BANK OF CANADA
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Canadian Effective Exchange Rates

The CEER index is a weighted average of bilateral exchange rates for the Canadian dollar against the currencies of Canada’s major trading partners.

The Canadian Effective Exchange Rate index (CEER) replaced the **Canadian-Dollar Effective Exchange Rate index (CERI)** as of January 2018.

Overview

CEER includes 17 foreign currencies, all of which are from countries that account for at least 0.5 per cent of:

- Canadian non-oil exports (for a total of more than 93 per cent of those exports)
- Canadian non-oil imports (for a total of more than 91 per cent of those imports)

It is calculated on multilateral trade weights, updated annually to reflect Canada’s evolving trade patterns.[1]

Read more about CEER in our staff discussion paper, “**A New Measure of the Canadian Effective Exchange Rate**.”

Components

CEER is constructed on a nominal and real basis for four measures to assess the evolution of the Canadian exchange rate against different groups of countries.

The **total index** includes all 17 of Canada’s main trading partners.

The **major currencies index** includes seven currencies that are traded widely in markets outside their respective home areas: the US dollar, euro, Japanese yen, British pound, Swiss franc, Australian dollar and Swedish krona. The **other important trading partners (OITP) index** is made up of the remaining 10 currencies: the Brazilian real, Chinese renminbi, Hong Kong dollar, Indian rupee, Malaysian ringgit, Mexican peso, Norwegian krone, Peruvian new sol, South Korean won and Thai baht. These two indexes allow us to disentangle competitiveness-related issues that are closely tied with the OITP index from financial pressure on the Canadian dollar, which is better captured by the major currencies index.

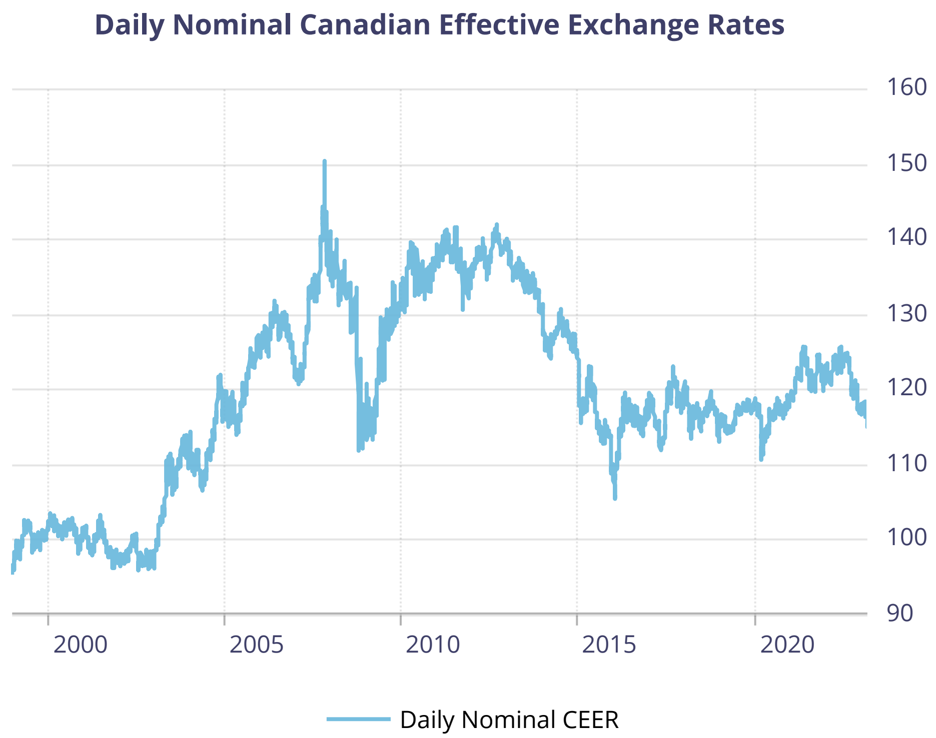
The **index excluding the U.S. dollar** is to assess the evolution of the Canadian dollar, absent our principal trading partner.

