term, based on EXIM’s most current loss rate model. In the default simulation, the total default amount less recoveries is calculated. This loss rate model is reviewed annually by the Office of Management and Budget and audited by KPMG.

Each performing portfolio simulation takes every transaction and sums their respective default amounts. The total is EXIM’s loss for that simulation. EXIM then runs this same simulation 20,000 times to create a distribution of possible losses. By creating a distribution of possible losses, EXIM can look at the extreme tails of the distribution to see how the portfolio performs in worst case scenarios. In essence, this means EXIM looked at 20,000 different “lives” of the portfolio. In some lives more defaults occur than expected, others have fewer defaults than expected. By running so many different lives of the portfolio, EXIM can isolate those times where many more defaults occur and look at the impact. EXIM is also able to put probabilities around the chance that these events could occur. Furthermore, EXIM looks at the results of these scenarios if no recoveries occur. This is an extreme scenario as EXIM regularly recoups more than 50 cents on the dollar after claim payments have been made to financial institutions as a result of borrower non-payment or insurance payouts. However, recoveries take time, and this scenario can show what the stressed default rate could reach with no recoveries, albeit temporarily.

For the bottom-up approach, EXIM looks at applicable data from the Federal Reserve’s Comprehensive Capital Analysis and Review adverse and severely adverse scenarios. These scenarios are applied to the largest obligors to determine the adverse scenario’s average risk rating. In doing this, EXIM can measure the risk of each obligor similar to a Moody’s or S&P credit rating but using a 1-8 scale. EXIM measures the impact on these obligors under the adverse and severely adverse scenario, resulting in 1.2 notch and 2.5 notch downgrades, respectively. In effect, this scenario would increase the riskiness for a typical transaction by 30 percent for adverse scenarios and 63 percent for severely adverse scenarios.


Next, EXIM runs another 20,000 trial simulations of the entire portfolio based on the results of the obligor specific stress tests, each obligor is 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 scenarios allow EXIM to look at its risk profile from a variety of perspectives and help EXIM ascertain the current risk within the portfolio.

**EXIM Standard Stress Testing Results**

As noted above, EXIM’s standard stress test uses 20,000 trial Monte Carlo simulations to forecast the default rate of the current non-overdue portfolio. This stress test does not forecast what the default rate will be at a specific point in time; rather, it projects a range of potential default rates over the lifetime of the current non-overdue portfolio.

Under the June 2022 baseline forecast, the median default rate for the current non-overdue portfolio is 0.65 percent with a 95 percent confidence level that it will be below 2.16 percent.

Under a stressed scenario where all ratings were downgraded by two BCL notches, the median forecasted default rate for the current non-overdue portfolio would increase to 2.30 percent with a 95 percent confidence level that the default rate for this portion of the portfolio would be below 3.71 percent. Finally, under a stressed scenario where none of the defaults were recovered, the median forecasted default rate for the current non-overdue portfolio would be 1.61 percent, with a 95 percent confidence level that it would be below 4.63 percent.

In addition to calculating the default percentages for the current non-overdue portfolio, EXIM calculated the total dollar loss of this distribution. Under the baseline forecast, the median loss amount for the current non-overdue portfolio is $0.5 billion. Under a stressed scenario in which all ratings were downgraded by two notches, the median forecasted loss amount would increase to $1.77 billion. In a stressed scenario where none of the defaults were recovered, the median forecasted loss amount would be $1.24 billion.

These results are comparable to the results from the last stress test performed at the end of March 2022, as EXIM’s portfolio stabilized during this period following the initial adverse impact of the COVID-19 pandemic. The median default rate for the current non-overdue portfolio under the baseline forecast in June 2022 is 0.65 percent, which is similar to the 0.66 percent median forecasted rate for March 2022.

| Current Non-Overdue Portfolio: Base Scenario & Standard Stressed Scenario (Amounts in USD Billions) |
|-------------------------------------------------|---------------------------------|-------------------------------|-------------------|-------------------|
| Median Amount | Average Amount | 95 Percentile |
| Percent | Amount | Percent | Amount | Percent | Amount |
| Total | 0.65% | $0.50 | 0.95% | $0.73 | 2.16% | $1.66 |
| No Recoveries | 1.61% | $1.24 | 2.16% | $1.66 | 4.63% | $3.56 |
| Downgrade 2 Notches | 2.30% | $1.77 | 2.11% | $1.62 | 3.71% | $2.85 |

