

## Latest Developments in the Canadian Economic Accounts

# Currency composition of Canada's international investment position

by Vicky Gélinas

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# Currency composition of Canada's international investment position

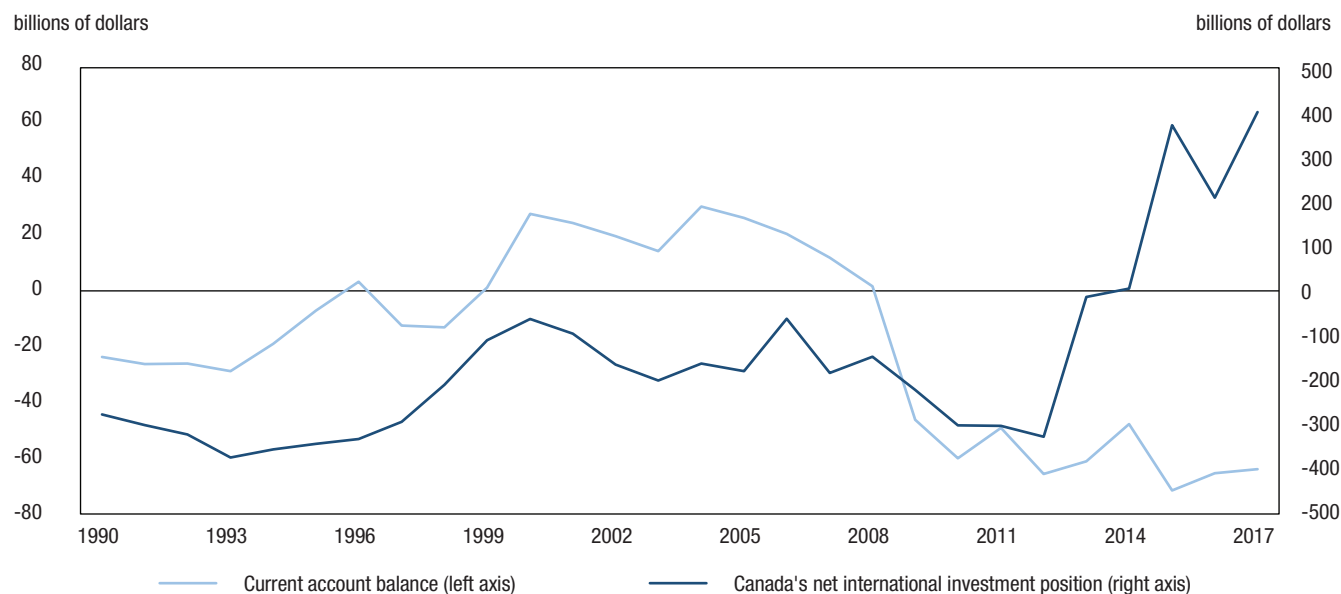
by Vicky Gélinas

## Introduction

Despite ongoing current account deficits and the corresponding need to borrow funds from abroad, Canada's net international investment position (IIP) has increased to unprecedented levels in recent years. This suggests that the change in the net international investment position has been driven by factors other than current account deficits. Among these factors is the revaluation effect related to changes in prices for debt and equity instruments and to exchange rate fluctuations.

### Chart 1

#### Canada's current account balance and net international investment position, 1990 to 2017



Source: Statistics Canada, CANSIM tables 376-0103 and 376-0142.

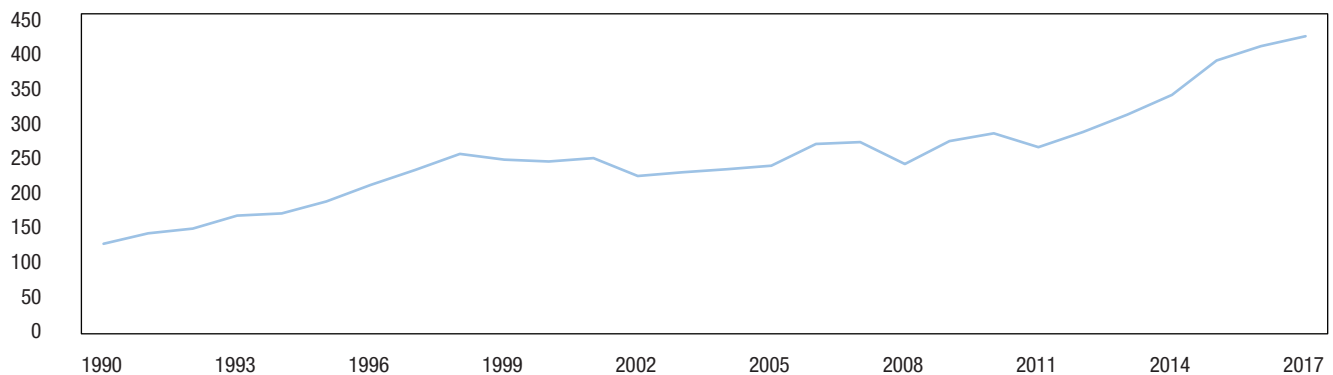
Since the global financial crisis of 2008, the value of Canada's international assets and liabilities has more than doubled. In comparison, Canada's real gross domestic product (GDP) has grown by 29%. In the third quarter of 2008, the combined value of international assets and liabilities represented 226% of GDP and has risen to a peak of 418% by the fourth quarter of 2017.

Given the increasing importance of international assets and liabilities to the Canadian balance sheet, it is essential to better understand the extent to which changes in relative exchange rates and equity prices affect the value of Canada's international holdings. The more important they become, the more these investments are sensitive to shocks affecting their values, such as movements in exchange rates and prices.

Information on the currency composition of Canada's international assets and liabilities is necessary to properly understand the impact of exchange rate fluctuations on the value of these assets and liabilities. This is an important concept in assessing the country's financial stability. Not only do exchange rate changes have an impact on the net IIP, but, by definition, they affect the net worth of Canadians.

