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**Contact:** Jeremy Harrison  
613 782-8782

## **Survey of Activity in Foreign Exchange and Derivatives Markets in Canada During April 2010**

OTTAWA—During the month of April, the Bank of Canada and 52 other central banks and monetary authorities conducted a survey of turnover activity in the foreign exchange and over-the-counter (OTC) derivatives markets in their respective countries. This worldwide effort was coordinated by the Bank for International Settlements (BIS) and is undertaken every three years.

The purpose of the survey is to obtain global, comprehensive, and consistent information on the size and structure of the foreign exchange and OTC derivatives markets. The data are collected to increase market transparency and to help central banks, market participants, and others better understand and monitor patterns of activity in global financial markets.

The Bank of Canada is releasing the summary results of its survey today, as are other participating central banks. As well, the BIS is issuing a press release that summarizes highlights of the aggregated global turnover.<sup>1</sup> Canada has participated in this survey since 1983, and summary results of earlier surveys are shown in Tables 1 through 4.

All financial institutions in Canada that are active in the wholesale foreign exchange and derivatives markets were surveyed. They consisted of 16 financial institutions, estimated to represent approximately 99 per cent of these markets in Canada. With respect to foreign exchange, the survey covered spot transactions, outright forwards, foreign exchange swaps, currency swaps,<sup>2</sup> and OTC options. The interest rate products covered were forward-rate agreements, interest rate swaps, and OTC options. Participants were also asked to identify transactions by currency and type of counterparty, and, in the case of foreign exchange, they were asked to identify the execution method for each transaction.

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<sup>1</sup> The highlights of the global results, which have been aggregated by the BIS, along with direct links to other national press releases, can be found at [www.bis.org/triennial.htm](http://www.bis.org/triennial.htm).

<sup>2</sup> Currency swaps involve the exchange of streams of interest payments and principal amounts, whereas foreign exchange swaps involve the exchange of principal amounts only.

The turnover part of the triennial survey is conducted on the basis of residence or location. In particular, the basis for reporting is the country in which the sales desk of a trade is located.<sup>3</sup> Where no sales desk is involved in a deal, the trading desk is used to determine the location. Although there was some variation in their individual assessments, on average, reporting dealers in Canada felt that turnover activity during the month of April was normal and that activity was steady during the preceding six months.

### Highlights of the 2010 survey

- On an average daily basis, the **turnover of traditional foreign exchange transactions** (defined to include spot transactions, outright forwards, and foreign exchange swaps) declined for the first time since the survey began in 1983. Average daily volumes fell by 2.3 per cent from US\$59.8 billion in April 2007 to US\$58.4 billion in April 2010. Total volumes during the month of April rose from US\$1.20 trillion in 2007 to US\$1.23 trillion, a monthly increase of 2.5 per cent. But average daily volumes declined due to one more business day in April 2010 than in April 2007 (Table 1).
- There was considerable variation in turnover growth by product. During the month of April, spot transactions increased to US\$384 billion and outright forwards to US\$132 billion, yielding growth rates of 34 per cent and 46 per cent, respectively, for average daily volumes in April 2010 over April 2007. In contrast, foreign exchange swaps fell to US\$711 billion during the month of April, a decline of 19 per cent on an average daily basis compared with the last survey.
- The average daily turnover of **currency swaps and OTC foreign exchange options** declined to US\$3.5 billion from US\$4.2 billion in April 2007. Currency swaps fell by 23 per cent to US\$1.2 billion per day, and foreign exchange options declined by 14 per cent to US\$2.2 billion per day (Table 2).
- With respect to **single-currency interest rate derivatives**, including forward-rate agreements, interest rate swaps, and OTC options, average daily turnover in April 2010 totalled US\$41.7 billion, double the US\$20.6 billion recorded in April 2007. As can be seen in Table 2, forward-rate agreements experienced modest growth, increasing from US\$6.2 billion per day in April 2007 to US\$6.5 billion per day during April 2010. Interest rate swaps tripled over the three years from the last survey to US\$34.6 billion on an average daily basis. In contrast, interest rate options fell dramatically to just US\$0.6 billion per day, the lowest survey level since 1995.
- The composition of traditional foreign exchange business by **type of instrument or product** over the past 10 surveys is shown in Table 3. The proportion of spot transactions has risen towards historically more typical

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<sup>3</sup> In contrast, in the Canadian Foreign Exchange Committee (CFEC) survey of foreign exchange volumes, the basis for reporting is the location of the trading desk in Canada, i.e., it includes all transactions that are priced and executed by traders in Canada. As with the triennial survey, the CFEC survey in Canada is coordinated by the Bank of Canada.

levels (31 per cent), whereas the proportion of foreign exchange swaps has fallen to 58 per cent. Outright forwards rose to 11 per cent of traditional foreign exchange products.

