

# Dollarization in Canada: An Update

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- *In this note, the authors describe a special survey conducted by the Bank of Canada's regional offices in 2002 that extends some earlier results reported in a previous Review article by Murray and Powell.*
- *The special survey examined the payment and financial-reporting practices of Canadian firms with a view to determining if the U.S. dollar has started to displace the Canadian dollar as a preferred unit of account.*
- *A cross-section of Canadian firms was asked what currency (or currencies) they used: (i) for quoting sales to Canadian customers and to foreigners, (ii) for reporting their financial results, and (iii) for quoting salaries and wages.*
- *The results suggest that the Canadian dollar is still strongly preferred for most pricing and financial-reporting activities in Canada, and that there is very little evidence of "dollarization."*

**A**cademics and policy-makers have spent a great deal of time over the last few years debating the potential benefits of alternative exchange rate arrangements for Canada. The fluctuating value of the Canadian dollar, coupled with the successful launch of the euro in 1999, have caused some observers to question the merits of Canada's floating exchange rate and to recommend formal adoption of the U.S. dollar as Canada's new national currency. The creation of a North American monetary union, they argue, would offer a number of significant economic benefits, including lower transactions costs and reduced exchange rate volatility. Others have suggested that there is no need for a formal monetary union between Canada and the United States, since Canada is already effectively being "dollarized" through informal market processes. Large parts of the economy, they maintain, already use the U.S. dollar as their principal medium of exchange, unit of account, and store of value. Any official decision to move to the U.S. dollar, therefore, would be largely irrelevant. Very little evidence has been put forward, however, to support these claims.

In an effort to promote a more informed debate on these and related issues, Murray and Powell examined the available data in 2002 with a view to assessing the extent to which Canada had in fact been informally dollarized.<sup>1</sup> The results showed that, by most measures, use of the U.S. dollar in Canada was very limited. Indeed, in some respects, Canada was less dollarized in early 2002 than it had been twenty or thirty years earlier. Moreover, the degree of dollarization was in

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1. Their results were subsequently published as a Bank of Canada Technical Report (Murray and Powell 2002a) and in a *Review* article, "Is Canada Dollarized?" (Murray and Powell 2002b).

many instances much lower than that recorded in other major industrial economies. While the relative importance of the U.S. dollar had increased modestly in some areas of the Canadian economy, this appeared to be driven by expanded world trade and increased international portfolio diversification, rather than any widespread movement out of Canadian dollars for domestic purposes.

## Initial Survey Results

The purpose of this note is to update some of these earlier results. In their original work, Murray and Powell examined each of the three major functions of money—as unit of account, medium of exchange, and store of value—and tried to determine, first, how important the U.S. dollar was in Canada at that time, and second, if there had been any noticeable shift in the use of the U.S. dollar over the preceding few years. Although new research re-examining all three money functions is underway, this note focuses exclusively on the unit-of-account function and describes the results of an extensive cross-country survey completed just before the end of 2002.

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The initial results reported by Murray and Powell for the unit-of-account function were based on a special survey conducted by the Bank of Canada's regional offices in the spring of 2002.<sup>2</sup> This survey was the first phase of a four-part project in which roughly 100 different firms, covering the five major regions of Canada, were to be interviewed every three months throughout one year, producing a total sample of

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2. The Bank's five regional offices are: Atlantic Canada, Quebec, Ontario, the Prairie provinces (includes the Northwest Territories and Nunavut), and British Columbia (includes the Yukon). Staff economists in each region conduct quarterly surveys of business conditions, usually through one-on-one interviews with senior managers of firms, to collect information that is useful for the formulation of monetary policy. For more information on the activities of the Bank's regional offices, see Amirault and Lafleur (2000).

approximately 400 firms.<sup>3</sup> While these numbers are still relatively small, considering the total number of firms in Canada, it was hoped that by sampling across the country and selecting a group of firms that reflected economic activity in Canada, the final results would be broadly representative.

In the first phase of the survey, senior managers from the first 100 firms in the sample were asked a series of questions about their firm's pricing and accounting practices, including the following:

- Q1. Does your firm quote prices to Canadian customers in Canadian dollars, U.S. dollars, or both?
- Q2. Does your firm quote prices to foreign customers in Canadian dollars, U.S. dollars, the local currency (if different than the U.S. dollar), or some combination of currencies?
- Q3. Are your financial statements quoted in Canadian dollars, U.S. dollars, or both currencies?