**Chart 2**  
**Canada's total international assets and liabilities as a percentage of expenditure-based GDP at market prices, 1990 to 2017**

percent



Source: Statistics Canada, CANSIM tables 376-0142 and 380-0064.

### Definitions

**Net international investment position:** The difference between Canada's assets and liabilities to the rest of the world. An excess of international liabilities over assets can be referred to as Canada's net foreign debt. An excess of international assets over liabilities can be referred to as Canada's net foreign assets.

**Balance of international payments:** Covers all economic transactions between Canadian residents and non-residents in three accounts: the current account, the capital account and the financial account.

- **Current account:** Covers transactions in goods, services, compensation of employees, investment income and secondary income (current transfers).
- **Capital account:** Covers capital transfers and transactions in non-produced, non-financial assets.
- **Financial account:** Covers transactions in financial assets and liabilities.

In principle, a net lending (+) / net borrowing (-) derived from the sum of the current and capital accounts corresponds to a net lending (+) / net borrowing (-) derived from the financial account.

**Other changes in financial assets and liabilities:** Changes in financial positions that arise for reasons other than transactions between residents and non-residents. This includes revaluations, i.e. changes related to fluctuations in the exchange rates (exchange rate effect) and in market prices (price effect), and all other changes, including volume changes.

$\Delta$ Net IIP = financial account transactions + revaluations + other changes in volume

**National net worth:** The sum of national wealth (the value of non-financial assets in the Canadian economy) and Canada's net international investment position.

**Direct investment:** A component of the international accounts that refers to the investment of an entity in one country (the direct investor) obtaining a lasting interest in an entity in another country (the direct investment enterprise). In practice, direct investment is deemed to occur when a direct investor owns at least 10% of the voting equity in a direct investment enterprise.

**Portfolio investment:** Investment undertaken primarily for the sake of investment income or capital gains. This investment excludes cross-border direct investment and reserve assets, which are separate components of the international accounts.

## Impact of exchange rate movements on the net international investment position

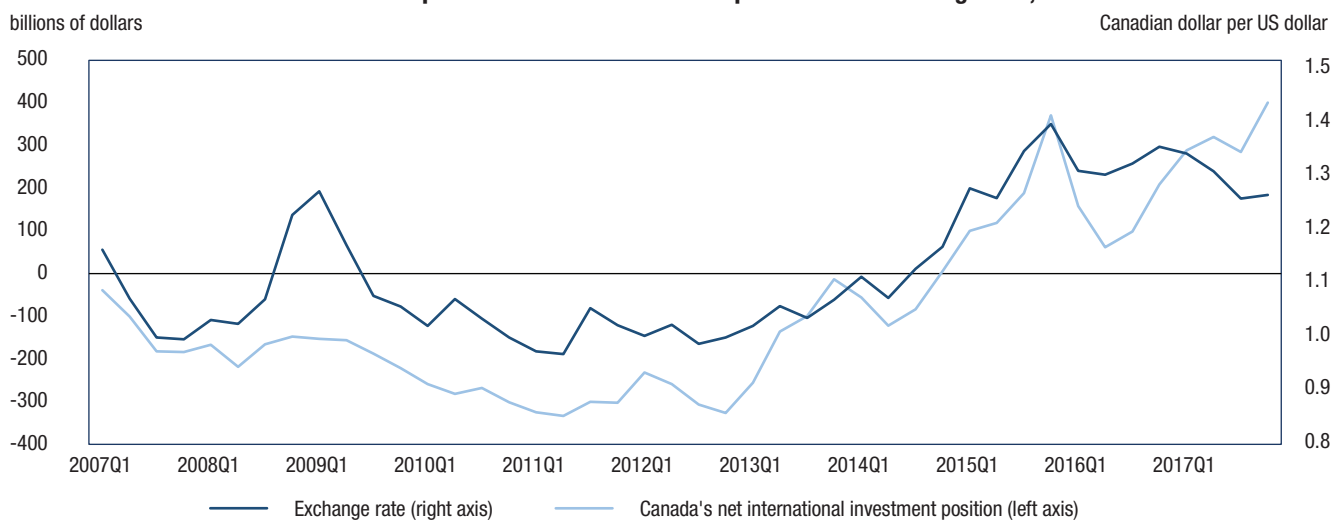
Users can assess the impact of exchange rate movements on the net international investment position only if they have access to information on the currency composition of international assets and liabilities. For example, if a country's international assets and liabilities are similar in value and currency composition, the revaluation effect due to exchange rate movements will be limited on the net position as the revaluation effect will be close to equal on both sides of the balance sheet.

However, an asymmetric foreign currency composition of international assets and liabilities will have an impact on the net position of a country in the event of important appreciation or depreciation of its domestic currency compared with foreign currencies. For instance, if a country's foreign liabilities are mostly denominated in domestic currency but an important share of its foreign assets are denominated in foreign currencies, as it is the case for Canada, a depreciation of the domestic currency will lead to an improvement of its net IIP. Inversely, if most of its foreign liabilities are denominated in foreign currencies while its foreign assets are mostly in domestic currency, a depreciation of the domestic currency would lead to the deterioration of the country's net IIP.

Over the past five years, the Canadian dollar has globally depreciated against most major foreign currencies. Between the end of 2012 and 2017, the Canadian dollar lost about 20% of its value against the US dollar. Since most of Canada's international assets and an important portion of its international liabilities are denominated in foreign currencies, movements in the Canadian exchange rate have a significant impact on Canada's net international investment position.

**Chart 3**

### Canada's net international investment position and Canadian dollar per US dollar exchange rate, 2007 to 2017



Source: Statistics Canada, CANSIM table 376-0142.

Having a clear view on the currency composition of a country's international balance sheet allows for a better understanding and assessment of the impact and the risks related to exchange rates fluctuations.

