Agricultural Marketing Policy Center
MSU - Bozeman

BRIEFING

Briefing No. 49 November 2003

U.S. and Canadian Currency Values and Exchange Rates

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Objective

Analysis

for Informed

Decision Making

The Agricultural Marketing Policy Center would like to acknowledge the support provided by the Montana State Department of Agriculture for this project.

Many countries have their own currencies and manage their own monetary systems. In general, they also trade with one another. When a business or person in one country buys goods or services from a business or person in another country, use of different currencies is a complicating factor. For example, if a Japanese flour mill wants to purchase Hard Red Spring Wheat from the United States, at some point the Japanese flour mill has to obtain U.S. dollars to pay the U.S. grain company for the wheat. It does so by purchasing U.S. dollars with Japanese yen in the foreign exchange market.

Often, one country's currency has a completely different name than another country's currency. In these cases, it is clear that the rate at which the currencies are exchanged for one another in international currency markets is not on a one-to-one basis. For example, Japanese currency is called *yen* and United States currency is known as the *U.S. dollar*. Most people don't expect one yen to trade for one dollar. Sometimes, two or more countries have their own currency and manage their own monetary systems but the currencies have similar or even identical names. This gives some people the impression that the two currencies should trade on a one-to-one basis. Consider the United States and Canada. The Canadian dollar and the U.S. dollar are just as independent of one another as the Japanese yen and the U.S dollar. The Bank of Canada manages the Canadian monetary system and, the Canadian dollar. Likewise, the Governors of the Federal Reserve Board manage the U.S. monetary system and the U.S. dollar. Moreover, this has been the case for a long time. Just as one yen buys a different amount of goods and services than one U.S. dollar, one Canadian dollar buys a different amount of goods and services than one U.S. dollar. There is no reason to expect that a yen or a Canadian dollar should be equivalent to a U.S. dollar.

Exchange Rates:

The value of a country's currency can be measured in several ways. Two commonly cited measures are ***bilateral exchange rates*** and ***summary indexes***.

Bilateral Exchange Rates

A bilateral exchange rate is the rate at which one country's currency is exchanged for the currency of another country. These rates are reported daily in the *Wall Street Journal* and many other newspapers. Current rates at which the U.S. dollar is being traded with other currencies such as the Canadian dollar or the British pound can also be readily obtained on Internet sites such as:

http://moneycentral.msn.com/investor/market/rates.asp.

Bilateral exchange rates are typically reported in two ways:

a. The ***foreign currency price*** of one unit of the home currency. For example, on September 16, 2003 the closing price of one U.S. dollar in terms of Canadian dollars was $C 1.369. This means that $US 1 could be exchanged for $C 1.369.

b. The ***home currency price*** of one unit of the foreign currency. For example, on September 16, 2003 the closing price of one Canadian dollar in terms U.S. dollars was $US 0.7306. This means that $C 1 could be exchanged for $US 0.7306.

Summary Indices

Summary indices of the value of a country's currency are similar to price indexes. Their purpose is to show the average value (or price level) of a country's currency in relation to several other currencies. In an arbitrary base period or year, the summary index of a currency's value is assigned a value of 100. In subsequent years, the currency's average value is reported as an index number relative to that base period.

For example, in January 1997, the broad summary index for the value of the U.S. dollar was set at 100. In October 2002, the broad summary index for the U.S dollar had increased to 127.63, implying that on average the U.S. dollar had increased in value by over 27 percent over a period of about six years. In May 2003, the broad summary index for the U.S. dollar had fallen to 118.54 implying that over the eight-month period from October 2002 to May 2003, the U.S. dollar had fallen in value by about 7 percent.

Changes in Currency Values

Currencies can increase (appreciate) or decrease (depreciate) in value.

A ***currency appreciation*** of the U.S. dollar occurs when the foreign currency price of the U.S. dollar increases. For example, on January 30, 2000, the Canada-U.S. exchange rate was $C 1.4482. By January 31, 2002, the value of the U.S. dollar had increased to $C 1.5996, an appreciation of 10.5 percent in the value of the U.S. dollar in terms of Canadian dollars. This means that over the two-year period the price of $US 1 increased by about 16 Canadian cents.