Data

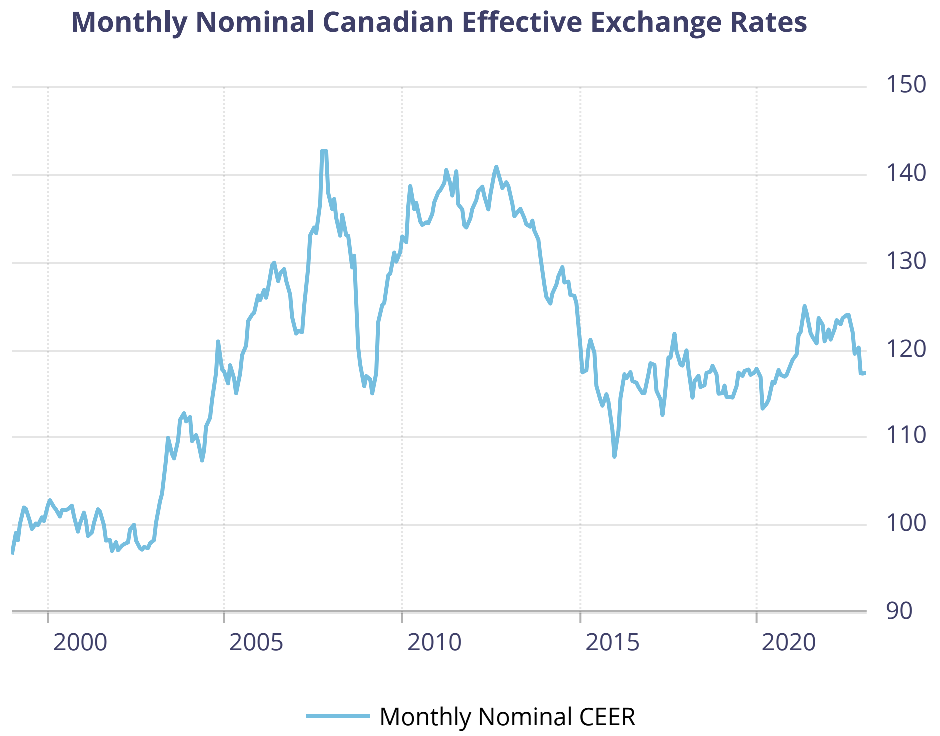
Nominal CEER indices include total, major currencies, other important trading partners, and total excluding the U.S. dollar. They are available daily and monthly.

Real CEER indices include total, major currencies, other important trading partners, and total excluding the U.S. dollar. They adjust the nominal indices for price changes and are available only monthly — and only after the release of the nominal indices (dependent on a complete month of CPI data for all 17 trading partners).