For example, the recent depreciation of the United Kingdom pound sterling following the Brexit vote raised questions about the impact of such a movement on a countries' financial stability. The depreciation of the United States dollar during the dot-com bubble in 2002 also raised concerns about countries that were highly exposed to the US dollar and the extent to which this depreciation affected their economy. Another example is the large fluctuations of the Japanese yen during the asset price bubble in the late 1980s - early 1990s. Having information about the currency composition of a country's international investment position can also be helpful in forecasting the impact of a currency shock and thus assessing potential risk.

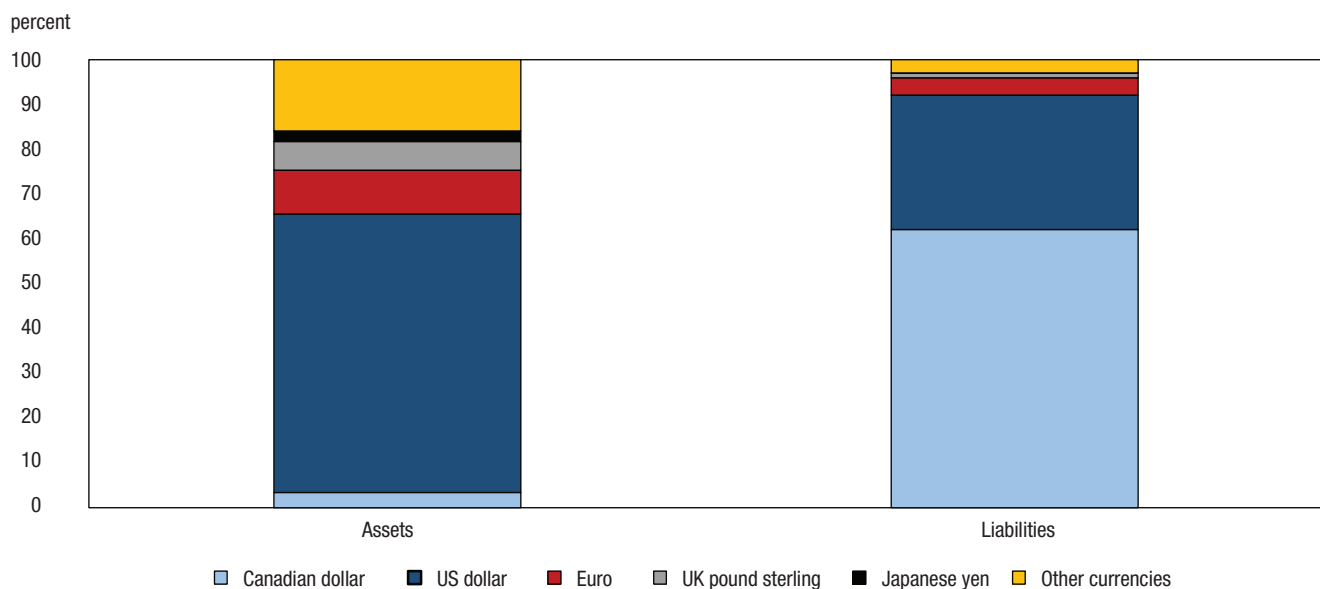
## Currency composition of Canada's international investment position

### Results at the total level

The currency composition of Canada's international financial assets differ from the composition of its international liabilities. Over 96% of Canada's international assets were denominated in foreign currencies at the end of 2017, mainly in US dollars (62%), followed by the euro (10%) and the UK pound sterling (6%). International assets denominated in Canadian dollars represented only 3% of the total international assets at the end of 2017.

On the other hand, the predominant currency of denomination of the country's international liabilities was the Canadian dollar, which accounted for 62% of the total liabilities at the end of 2017, followed by the US dollar (30%) and the euro (4%). Canada's international assets are therefore much more exposed to exchange rate fluctuations than international liabilities.

**Chart 4**  
Canada's international assets and liabilities, by currency, end of 2017



Source: Statistics Canada, CANSIM table 376-0150.

Because of the asymmetric currency composition of international assets and liabilities, Canada's net international investment position is strongly impacted by exchange rate fluctuations. For example, in the event of a depreciation of the Canadian dollar against the US dollar, other things being equal, the value of assets will increase by more than the value of liabilities, leading to an improvement of the country's net IIP. Inversely, an appreciation of the Canadian dollar against the US dollar would lead to a deterioration of the net IIP<sup>1</sup>.