Next, EXIM simulated how the above stress test results would affect EXIM’s overall default rate, which was 0.947 percent at the end of June 2022. EXIM ran the base case, Downgrade Two Notches, and No Recoveries stress test scenarios to incorporate all transactions in EXIM’s active portfolio. The portfolio data and stress test protocols otherwise remain unchanged from the scenario descriptions above.
Under the base scenario, the median simulated default rate declined from the current overall default rate (0.947 percent) to 0.90 percent (reflecting expected recoveries over the life of the portfolio), the average simulated default rate would rise to 1.19 percent, and there is a 95 percent confidence level that the default rate would be below 2.41 percent. Under both stressed scenarios, the simulated default rates for the median, average, and the 95 percent confidence level exceeded the two percent statutory threshold, which would immediately freeze EXIM’s lending cap.

**Industry Impact Analyses**

EXIM periodically stress tests specific industries in which it has large exposures. For this report, EXIM stressed its aircraft credits that are considered “impaired credits” or otherwise have the highest likelihood of default given the current business environment. For its impaired aircraft borrowers, EXIM has classified these credits based on a scale of ‘Low’ to ‘High’ likelihood of delinquency that could result in a full exposure default.

Using the ‘Low’ to ‘High’ risk classifications described above, EXIM developed a stress test scenario that applies a risk rating downgrade to every impaired aircraft transaction. By applying a set risk rating downgrade to these transactions, EXIM can simulate the potential deterioration of credit quality for this key sector in its portfolio and therefore assess the impact on the portfolio’s potential losses. The risk rating downgrade by risk classification for this scenario is outlined in the table below:

<table>
<thead>
<tr>
<th>Industry Stress Test Scenario</th>
<th>Impaired Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Likelihood of Delinquency</strong></td>
<td>Risk Rating Notch Downgrade</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
</tr>
<tr>
<td>Moderate</td>
<td>2</td>
</tr>
<tr>
<td>High</td>
<td>3</td>
</tr>
</tbody>
</table>

The execution of this stress scenario follows the same protocol outlined in the “Stress Tests” section of this report, and the portfolio is run through 20,000 Monte Carlo simulations to create a distribution of potential losses.

**Industry Stress Scenario – Results**

By applying the risk rating parameters discussed above, the expected default rate (i.e., the median value of all the simulations) for the current non-overdue portfolio would be 0.75 percent with a 95 percent confidence level that it will be below 2.28 percent. This represents a slight increase from the base case scenario’s median default rate for the current non-overdue portfolio of 0.65 percent discussed in the “Stress Test” section.
Additionally, in a scenario where the parameters are applied, and EXIM does not make any recoveries on the defaults, the median default rate for the current non-overdue portfolio would be 1.89 percent with a 95 percent confidence level that it would be below 4.95 percent. As discussed in the EXIM Stress Testing Protocol section, a “no recoveries” scenario is an extreme scenario in the long-term given EXIM’s historical recovery experience. This stress scenario, however, shows what could temporarily happen to the default rate after EXIM pays a claim but before recovery efforts are completed. Historically, EXIM recoups more than 50 cents for every dollar paid out in claims. The results of these scenarios are provided in the table below.

**Current Non-Overdue Portfolio**

<table>
<thead>
<tr>
<th>Impaired Aircraft Stress Scenario (Amounts in USD Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median</strong>&lt;br&gt;Percent</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>No Recoveries</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>No Recoveries</td>
</tr>
</tbody>
</table>

Next, EXIM simulated how the above stress tests results would affect EXIM’s overall default rate, which was 0.947 percent at the end of June 2022. EXIM again used risk rating parameters as described above. In this scenario, EXIM’s median overall default rate rises to 0.99 percent with a 95 percent confidence level it would be below 2.53 percent. Assuming that no recoveries are made, the median default rate rises to 2.42 percent with a 95 percent confidence level it would be below 5.48 percent.

**Active Portfolio**

<table>
<thead>
<tr>
<th>Impaired Aircraft Stress Scenario (Amounts in USD Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median</strong>&lt;br&gt;Percent</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>No Recoveries</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>No Recoveries</td>
</tr>
</tbody>
</table>

While EXIM is currently within the parameters of the two percent default rate, it is closely monitoring all credits and defaults that may cause an increase in the default rate and, if necessary, taking proactive measures to manage the portfolio.