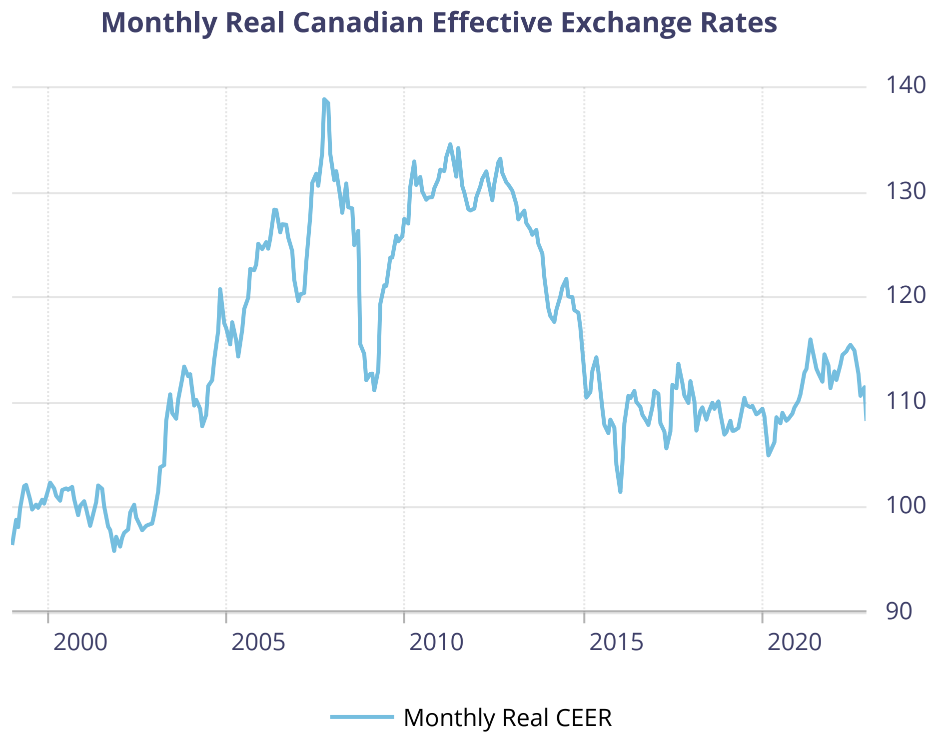
Daily Nominal



Monthly Nominal



Monthly Real



Methodology

The nominal CEER at time t is given by

$$I_t = I_{t-1} \times \prod_{j=1}^{N} (e_{j,t}/e_{j,t-1})^{w_{j,t}}$$

where $e_{j,t}$ is the bilateral exchange rate with country j at time t (the price of Canadian dollars in terms of the currency of country j), $\omega_{j,t}$ is the weight given to country j at time t and N is the number of currencies included in the index. Note that $\sum_j \omega_{j,t} = 1$. In the real CEER, the nominal exchange rate, $e_{j,t}$, is replaced by its real counterpart, $e_{j,t} \times p_t/p_{j,t}$, where p_t and $p_{j,t}$ are the consumer price indexes of Canada and country j.

Weights

The weights in the CEER are designed to capture the competitiveness of Canadian goods in international trade. Movements in a country's currency can be important for Canada for the following reasons:

1. Canada is a significant importer from this country
2. Canada is a significant exporter to this country, or
3. This country is a significant exporter to countries where Canada is also a significant exporter.

Although trade in energy products is important for Canada, they have been excluded for the purposes of calculating the weights in order to be consistent with international standards. Typically, trade in energy is excluded because prices are determined in global energy markets and exchange rate movements generally don't affect a country's relative competitiveness in primary commodities. Excluding energy products also has the potential benefit of minimizing swings in trade weights that could occur due to large shifts in crude oil prices.