### Results by individual component

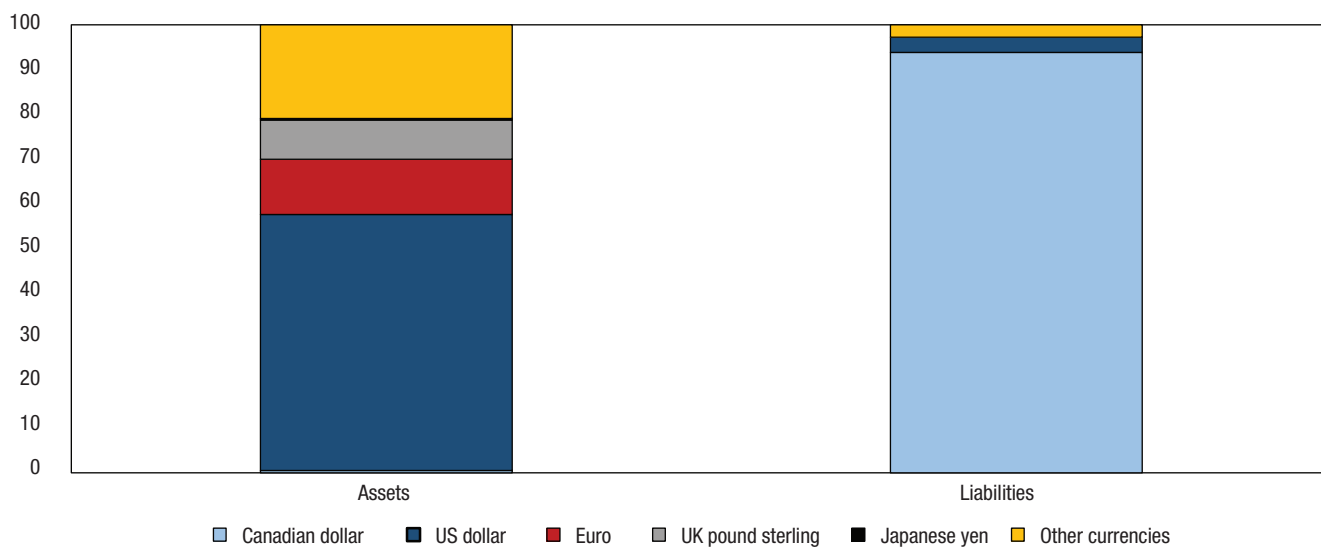
#### Direct investment

The currency composition of direct investment differs greatly when we compare the stock of Canadian direct investment abroad and the stock of foreign direct investment in Canada. This is due to the fact that, over 93% of the assets and 85% of the liabilities are in equity instruments. The currency of denomination of equity and investment fund shares is generally the domestic currency of the economy in which the issuer is resident<sup>2</sup>. Hence, direct investment equity assets are denominated in foreign currencies, while equity liabilities are denominated in Canadian dollars, leading to an asymmetric currency composition of the direct investment component of the IIP.

At the end of 2017, over half of the Canadian direct investment assets were denominated in US dollars, while liabilities were mostly denominated in Canadian dollars. As a result, direct investment assets are much more vulnerable to currency movements than direct investment liabilities. In the event of either an appreciation or a depreciation of the Canadian dollar against foreign currencies, the value of direct investment assets will be greatly impacted, while the value of liabilities will remain fairly stable.

**Chart 5**  
**Direct investment assets and liabilities, by currency, end of 2017**

percent



Source: Statistics Canada, CANSIM table 376-0150.

## Portfolio investment

The currency composition of portfolio investment assets (Canadian holdings of foreign securities) and liabilities (foreign holdings of Canadian securities) differs significantly, and so does their instrument composition.

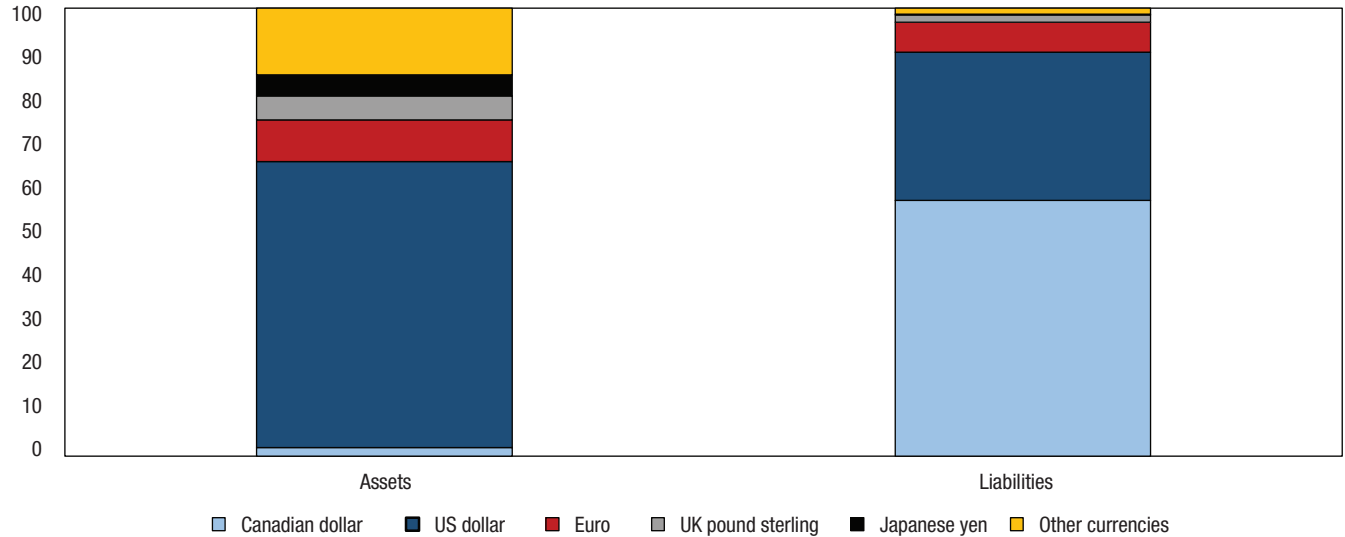
Canadian holdings of foreign securities are mostly composed of equity instruments, which are denominated in foreign currencies exclusively. Debt securities accounted for less than a quarter of these holdings at the end of 2017. Overall, the majority of portfolio investment assets were denominated in US dollars (64%) as of the end of December 2017, followed by euros (9%). Only 2% of foreign securities held by Canadians were denominated in Canadian dollars at the end of 2017, all foreign bonds<sup>3</sup>.

On the other hand, foreign holdings of Canadian securities are mainly composed of debt securities, which are denominated in various currencies, but predominantly in US dollars (49% at the end of 2017) and Canadian dollars (37%). The equity and investment fund shares are entirely denominated in Canadian dollars. Overall at the end of 2017, more than half of all portfolio investment liabilities were denominated in Canadian dollars (57%), followed by US dollars (33%) and euros (7%).

