

# Exchange Rate Feed

## **PURPOSE**

Automate the daily retrieval and update of exchange rates for CS Lucas, ensuring accurate and timely currency conversion data.

## **WHY IS THIS IMPORTANT?**

- Automatically update system rates, eliminating error-prone manual entries
- Ensure data quality and consistency
- Provide reliable rates for:
  - Generating accounting journals
  - Revaluating open treasury positions for risk management

## **DATA SOURCES**

Sources for exchange rate data:

1. International Monetary Fund (IMF)

URL: <https://www.imf.org/external/np/fin/ert/GUI/Pages/CountryDataBase.aspx>

2. Monetary Authority of Singapore (MAS)

URL: <https://eservices.mas.gov.sg/Statistics/msb/ExchangeRates.aspx>

## **DATA SOURCING STRATEGY**

1. Prioritize IMF exchange rates
2. Supplement missing currencies/rates from other sources

## **RATE SOURCING AND CONVERSION**

See working in [Excel](#)

1. Prioritize IMF exchange rates

Supplement missing currencies/rates from other sources

2. The CSL rates are normalised to amount of foreign currency per 1 USD

Example: CAD 1.396987628 = USD 1.00

3. The normalised rates is consistent with what is published by IMF on their website except for AUD, GBP and EUR

On the IMF website, these are quoted in amount of USD per 1 unit of foreign currencies.

Example

	IMF website	CSL Rates	Calculation
AUD	0.6402	1.562011871	=1/0.6402
EUR	1.1262	0.887941751	=1/1.1262
GBP	1.33895	0.746853878	=1/1.33895

4. MAS rates are quoted in amount of SGD for an unit of USD, GBP and EUR. For the other currencies it is quoted in amount of SGD for 100 units of foreign currency.

Example

On 19-May-2025, the MAS published rate are

1 USD = SGD 1.2985

100 IDR = SGD 0.007887

SGD 1 = IDR 12,679.09218 (=100 / 0.007887)

USD 1 = IDR 16,463.80119 (= 100 / 0.007887 \* 1.2985)

5. Calculating cross rates from CSL Rates.

Example

Compute the cross rate between SGD and TWD.

CSL Rate of USD 1 are

USD/SGD = 1.2985

USD/TWD = 30.17521844

SGD/TWD = 26.70727835 (=30.17521844/1.2985)

TWD/SGD = 0.037442977 (=1.2985/30.17521844)

## **INTEGRATION WORKFLOW**

1. Daily Data Retrieval - Exchange rate data is retrieved daily from authoritative sources at 01:00 UTC for prior day closing rates.
2. Data normalization and conversion.
3. Rate Push to CSL Application - The exchange rates are pushed to the CSL application and then rounded to 6 significant digits and prepared for system update.
4. System update - The system is updated with the new rates.
5. User approval process for final rates validation and confirmation.

## **SPECIFICATIONS**

The currency exchange rates data is delivered in plain vanilla JSON format.

JSON Structure

*date*

- Type: String
- Example: "2025-06-16"
- Purpose: Provides the close of business date

*rates*

- Type: Object
- Content: Currency codes paired with their rate values
- Format: Key-value pairs where:
  - Key: Currency code (string)
  - Value: Exchange rate (string)
- Note: Rate values are provided as strings, including empty strings (as seen with "ZAR")

## **IMPORTANT NOTES**

Some currencies may have missing rates due to:

- Public holidays in the country of origin
- Archival limitations of source databases

Always verify data before final system integration

## **REFERENCE**

[Sample raw file of exchange rate](#)

## **FREQUENTLY ASKED QUESTIONS**

### **FAQ01. Why are some currency exchange rates blank on certain days?**

Some currency exchange rates may appear blank if the rate data was unavailable at the time the report was generated. This typically occurs when our external data sources do not provide the rate at the time of retrieval. In such cases, the system will return a blank value to indicate that no data was received.

### **FAQ02. Does CS Lucas use non-1:1 translation ratios for weaker currencies such as IDR (e.g., 1:1000)?**

No, CS Lucas does not apply any translation ratios. Any scaling or ratio adjustments (e.g., applying a 1:1000 ratio) are to be handled at the customer's discretion during data import or processing.