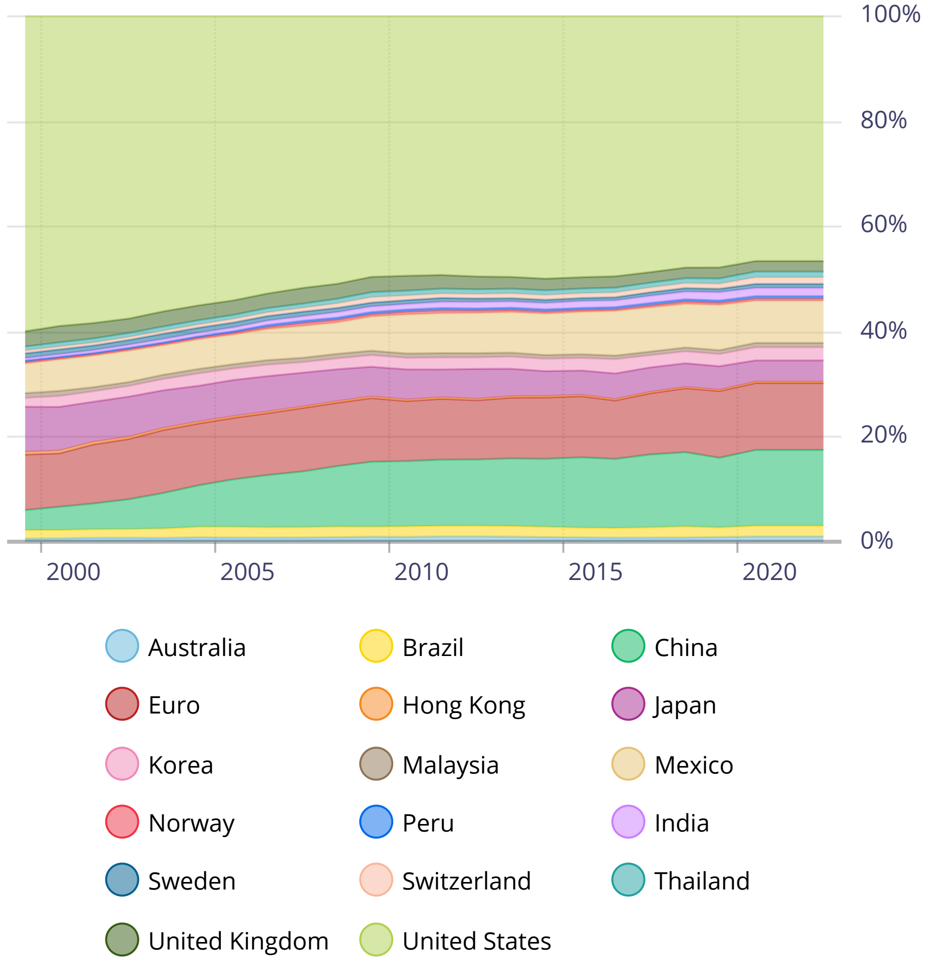
Total Weights

The total weight of a country j in year t is a weighted average of the their import, export and third-market competition weights given by the following formula:

$$\omega_{j,t} = \frac{1}{2}\mu_{j,t} + \frac{1}{2}(\frac{1}{2}\varepsilon_{CAN,j,t} + \frac{1}{2}\tau_{CAN,j,t})$$

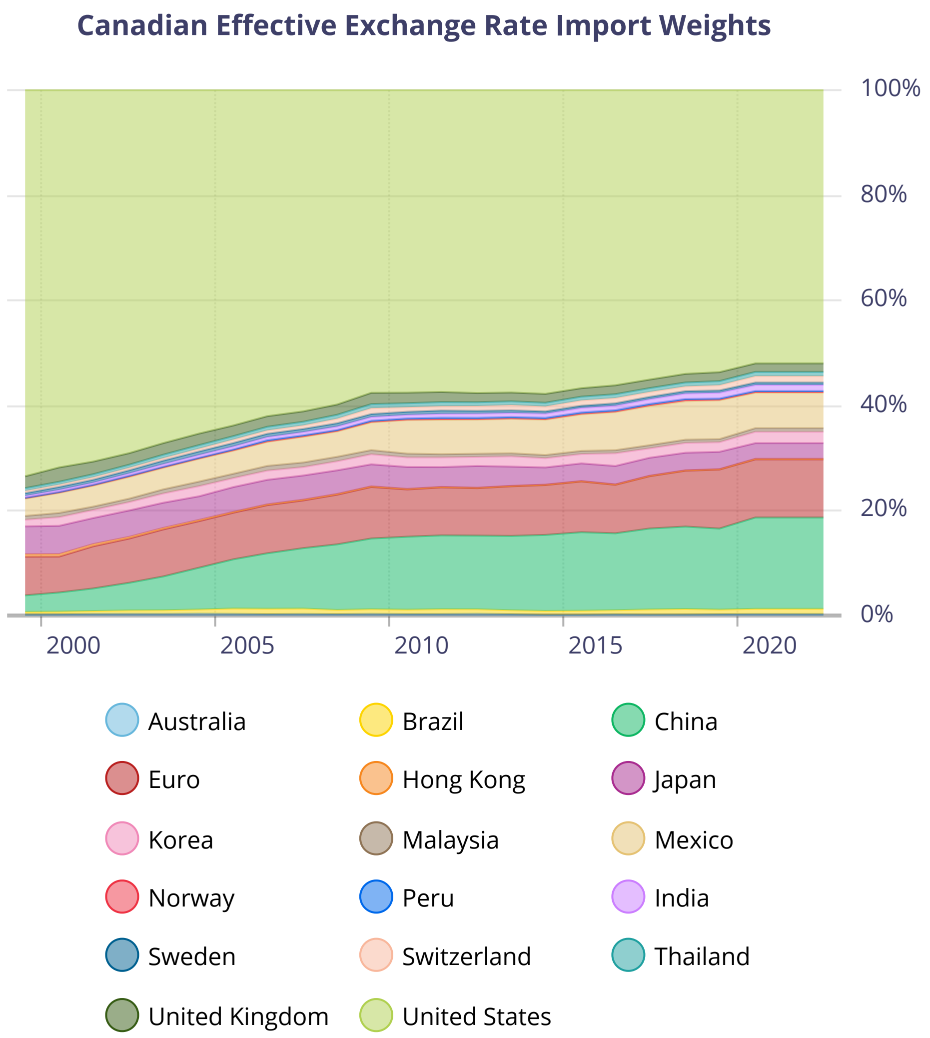
where $\mu_{j,t}$ is the import weight, $\varepsilon_{CAN,j,t}$ is the export weight and $\tau_{CAN,j,t}$ is the third-market competition weight. Note that this measure gives equal weight to imports and exports.