Therefore, a significant part of Canadian debt securities held by foreign investors, mainly those issued by private corporations, is denominated in foreign currencies. This reflects the global nature of their operations and their corresponding needs to access and borrow funds from foreign markets. From a borrower's perspective, the lower the Canadian dollar compared with the currency in which funds were borrowed, the more expensive it will be to pay back the creditor when the bond comes due. Canadian corporations are heavily exposed to this risk as are, to a lesser extent, provincial governments.

**Chart 6**  
**Portfolio investment assets and liabilities, by currency, end of 2017**

percent

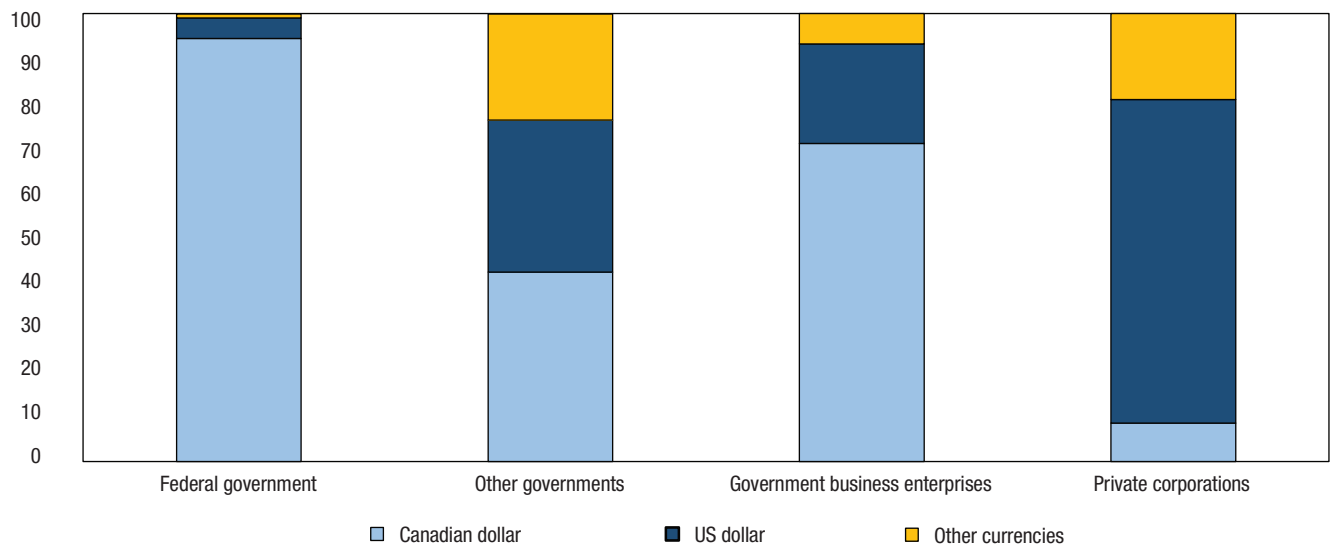


Source: Statistics Canada, CANSIM table 376-0150.

Portfolio investment assets are much more vulnerable to currency movements than liabilities. However, exchange rate fluctuations still have a considerable impact on the value of Canada's portfolio investment liabilities since over 40% of them are denominated in currencies other than the Canadian dollar. In the event of either an appreciation or a depreciation of the Canadian dollar against major foreign currencies, the value of both portfolio investment assets and, to a lesser extent, liabilities will be impacted.

**Chart 7**  
**Currency composition of Canadian bonds held by non-residents, end of 2017**

percent



Source: Statistics Canada, CANSIM table 376-0146



### All other investments

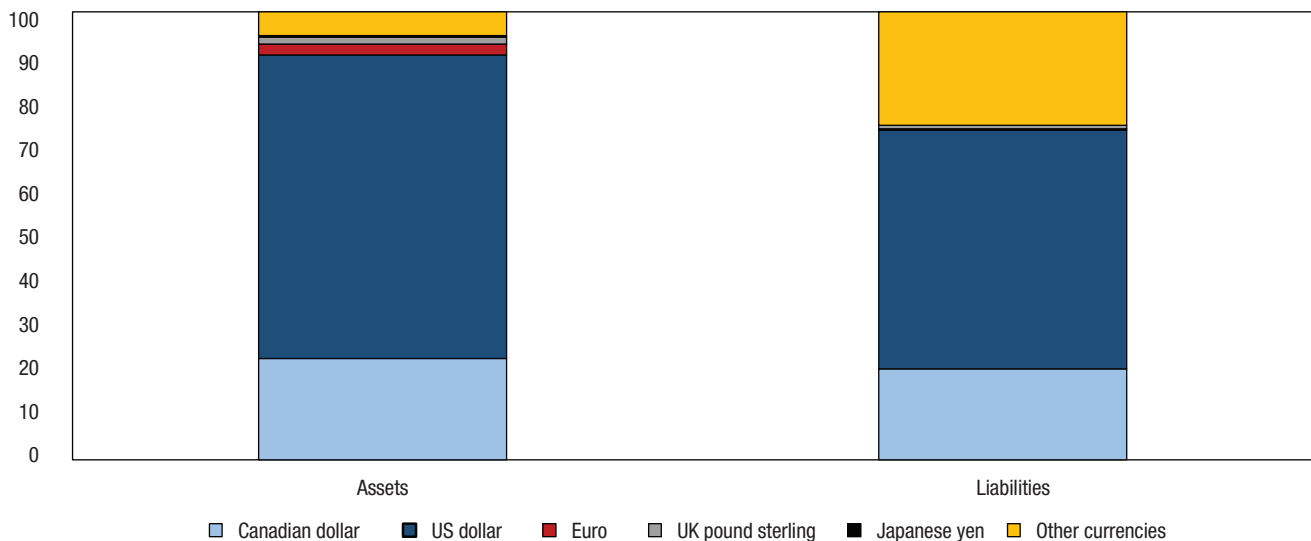
The other investment category of the IIP, which mainly reflects the cross-border financing activity going through banks, is composed of loans, currency and deposits, trade credits and advances, and other accounts payables/receivables. The loans and currency and deposits subcategories are the most important ones on both the asset and the liability side of the international balance sheet. Together, these two categories represented 89% of total other investment assets and 95% of total other investment liabilities at the end of 2017.