- Table 3 also provides data on the composition of foreign exchange business by **type of counterparty**. This table shows that, over time, the proportion of business going through reporting dealers, which can be considered as a proxy for the interbank market, has declined from a high of 76 per cent in 1992 to the current low of 54 per cent in 2010. The foreign exchange market has become more customer-focused, particularly with respect to financial customers,<sup>4</sup> with the proportion of total transactions with financial customers rising from a low of around 9 per cent over the 1983–92 period to a high of 38 per cent in 2010. In contrast, the proportion of non-financial customer business, which is mainly with corporate firms and governments, has declined from around 19 per cent in the 1980s to 8 per cent in 2010.
- Table 4 shows the **distribution by currency** of foreign exchange market activity in Canada. Almost all transactions (94.2 per cent) have the U.S. dollar on one side. Similarly, the Canadian dollar was involved in 69.7 per cent of all transactions. The other most significant currencies in foreign exchange transactions in 2010 were the euro (12.8 per cent), the Japanese yen (4.5 per cent), the U.K. pound sterling (4.3 per cent), the Australian dollar (2.8 per cent), and the Mexican peso (2.6 per cent).
- Tables 5 and 6 provide more detailed information on the turnover in foreign exchange and interest rate derivatives, respectively, in Canada. In Table 5, it can be seen that, compared with April 2007, total foreign exchange turnover in Canadian-dollar against U.S.-dollar transactions increased marginally by 5.0 per cent, whereas other currency business against the U.S. dollar fell marginally by 6.1 per cent. The Canadian dollar, against currencies other than the U.S. dollar, and all other currency pairs represent only a very small percentage of total transactions (less than 6 per cent).
- Most interest rate derivatives in Canada (Table 6) are denominated in Canadian dollars (65 per cent), with the remainder split between U.S. dollars (19 per cent) and other currencies (16 per cent). Compared with the April 2007 survey, Canadian-dollar and other currency interest rate derivatives experienced very substantial growth, whereas U.S.-dollar derivatives fell marginally in volume.
- Table 7 provides detailed information on the **execution methods of foreign exchange contracts**, except currency swaps. The three execution methods—(i) interdealer direct (for the most part, transactions executed via direct telephone communication), (ii) electronic broking systems (automated order matching systems), and (iii) voice broking—can be

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<sup>4</sup> Financial customers comprise financial institutions such as mutual funds, pension funds, hedge funds, currency funds, money market funds, leasing companies, insurance companies, financial subsidiaries of corporate firms, and central banks. Financial customers also include smaller commercial and investment banks that do not participate as reporting dealers in the triennial survey. (Globally, over 1,300 reporting dealers, mainly large commercial and investment banks, participated in the 2010 triennial survey.)

thought of as **execution methods primarily for dealers**. On that basis, the same proportion of interdealer transactions is now undertaken both electronically and direct (almost 39 per cent of all interdealer trades).<sup>5</sup> Voice broking accounted for approximately 23 per cent of all interdealer trades.

- Similarly, as an approximation, the three execution methods—(i) customer direct (over the telephone), (ii) multi-bank dealing systems, and (iii) single-bank proprietary platforms—can be viewed as being **execution methods primarily for customers**. On that basis, 77 per cent of all customer trades in Canada are undertaken directly with the customer over the telephone, and 23 per cent are executed through either multi-bank or single-bank electronic trading systems.

**Note:** Additional tables on the results of the Canadian survey, including detailed tables on amounts outstanding, will be made available on the Canadian Foreign Exchange Committee's (CFEC's) website (<[www.cfec.ca](http://www.cfec.ca)>) later this year. As well, the final comprehensive report of the BIS on the survey should be available before the end of 2010. The CFEC's website will contain a direct link to that report once it is available.