Canadian Effective Exchange Rate Total Weights



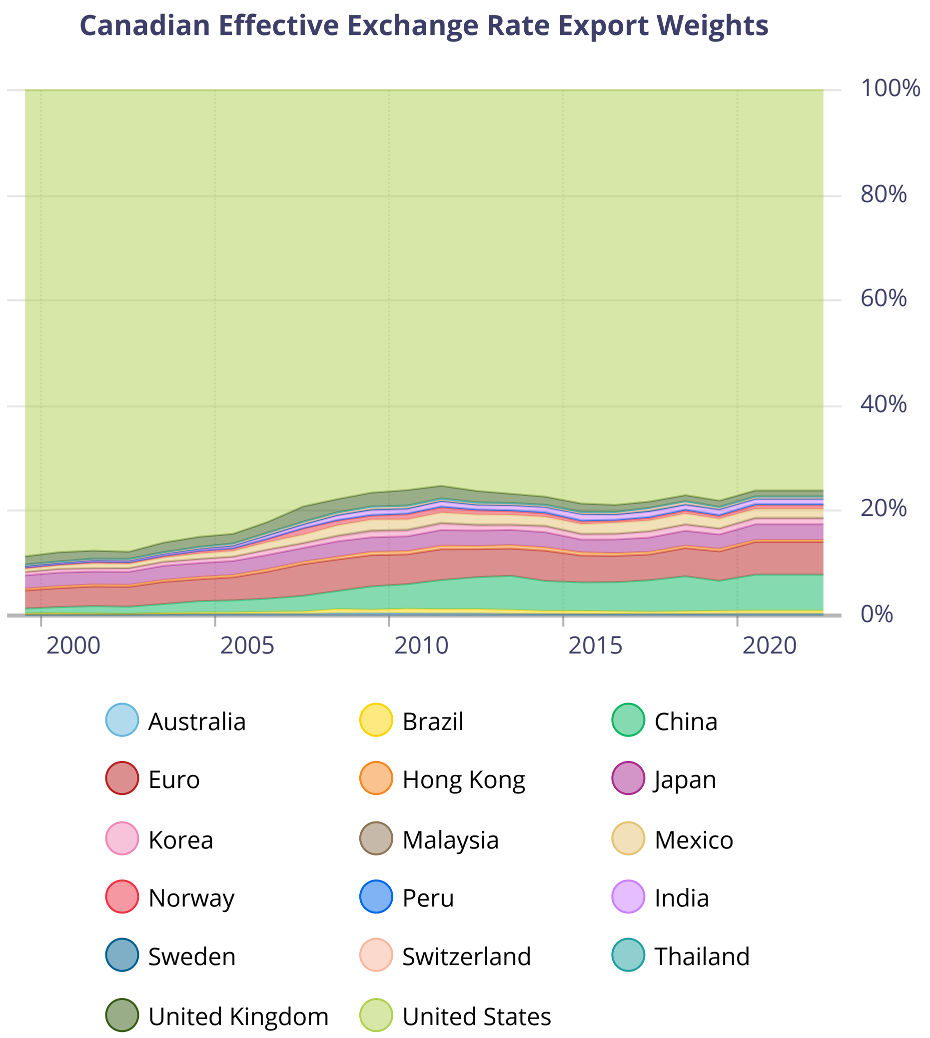
Import Weights

The import weight of a country is measured by its share of total Canadian imports.