The questions were designed to measure the extent to which the U.S. dollar is used as a unit of account for pricing purposes as well as for financial reporting. Based on earlier evidence in the economics literature, Murray and Powell expected that a large part of Canada's trade with foreigners would be priced in U.S. dollars. Much of Canada's international trade is with the United States, and it is common practice to price internationally traded goods and services in U.S. dollars—even when neither party to the transaction is American. This is testament to the dominance of the U.S. dollar in world trade and to its use as an international standard of value.

Various authors, such as Black (1990) and Krugman (1984), have noted the following patterns in international invoicing. First, the currency of the exporting

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3. The total number of respondents in the survey varied depending on the question being asked. Although 100 firms were targeted in each sample, some firms elected not to participate or not to respond to some of the questions. While not a scientific survey, the firms selected to be interviewed were composed of a roughly equal mix of small, medium, and large firms based on the number of employees. They were also selected across the country from industries roughly equivalent to their contribution to Canada's gross national product. For example, the percentage of manufacturers interviewed would correspond to the percentage of manufacturing in the Canadian economy. Effort was also made to have the correct distribution of the subcomponents of the larger industrial sectors. Note as well that firms, while identified as belonging to a particular region, often have a national reach.

country is typically used for pricing *unless* the importing country is much larger than the exporting country. Second, sales from a subsidiary or branch of a large multinational firm based in the United States are more likely to be priced in U.S. dollars. Third, large multinationals are more likely to keep their books in at least one of the major currencies, even if it is not the domestic currency of the country in which the firm has its head office. Fourth, sales of relatively homogeneous and unrefined goods, such as grains, oil, minerals, and forest products, are almost always priced in U.S. dollars.

For these reasons, it would not have been surprising if a significant portion of the Canadian firms interviewed by the Bank's regional offices not only quoted their prices to foreign customers in U.S. dollars (question 2), but also kept their financial statements in U.S. dollars (question 3). The results that might have been expected for question 1 were perhaps less obvious, but many observers clearly believed that a significant portion of the firms' domestic sales would also be priced in U.S. dollars.

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The results obtained in the initial phase of the survey are shown below (in parentheses) in tables 1 to 3. As the reader can see, only 6 per cent of the firms in the original sample quoted prices to Canadian customers exclusively in U.S. dollars (Table 1). Another 17 per cent quoted prices in both Canadian and U.S. dollars. More importantly, 77 per cent of all the firms surveyed priced exclusively in Canadian dollars. Some variation was observed across regions, with only 56 per cent of domestic sales in British Columbia priced in Canadian dollars. The authors attributed this to the large share of provincial economic activity that is concentrated in primary products such as minerals and wood.

**Table 1**

**Denomination of Domestic Prices**

Q1: Does your firm quote prices to Canadian customers in Canadian dollars, U.S. dollars, or both?

	Number of firms	Per cent of total responses <sup>a, b</sup>		
		Can\$	U.S.\$	Both
Canada	<b>390</b>	<b>81</b> (77)	5 (6)	<b>14</b> (17)
Atlantic Canada	<b>61</b>	<b>90</b> (94)	5 (0)	5 (6)
Quebec	<b>77</b>	<b>81</b> (62)	<b>8</b> (10)	<b>12</b> (28)
Ontario	<b>99</b>	<b>88</b> (81)	<b>4</b> (8)	<b>8</b> (8)
Prairies	<b>78</b>	<b>76</b> (89)	1 (0)	<b>23</b> (11)
British Columbia	<b>75</b>	<b>70</b> (56)	<b>8</b> (11)	<b>22</b> (33)

a. Numbers may not always sum to 100 due to rounding.

b. The results from the initial phase of the survey are shown in parentheses. The final results are shown in bold.

**Table 2**

**Denomination of Foreign Prices**

Q2: Does your firm quote prices to foreign customers in Canadian dollars, U.S. dollars, the local currency (if different than the U.S. dollar), or some combination of currencies?