A ***currency depreciation*** of the U.S. dollar occurs when the foreign currency price of the U.S. dollar decreases. For example, on December 31, 2002, the Canada-U.S. exchange rate was $C 1.5591. By May 31, 2003, it had declined to $C 1.3833, an 11.3 percent decrease in the value of the U.S. dollar. This means that over that five month period, the price of $US 1 decreased by about 17.5 Canadian cents.

Implications of Changes in the Value of a Country's Currency

The foreign currency price of the U.S. dollar changes from day-to-day. Usually, day-to-day changes are very small (most often less than one cent in either direction). Over a period of several weeks or months, however, a currency's value can rise or fall quite substantially. The short-term effects of such changes can be important for agricultural commodity prices in either one or both countries, as is illustrated by the following example.

Suppose that the U.S. dollar price of a bushel of wheat is valued at $US 5.00. If the U.S./Canadian exchange rate is $C 1.60 per U.S. dollar, then the price of wheat in terms of Canadian dollars will be about $C 8.00 ($US 5.00 * $C 1.60). If the U.S. dollar depreciates and is subsequently traded for $C 1.40, then the Canadian dollar price of wheat will become $C 7.00 ($US 5.00* $C 1.40). This represents a large decrease in the Canadian dollar price received by the Canadian Wheat Board (the sole exporter of Canadian wheat) and implies a lower Canadian dollar price for Canadian wheat producers. Generally, when a country's currency appreciates (increases in value) prices paid by domestic consumers for commodities that are traded with other countries fall. Similarly, when a country's currency depreciates, prices paid by domestic consumers for commodities that are traded with other countries rise.

The long-term consequences of changes in exchange rates are more difficult to assess. Often, substantial changes in the foreign exchange rate for a country's currency are the result of differing rates of inflation among countries. Suppose, for example, that Canada has higher domestic inflation than the United States (as was the situation in the 1980s). At a fixed exchange rate between the Canadian dollar and the U.S. dollar, prices of similar goods will rise more quickly in Canada than in the United States. This makes Canadian products less attractive than their U.S. counterparts to both Canadian and U.S. consumers while U.S. products become more attractive. As a result U.S. consumers will purchase fewer Canadian goods and Canadian consumers will purchase more U.S goods. So, the demand for U.S. dollars by Canadian consumers wanting to buy U.S. goods will rise. At the same time, the supply of U.S. dollars offered by U.S. consumers wanting to buy Canadian goods will fall. This will cause the price of U.S. dollars in terms of Canadian currency to increase. Typically, over time the Canadian price of U.S dollars will increase by about the percentage difference between the higher Canadian inflation rate and the lower U.S inflation rate to reestablish the purchasing power of each currency.

What does this mean for a typical agricultural producer in each

country? Suppose domestic inflation results in more rapid increases in an agricultural producer's costs in one country (measured in terms of the home currency) than in another country. For a commodity that is tradable, the exchange rate will decline and cause the domestic price of the commodity to increase by about the difference in the two country's inflation rates. A producer's relative competitive position in domestic and international markets is essentially unchanged.

What Determines the Value of the U.S. Dollar

The supply of and demand for U.S. dollars in international currency markets determines the value of the U.S dollar. Key factors that affect the supply of and demand for U.S. dollars include:

- Levels of U.S exports and imports. An increase in exports causes an increase in the demand for U.S. dollars. An increase in imports causes an increase in the supply of U.S. dollars

- U.S interest rates relative to interest rates in other countries and regions with large and relatively stable economies such as Japan and the European Union. An increase in U.S. interest rates reduces incentives for U.S. citizens and business to invest in financial assets abroad. This reduces the supply of U.S. dollars on international currency markets. At the same time, the increase in U.S. interest rates increases incentives for citizens and businesses in other countries to invest in financial assets in the United States. This increases the demand for U.S. dollars.

- The U.S inflation rate compared to inflation rates in other countries. When the inflation rate in the United States is lower than in other countries, the real or "after-adjusting-for-inflation" returns to investing in the United States will be higher. In addition, U.S. goods will become more attractive to both foreign and domestic consumers, reducing imports and increasing exports. As a result, the demand for U.S. dollars will increase and the supply of U.S. dollars will fall.

Long Run and Short Run Trends in the Value of the U.S. Dollar

Longer run movements in the U.S./ Canadian exchange rate and the value of the U.S. dollar in terms of a broad summary index of other currencies are presented in Figure 1 for the period 1982-2002. Over this period, the U.S. dollar appreciated in value vis`-a-vis` the Canadian dollar. However its value vis`-a-vis` other currencies fluctuated considerably, increasing between 1982 and 1986, falling between 1986 and 1992, and then increasing again over the next ten years.