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<sup>5</sup> Most internal or related party trades are classified as having been executed "direct" in the survey.

**Table 1: Traditional foreign exchange turnover in Canada:  
Summary of surveys**  
Billions of U.S. dollars

	Foreign exchange turnover in April				Number of business days	Average daily turnover	Per cent change
	Spot	Outright forwards	FX swaps	Total			
1983	44.3	5.2	53.7	103.2	20	5.2	
1986	81.5	11.2	98.5	191.2	20	9.6	84.6
1989	123.9	14.1	161.9	299.9	20	15.0	56.3
1992	162.1	17.6	281.2	460.9	21	21.9	46.0
1995	228.5	47.9	290.1	566.5	19	29.8	36.1
1998	226.5	30.0	516.2	772.7	21	36.8	23.5
2001	217.3	45.0	570.6	832.9	20	41.6	13.0
2004	385.7	83.4	663.4	1,132.5	21	53.9	29.6
2007	273.1	86.1	837.3	1,196.5	20	59.8	11.0
2010	383.9	132.0	710.9	1,226.8	21	58.4	-2.3

**Table 2: Over-the-counter (OTC) derivatives market turnover in Canada:  
Summary of surveys**  
Average daily turnover in April in billions of U.S. dollars

	Foreign exchange derivatives			Single-currency interest rate derivatives			
	Currency swaps	Options	Total	Forward rate agreements	Interest rate swaps	Options	Total
1995	0.1	0.8	0.9	3.0	1.0	0.3	4.3
1998	0.3	0.8	1.1	2.4	2.9	1.1	6.4
2001	0.3	2.3	2.6	2.9	6.1	0.9	9.9
2004	0.6	4.8	5.4	3.4	7.3	1.4	12.1
2007	1.6	2.6	4.2	6.2	10.8	3.6	20.6
2010	1.2	2.2	3.5	6.5	34.6	0.6	41.7

**Table 3: Reported foreign exchange turnover in Canada by instrument and by counterparty:  
Summary of surveys**

Billions of U.S. dollars in April (Figures in parentheses indicate percentage shares)

	Instrument						Counterparty					
	Spot		Outright forwards		Foreign exchange swaps		Reporting dealers		Customers			
									Financial		Non-financial	
1983	44	(43)	5	(5)	54	(52)	75	(73)	8	(8)	19	(19)
1986	82	(43)	11	(6)	98	(51)	131	(69)	24	(12)	36	(19)
1989	124	(41)	14	(5)	162	(54)	217	(72)	25	(8)	58	(20)
1992	162	(35)	18	(4)	281	(61)	360	(76)	32	(7)	79	(17)
1995	229	(41)	48	(8)	290	(51)	347	(61)	141	(25)	79	(14)
1998	227	(29)	30	(4)	516	(67)	550	(71)	123	(16)	100	(13)
2001	217	(26)	45	(5)	571	(69)	534	(64)	198	(24)	101	(12)
2004	386	(34)	83	(7)	663	(59)	704	(62)	318	(28)	110	(10)
2007	273	(23)	86	(7)	837	(70)	661	(55)	422	(35)	113	(9)
2010	384	(31)	132	(11)	711	(58)	660	(54)	465	(38)	102	(8)