	Number of firms	Per cent of total responses <sup>a, b</sup>			
		Can\$	U.S.\$	Local	Combination
Canada	<b>326</b>	<b>24</b> (23)	<b>52</b> (53)	4 (7)	<b>20</b> (17)
Atlantic Canada	<b>47</b>	<b>11</b> (0)	<b>70</b> (84)	2 (8)	17 (8)
Quebec	<b>70</b>	<b>27</b> (20)	<b>53</b> (70)	4 (0)	<b>16</b> (10)
Ontario	<b>75</b>	<b>29</b> (45)	<b>47</b> (20)	<b>10</b> (25)	<b>15</b> (10)
Prairies	<b>63</b>	<b>15</b> (15)	<b>60</b> (62)	2 (0)	<b>23</b> (23)
British Columbia	<b>71</b>	<b>32</b> (29)	<b>39</b> (42)	1 (0)	<b>28</b> (29)

a. Numbers may not always sum to 100 due to rounding.

b. The results from the initial phase of the survey are shown in parentheses. The final results are shown in bold.

Perhaps most surprising is that 23 per cent of Canadian firms quote prices to foreigners in Canadian dollars (Table 2). This figure was much higher than many observers would have expected, since most of Canada's export sales are to the United States and involve intra-firm transactions of large multinationals. Also noteworthy is the small percentage of financial records kept in U.S. dollars (Table 3).

**Expanded Survey Results**

Since these results were based on a limited sample of approximately 100 firms, there was a risk that they might not be representative, particularly at the

Table 3

### Denomination of Financial Statements

Q3: Are your financial statements quoted in Canadian dollars, U.S. dollars, or both currencies?

	Number of firms	Per cent of total responses <sup>a, b</sup>		
		Can\$	U.S.\$	Both
Canada	<b>392</b>	<b>88</b> (82)	5 (7)	7 (11)
Atlantic Canada	<b>61</b>	<b>90</b> (94)	2 (0)	<b>8</b> (6)
Quebec	77	<b>92</b> (76)	5 (14)	<b>3</b> (10)
Ontario	<b>99</b>	<b>82</b> (76)	4 (14)	<b>14</b> (16)
Prairies	<b>79</b>	<b>87</b> (74)	5 (5)	<b>8</b> (21)
British Columbia	<b>76</b>	<b>89</b> (94)	7 (6)	<b>22</b> (0)

a. Numbers may not always sum to 100 due to rounding.

b. The results from the initial phase of the survey are shown in parentheses. The final results are shown in bold.

regional level, where the sample sizes are quite small. In order to address this concern, three more surveys of roughly equal size were conducted in the summer, fall, and winter of 2002.<sup>4</sup> It was hoped that the combined sample of approximately 400 firms would make it possible both to verify the earlier results and to draw somewhat stronger conclusions about the importance of the U.S. dollar as a unit of account. The results from the expanded sample would also permit a more extensive analysis of the factors that cause some Canadian firms to be more dollarized than others.

To make the last three stages of the survey more informative, an extra question was added to the original set. In addition to asking firms about their pricing and accounting practices (questions 1 to 3), the Bank's regional representatives also asked firms what currencies they used to quote domestic salaries and wages.

#### Q4. Does your firm quote salaries and wages in Canadian dollars, U.S. dollars, or both?

The final results for all four questions are shown in bold in Tables 1 to 4. The responses for questions 1 to 3 are virtually identical to those reported in the initial study. Adding extra observations did not change them in any material way, except that a few of the anomalous results uncovered in the first survey seem to have disappeared.<sup>5</sup> The results for the full sample are, if anything, slightly stronger than those reported in the initial survey, and show even less evidence of dollarization.

4. The results of these surveys were, unfortunately, not available until after the original study by Murray and Powell was published.

*The vast majority of Canadian firms price their products and keep their financial statements in Canadian dollars.*

Only 5 per cent of the firms in the full sample quoted prices to Canadian customers exclusively in U.S. dollars, as opposed to 6 per cent in the original sample. While the percentage of firms quoting prices to foreign customers exclusively in U.S. dollars was roughly unchanged at 52 per cent (Table 2), the percentage of firms maintaining their financial statements exclusively in U.S. dollars fell from 7 per cent to 5 per cent (Table 3). With the exception of foreign sales, therefore, it would appear that the vast majority of Canadian firms price their products and keep their financial statements in Canadian dollars.

The results for question 4, which report the currency denomination of salaries and wages, are even more convincing (Table 4). Roughly 99 per cent of the firms surveyed quoted salaries and wages for their Canadian workers exclusively in Canadian dollars. While the figures may be higher than expected, they accord with most people's everyday experience. Very few workers in Canada, other than professional athletes, heads of multinational enterprises, and a few highly skilled specialists, have their salaries paid in a foreign currency.