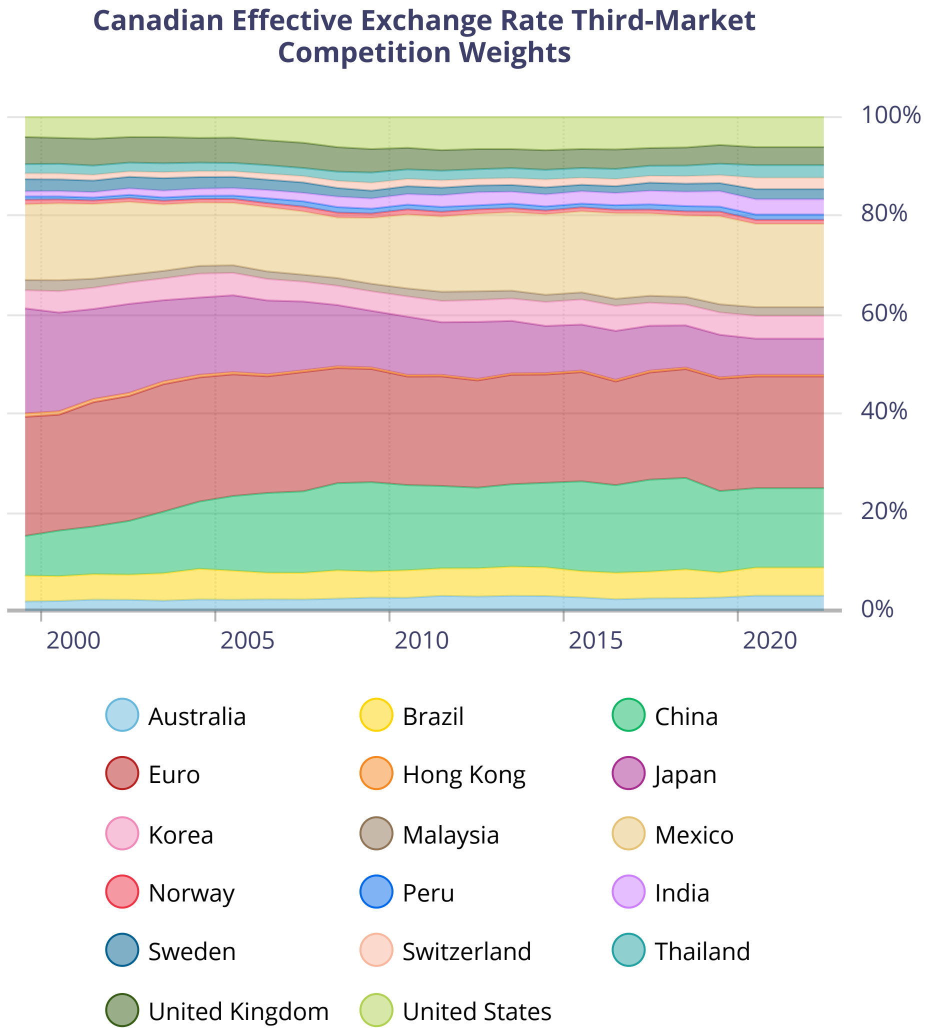
Export Weights

The export weight of a country is measured by its share of total Canadian exports.



Third-Market Competition Weights

The third-market competition weights measure how much Canada competes with each country in other markets.



Footnotes

1. The trade weights in the CEER indexes may be revised slightly over history with the annual updates to reflect the latest trade data.[←]