Unlike the other IIP components, the currency composition of the other investment category does not differ greatly when comparing assets and liabilities, with the US dollar representing the most important currency of denomination. At the end of 2017, US dollar denominated holdings represented 71% of the other investment assets and 69% of liabilities, followed by the Canadian dollar holdings (16% of assets and 19% of liabilities). This means that on a net basis, exchange rate fluctuations will affect the assets slightly more than liabilities.

By individual component, a greater share of international loan assets is denominated in Canadian dollar (23%) than loan liabilities (20%). The opposite is true for currency and deposits, with the Canadian dollar accounting for a larger share of liabilities (18%) than assets (14%).

**Chart 8**  
**Loan assets and liabilities, by currency, end of 2017**

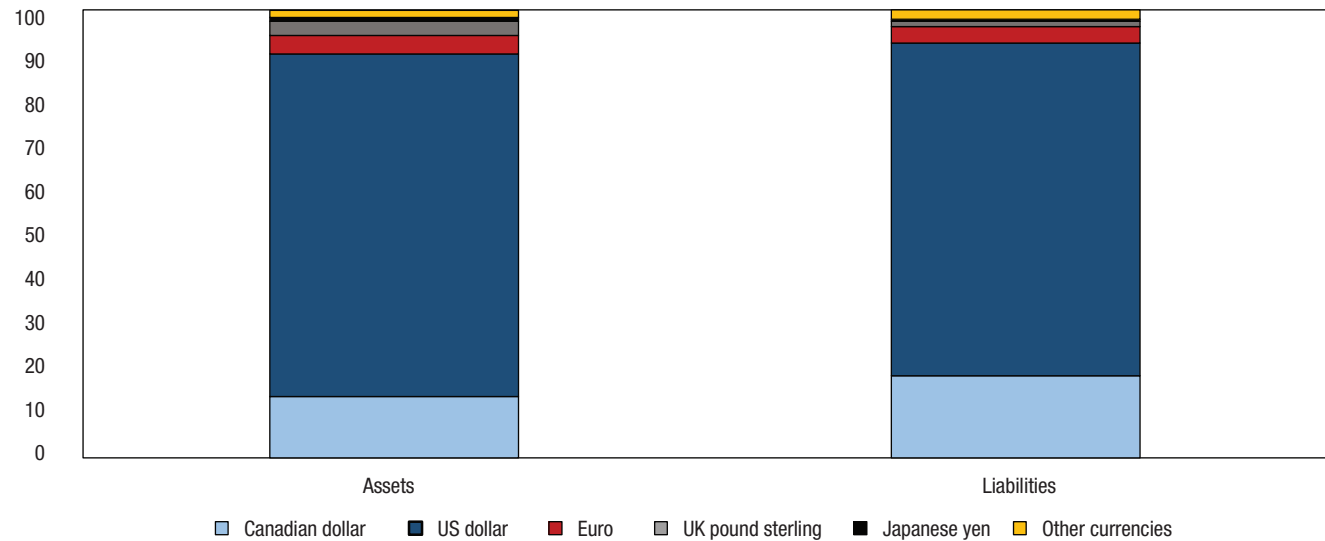
percent



Source: Statistics Canada, CANSIM table 376-0150.

**Chart 9**  
**Currency and deposits, assets and liabilities, by currency, end of 2017**

percent



Source: Statistics Canada, CANSIM table 376-0150.

Finally, Canada's official international reserves consist of assets entirely denominated in foreign currencies. At the end of 2017, 59% of Canada's international reserves were denominated in US dollars, 19% in euros, 9% in UK pound sterling and 13% in all other foreign currencies, mainly in special drawing rights<sup>4</sup> and monetary gold. Since the first quarter of 2016, Canada no longer holds monetary gold assets.

### International comparisons

In addition to Canada, a number of other countries also publish information on the currency composition of their international assets and/or liabilities, including the United States, France, Germany, Australia and New Zealand.

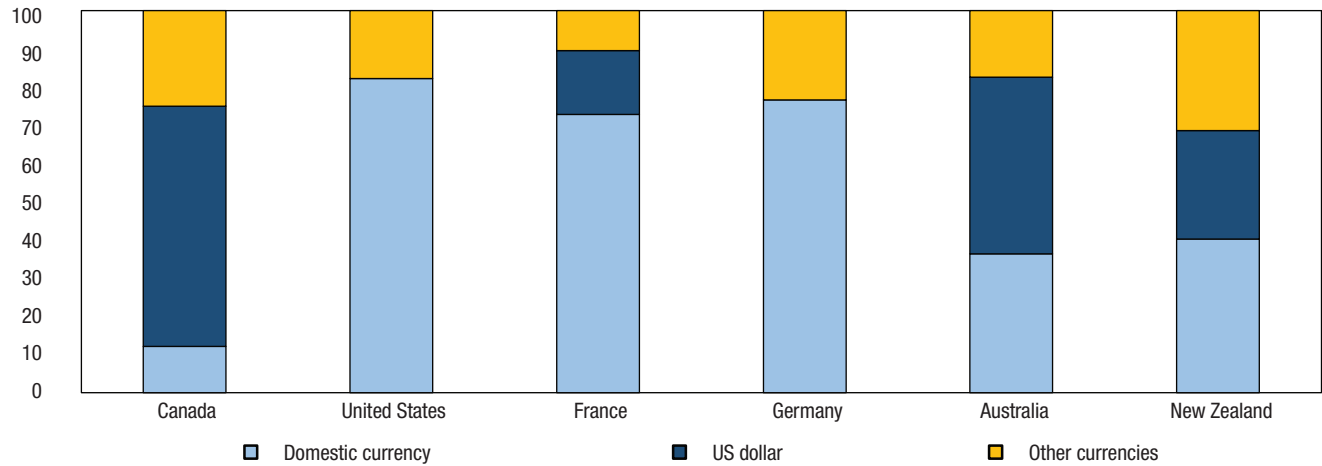
Canada's structure of international assets and liabilities by currency differs significantly from these countries. For example, Canada's proportion of international assets in debt instruments denominated in domestic currency was, at 12%, by far, lower than all other countries for which a comparison could be made at the end of 2016.