**Table 4: Traditional foreign exchange market turnover in Canada by currency:  
Summary of surveys**

Percentage shares

<b>Currency</b>	<b>April 1983</b>	<b>March 1986</b>	<b>April 1989</b>	<b>April 1992</b>	<b>April 1995</b>	<b>April 1998</b>	<b>April 2001</b>	<b>April 2004</b>	<b>April 2007</b>	<b>April 2010</b>
U.S. dollar	99.0	99.4	99.2	96.3	96.6	96.8	96.0	95.3	95.6	94.2
Canadian dollar	75.7	68.2	66.2	65.2	69.6	70.2	61.8	55.5	67.8	69.7
Euro <sup>a</sup>	--	--	--	--	--	--	15.7	17.7	11.7	12.8
German mark <sup>a</sup>	10.7	13.4	12.9	17.0	16.0	14.9	--	--	--	--
Japanese yen	2.9	4.2	7.3	5.8	6.0	7.3	8.7	9.4	5.4	4.5
U.K. pound	6.8	8.3	6.3	6.9	4.4	4.6	7.8	7.8	6.9	4.3
Australian dollar <sup>b</sup>	--	--	--	--	--	1.0	2.3	4.2	3.5	2.8
Mexican peso <sup>b</sup>	--	--	--	--	--	--	0.5	1.9	3.9	2.6
Swiss franc	2.9	4.7	5.6	5.0	4.4	2.3	4.2	4.5	2.6	1.1
Hong Kong dollar <sup>b</sup>	--	--	--	--	--	--	0.2	1.4	0.5	0.4
Other currencies	2.0	1.8	2.5	3.8	3.0	2.9	2.8	2.3	2.0	7.1
All currencies <sup>c</sup>	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0

<sup>a</sup> On 1 January 1999, the euro replaced 11 European currencies, including the German mark.

<sup>b</sup> Dashes (--) indicate that the currency was not broken out and reported separately.

<sup>c</sup> Since every foreign exchange transaction involves two currencies, the reporting of all currencies necessarily sums to 200 per cent.

**Table 5: Total reported foreign exchange turnover in Canada**

Millions of U.S. dollars per month

Instrument and counterparty	Canadian dollar against U.S. dollar			U.S. dollar against other currencies			Canadian dollar against currencies other than the U.S. dollar			All other currency pairs			All currencies		
	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth
<b>Spot</b>	162,540	217,154	33.6	92,253	135,484	46.9	7,503	16,292	117.1	10,780	13,189	22.3	273,075	383,894	40.6
Reporting dealers	90,923	127,257	40.0	57,303	89,420	56.0							155,212	230,399	48.4
Financial customers	45,882	60,456	31.8	31,779	42,205	32.8							86,400	117,951	36.5
Non-financial customers	25,735	29,441	14.4	3,171	3,859	21.7							31,463	35,544	13.0
<b>Outright forwards</b>	45,469	55,907	23.0	24,452	56,033	129.2	13,571	15,832	16.7	2,577	3,545	37.5	86,069	132,026	53.4
Reporting dealers	12,757	9,718	-23.8	-80,981	-106,011	30.9							28,236	40,542	43.6
Financial customers	16,820	27,833	65.5	8,617	23,449	172.1							35,646	65,167	82.8
Non-financial customers	15,892	18,356	15.5	4,382	5,395	23.1							22,187	26,317	18.6
<b>FX swaps</b>	559,264	532,252	-4.8	256,500	158,753	-38.1	20,464	18,247	-10.8	1,106	1,430	29.2	837,334	710,903	-15.1
Reporting dealers	311,631	272,756	-12.5	159,080	113,097	-28.9							477,864	388,805	-18.6
Financial customers	200,084	230,886	15.4	90,148	36,556	-59.4							300,014	281,592	-6.1
Non-financial customers	47,549	28,610	-39.8	7,272	9,100	25.1							59,456	40,506	-31.9
<b>Total reporting dealers</b>	415,311	409,731	-1.3	135,402	96,506	-28.7	11,955	10,067	-15.8	6,210	2,292	-63.1	661,311	659,745	-0.2
<b>Total customers</b>	351,962	395,582	12.4	145,369	120,564	-17.1	29,582	38,208	29.2	8,253	9,205	11.5	535,166	567,077	6.0
Financial	262,786	319,175	21.5	130,544	102,210	-21.7	21,382	34,065	59.3	7,348	7,854	6.9	422,060	464,710	10.1
Non-financial	89,176	76,407	-14.3	14,825	18,354	23.8	8,200	4,143	-49.5	905	1,351	49.3	113,106	102,367	-9.5
<b>Local</b>	305,003	281,961	-7.6	78,914	73,835	-6.4	35,675	36,911	3.5	1,882	1,234	-34.5	389,819	351,171	-9.9
<b>Cross-border</b>	462,270	523,352	13.2	325,945	319,596	-1.9	5,862	13,460	129.6	12,581	16,929	34.6	806,658	875,651	8.6
<b>Total turnover</b>	767,273	805,313	5.0	373,205	350,270	-6.1	41,537	50,371	21.3	14,463	18,163	25.6	1196,477	1226,822	2.5
<i>Currency swaps</i>	17,510	15,724	-10.2	12,525	9,511	-24.1	7,299	362	-95.0	3	442	14633.3	32,067	26,039	-18.8
<i>OTC options</i>	39,693	23,268	-41.4	9,671	18,636.5	92.7	1,146	1,641	43.2	1,513	2,073	37.0	52,023	46,889	-9.9