More recent shorter run month-to-month movements in the Canada-U.S. exchange rate and the summary index of the value of the U.S. dollar are presented in Figure 2 for the period January 2000 - May 2003. Between January 2000 and May 2003, the value of the U.S. dollar against the Canadian dollar and the general summary index of the value of the U.S. dollar followed very similar paths. Between January 2000 and February 2002, the U.S. dollar appreciated on a fairly steady basis but between December 2002 and May 2003 its value fell sharply.

One important reason for the recent depreciation of the U.S. dollar was the emergence of a substantial gap between interest rates in regions such as the European Union and the United States, mainly because of decreases in U.S. interest rates to forty year lows in late 2002 and early 2003. This encouraged financial investors to move funds out of the United States to other financial centers around the world, reducing the demand for U.S. dollars and increasing the supply of U.S. dollars on international currency markets.

Summary

The values of world currencies change daily. Market forces that alter the demand for and supply of U.S. dollars cause changes in the value of the U.S. dollar. There is no reason to expect the U.S. dollar to trade for other currencies on a one-to-one basis, even when those other currencies have similar or identical names. In the long run, bilateral exchange rate movements (the price on one country's currency in terms of another country's currency) are largely driven by differences in domestic inflation rates in the two countries. In the shorter run, other factors such as changes in relative interest rates, productivity and imports versus exports are important determinants of the value of the U.S. dollar.

Figure 1
U.S.-Canada and U.S. Broad Index Exchange Rates: 1982-2002 (Annual Data)

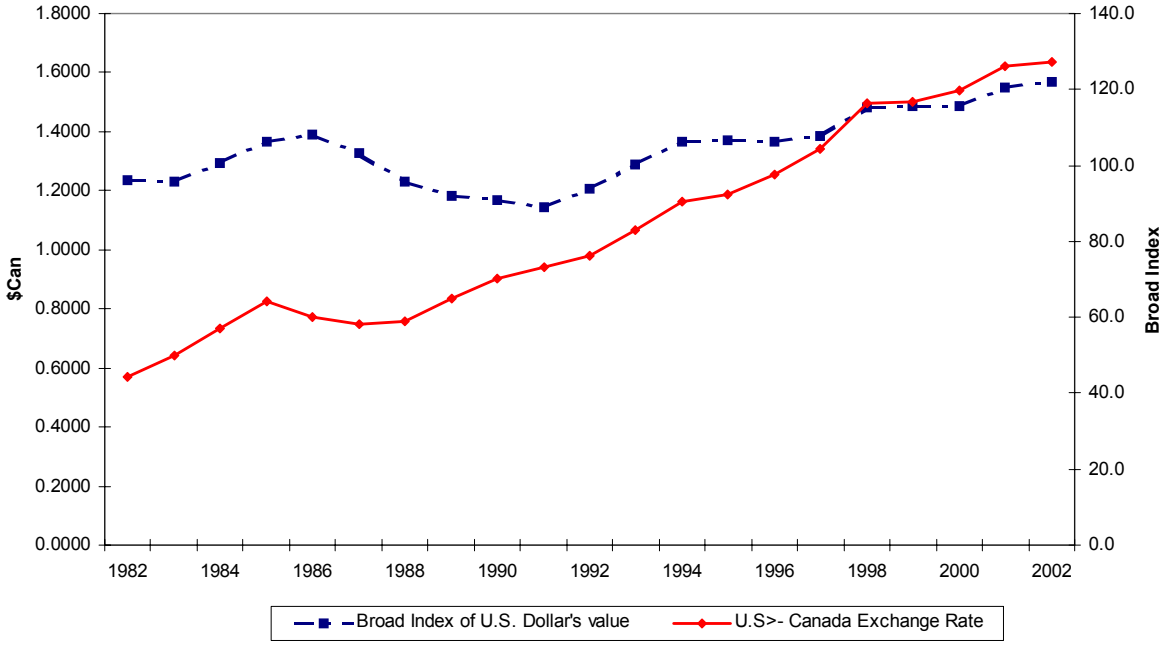

Figure 2

The Value of the U.S. Dollar versus the Canada Dollar and an Index of All Currencies: January 2000-May 2003