For most countries, international assets denominated in foreign currencies are predominantly in US dollars, which reflects the importance of the US dollar on international financial markets and its role as a leading international currency.

**Chart 10**

**International assets in debt instruments, excluding reserve assets, selected countries, by currency, end of fourth quarter 2016<sup>1,2</sup>**

percent



1. The domestic currency of Canada is the Canadian dollar, of the United States is the United States dollar, of France and Germany is the Euro, of Australia is the Australian dollar and of New Zealand is the New Zealand dollar.

2. The data for the United States was estimated using various tables from the Treasury International Capital System and may not include all the components that are included in the other countries' data. The total includes the US holdings of foreign short- and long-term debt securities, banks' claims on non-residents and non-financial corporations' claims on non-residents.

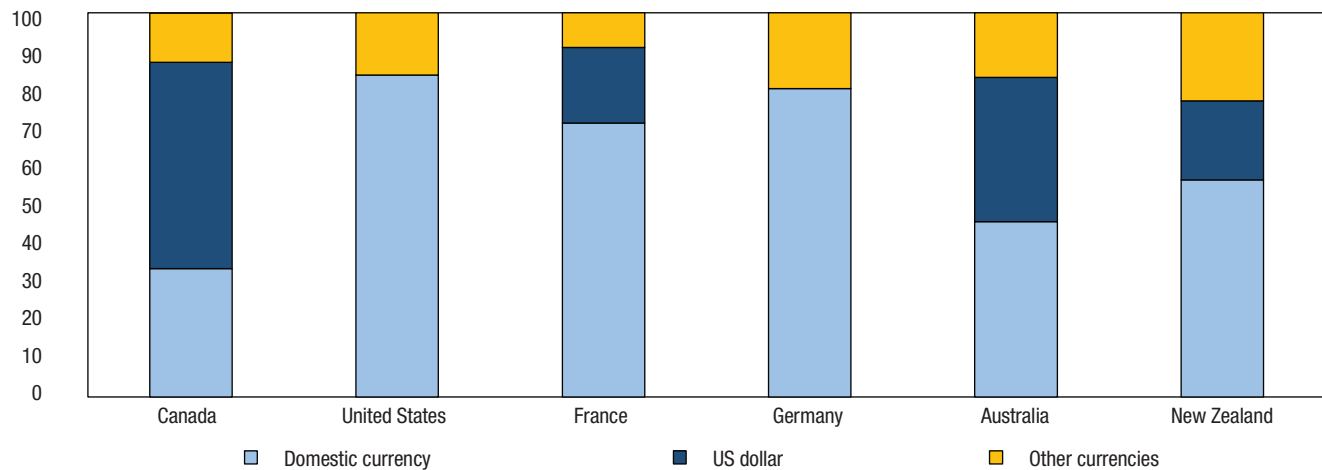
Source: Statistics Canada, custom tabulation.

Canada's proportion of international liabilities in debt instruments, or gross external debt (GED), denominated in domestic currency was also the lowest of all countries studied at 33% at the end of the fourth quarter of 2016, followed by Australia (46%). All other countries' proportions exceeded 50%, notably the United States and Germany, which had a very similar share of their GED denominated in domestic currency at 84% and 80%, respectively.

**Chart 11**

**International liabilities in debt instruments, selected countries, by currency, end of fourth quarter 2016**

percent



Source: Statistics Canada, custom tabulation.

Among the countries compared, Canada has the most asymmetric composition of international assets and liabilities in debt instruments. Canada also has the lowest proportion of its international assets and liabilities denominated in domestic currency. Canada's international balance sheet is therefore the most affected by exchange rate movements. On the other hand, Canada's international investment position is also more likely to act as a stabilizer in the case of shocks impacting the value of its currency.

Canada is also the country with the highest reliance on the US dollar. Geographical proximity, the importance of the United States as a trading and investment partner, as well as the integrated nature of both economies are factors contributing to this high exposure.

### **Quantifying the impact of exchange rates movements on Canada's international investment position**

In theory, changes in the value of Canada's international assets and liabilities, and net international investment position, are due to financial account transactions, revaluations related to exchange rate and price fluctuations and other changes in volume.

Practically, in addition to financial account transactions, it is now possible to isolate the impact of exchange rates fluctuations (exchange rate effect). The rest of the changes can be grouped together (all other changes to the position) and primarily reflect the impact of asset and liability price changes and, to a lesser extent, volume changes.

With the availability of detailed information on the currency composition of Canada's IIP, it is possible to generate estimates on the change in the value of international assets and liabilities due to exchange rate movements. Such estimates were produced for the period 2015 to 2017.