Table 4

### Unit of Account for Canadian Salaries and Wages

Q4: Does your firm quote salaries and wages in Canadian dollars, U.S. dollars, or both?

	Number of firms	Per cent of total responses <sup>a</sup>		
		Can\$	U.S.\$	Both
<b>Canada</b>	<b>293</b>	<b>99</b>	<b>0</b>	<b>1</b>
Atlantic Canada	<b>45</b>	<b>100</b>	<b>0</b>	<b>0</b>
Quebec	<b>56</b>	<b>100</b>	<b>0</b>	<b>0</b>
Ontario	<b>74</b>	<b>97</b>	<b>0</b>	<b>3</b>
Prairies	<b>60</b>	<b>98</b>	<b>0</b>	<b>2</b>
British Columbia	<b>58</b>	<b>98</b>	<b>0</b>	<b>2</b>

5. The two most notable results from the first survey were (i) the relatively high percentage of B.C. and Quebec firms quoting prices to Canadian customers in U.S. dollars (Table 1), and (ii) the relatively high percentage of Ontario firms quoting prices to foreign customers in Canadian dollars (Table 2). Both of these anomalies disappeared in the full survey.

## Businesses Using the U.S. Dollar

The results from the expanded sample provide enough data to allow us to examine in more detail the factors that distinguish firms that use the U.S. dollar from those that do not. As indicated earlier, past research suggests that “dollarized” firms tend to (i) be larger than most other firms, (ii) sell a large portion of their output to foreigners, (iii) specialize in the production of raw materials, and (iv) be part of a multinational firm. Since individual firms can be identified directly from the surveys, it should be possible to determine whether these stylized facts are broadly confirmed or rejected.

In the main, there were very few surprises. Of the 390 firms surveyed in Table 1, only 20 (5 per cent of the total sample) quoted prices to their Canadian customers exclusively in U.S. dollars (Table 5). Of these firms, seven were primary producers. Moreover, five of the seven manufacturers that quoted prices to Canadians in U.S. dollars produced goods related to commodities (e.g., wood and paper, metals, and petroleum). Thus, 60 per cent of dollarized firms were linked to primary commodities. The remainder were involved in a range of activities, including transportation and storage, or in the high-technology sector (e.g., electronics, telecommunications, software).

Looking at a broader group of 55 companies that quote prices to Canadians in both Canadian dollars and U.S. dollars, a similar story emerges. Primary producers accounted for eight companies, and another three of the 16 manufacturing companies were linked to primary commodities. For other firms (manufacturing or otherwise), the common link appeared to be that they were major exporters with both a Canadian and foreign client base. Consequently, dual pricing was part of their day-to-day business activity. Financial services providers account for close to a fifth of companies quoting prices in both currencies to Canadians. In these cases, it is standard practice to price Canadian-dollar-denominated products in Canadian dollars and U.S.-dollar-denominated products in U.S. dollars.

In terms of regional distribution, the proportion of firms that are dollarized tends to be slightly higher in British Columbia and the Prairies, reflecting the preponderance of large producers of raw materials in

Table 5

### Sectoral Distribution of Dollarized Firms

NAICS* Industrial sector	Number of firms who quote prices to Canadians in U.S. dollars only	Number of firms who quote prices to Canadians in both currencies
Primary	7	8
Manufacturing	7	16
Transportation and storage	2	9
Telecommunications	-	2
Utilities	-	2
Financial services	-	10
Other	4	8
<b>Total</b>	<b>20</b>	<b>55</b>

\* North American Industry Classification System

those provinces. Nevertheless, the variation across regions was generally quite modest—with the possible exception of the percentage of firms quoting prices to foreign customers in U.S. dollars (Table 2), which ranged from a low of 39 per cent in British Columbia to a high of 70 per cent in the Atlantic provinces.

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## Conclusion

The extended survey results reported in this technical note are similar to those published in the 2002 *Review* article, “Is Canada Dollarized?” Expanding the survey from 100 to 392 firms and adding an extra question related to salaries and wages did not materially change the results. The Canadian dollar continues to be used as the unit of account for most domestic transactions. Prices, financial statements, and virtually all salaries and wages are quoted in Canadian dollars. Use of the U.S. dollar is restricted largely to foreign sales and to the domestic activities of a few firms that sell raw materials.

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