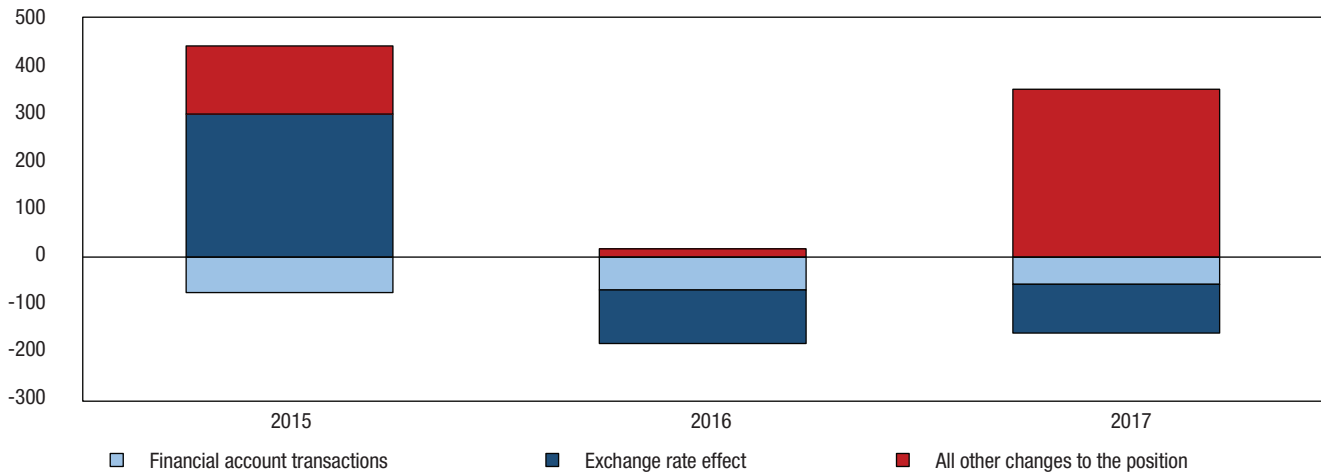
The results reveal that information on currency is pivotal to understand movements in Canada's IIP and illustrate the greater impact of the exchange rate on the country's international assets than on its liabilities, as assets are more exposed to foreign currencies.

In 2015 and 2016, the change in Canada's net IIP was mainly due to the revaluation effects from a fluctuating Canadian dollar. In 2017, the positive change in the net IIP was not driven by currency movements – which actually moderated the increase in the net IIP - but instead by the stronger increases of prices for foreign instruments over those for Canadian financial instruments.

Exchanges rates are in constant fluctuation. However, over a long period of time, they usually vary within a certain bracket. Therefore, when cumulated over a long period of time, their contribution to the change on the net IIP is likely to be more limited with positive changes being offset totally or in part by negative changes. On the other hand, given the generally upward trend of stock markets observed in the past, it is expected that price effects will have a more significant impact. For example, when looking at the period 2015 to 2017, movements in exchange rates contributed to \$85.1 billion to the growth in the net IIP while all other changes to the position (mainly fluctuations in p

**Chart 12**  
**Contributors to the change in the net international investment position, 2015 to 2017**

billions of dollars



Source: Statistics Canada, derived from CANSIM tables 376-0102 and 376-0150.

**Table 1**  
**Canada's international investment position, 2015 to 2017**

	2015	2016	2017
	billions of dollars		
<b>Assets</b>			
Position at beginning of period	3,377.7	4,029.0	4,308.2
Financial account transactions	211.3	198.7	223.9
Other changes to position <sup>1</sup>	439.9	80.5	228.6
Exchange rate effect	508.3	-165.2	-174.7
All other changes to the position	-68.4	245.7	403.3
Position at end of period	4,029.0	4,308.2	4,760.7
<b>Liabilities</b>			
Position at beginning of period	3,372.5	3,657.7	4,099.3
Financial account transactions	285.3	266.9	280.4
Other changes to position <sup>1</sup>	-0.2	174.7	-19.7
Exchange rate effect	210.0	-53.6	-73.1
All other changes to the position	-210.2	228.1	53.4
Position at end of period	3,657.7	4,099.3	4,360.0
<b>Net international investment position</b>			
Position at beginning of period	5.2	371.3	208.8
Financial account transactions	-74.0	-68.2	-56.5
Other changes to position <sup>1</sup>	440.1	-94.3	248.3
Exchange rate effect	298.3	-111.6	-101.6
All other changes to the position	141.8	17.3	349.9
Position at end of period	371.3	208.8	400.7

1. Sum of the other changes for the four quarters of the year. Other changes to position includes revaluation of assets and liabilities caused by fluctuations in prices and exchange rates as well as volume changes (write-offs, reclassifications, or residency changes). It also includes other changes to position resulting from discrepancies between flow and stock data sources and the integration of new survey results.

Source: Statistics Canada, tables 376-0102, 376-0149 and custom tabulations.

## Conclusion

Given the evolution of Canada's IIP in recent years, cross-border transactions, measured in detail in the financial account of the balance of payments, are not sufficient to properly understand the movements in the international balance sheet.

The availability of the currency composition of Canada's international assets and liabilities data fills an important data gap in the international accounts statistics and allows users to have a better portrait of Canada's exposure, and thus risks associated with their international investments. It also enables the assessment of the country's vulnerability to exchange rate fluctuations.

While new currency information contributes to improving the relevance of the IIP program, it also opens the door to further developments. One key development to come is the production of official estimates on revaluations due to exchange rate changes and, subsequently, the production of a complete "Other Changes in Asset and Liability Account", providing users with a full set of international accounts.

## Notes

**Footnote 1.** An article published recently by the Bank of Canada, Canada's international investment position: Benefits and Potential Vulnerabilities, highlights how the currency composition of the IIP can help mitigate the impacts of adverse shocks in the domestic economy.

**Footnote 2.** Balance of Payments and International Investment Position Manual, 6th Edition, IMF, paragraph 3.100.

**Footnote 3.** Foreign bonds denominated in Canadian dollars, also referred to as Maple bonds, became popular when the federal government eliminated the Foreign Property Rule (FPR) in its 2005 budget. The Maple Bond market grew considerably during the years following the elimination of the FPR, but contracted after the global financial crisis.

**Footnote 4.** Special drawing rights (SDR) are a monetary reserve currency created by the IMF and are used by countries to supplement their other foreign exchange reserves. Canada's reserve position with the IMF is also denominated in SDR.