**Table 6: Total turnover of single-currency interest rate derivatives in Canada**

Millions of U.S. dollars per month

Instrument and counterparty	Canadian dollar			U.S. dollar			All other currencies			All currencies		
	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth	April 2007	April 2010	Per cent growth
<b>Forward-rate agreements</b>	11,424	102,456	796.8	93,093	21,616	-76.8	19,308	13,257	-31.3	123,824	137,329	10.9
Reporting dealers	4,816	96,433	1902.3	17,501	12,833	-26.7	1,637	4,253	159.8	23,953	113,519	373.9
Financial customers	5,282	6,023	14.0	70,658	8,783	-87.6	17,456	9,004	--	93,396	23,810	-74.5
Non-financial customers	1,326	0	-100.0	4,934	0	-100.0	215	0	--	6,475	0	-100.0
<b>Interest rate swaps</b>	143,089	459,037	220.8	57,844	137,150	137.1	14,563	129,430	788.8	215,495	725,616	236.7
Reporting dealers	98,777	346,562	250.9	41,577	114,562	175.5	8,018	96,856	1108.0	148,371	557,979	276.1
Financial customers	19,336	76,348	294.8	12,845	17,001	32.4	3,284	16,952	416.2	35,465	110,301	211.0
Non-financial customers	24,976	36,127	44.6	3,422	5,587	63.3	3,261	15,622	379.1	31,659	57,336	81.1
<b>OTC options</b>	44,945	5,753	-87.2	24,484	5,845	-76.1	2,894	981	-66.1	72,323	12,579	-82.6
Reporting dealers	24,482	2,690	-89.0	8,731	3,957	-54.7	165	981	494.5	33,378	7,628	-77.1
Financial customers	14,938	588	-96.1	13,825	449	-96.8	2,544	0	--	31,307	1,037	-96.7
Non-financial customers	5,525	2,475	-55.2	1,928	1,439	-25.4	185	0	--	7,638	3,914	-48.8
<b>Total reporting dealers</b>	128,075	445,684	248.0	67,809	131,351	93.7	9,820	102,090	939.6	205,702	679,125	230.1
<b>Total customers</b>	71,383	121,561	70.3	107,612	33,259	-69.1	26,945	41,578	54.3	205,940	196,398	-4.6
Financial	39,556	82,959	109.7	97,328	26,233	-73.0	23,284	25,956	11.5	160,168	135,148	-15.6
Non-financial	31,827	38,602	21.3	10,284	7,026	-31.7	3,661	15,622	326.7	45,772	61,250	33.8
<b>Local</b>	85,606	163,672	91.2	20,533	22,412	9.2	9,947	736	-92.6	116,086	186,820	60.9
<b>Cross-border</b>	113,852	403,573	254.5	154,887	142,198	-8.2	26,817	142,932	433.0	295,556	688,703	133.0
<b>Total turnover</b>	199,458	567,245	184.4	175,420	164,610	-6.2	36,764	143,668	290.8	411,642	875,523	112.7

**Table 7: Execution methods for foreign exchange contracts**  
Percentage share of total transactions, April 2010

	Execution method						Total
	Interdealer direct	Customer direct	Electronic broking systems <sup>a</sup>	Electronic trading systems <sup>b</sup>		Voice broker	
				Multi-bank dealing systems	Single-bank proprietary platforms		
<b>Spot – Total</b>	26	21	36	3	3	12	100
Of which: With reporting dealers	41	-- <sup>c</sup>	44	2	1	12	100
Local	64	-- <sup>c</sup>	25	2	2	6	100
Cross-border	35	-- <sup>c</sup>	49	2	1	13	100
<b>Outright forwards – Total</b>	23	43	6	14	7	6	100
Of which: With reporting dealers	66	-- <sup>c</sup>	12	7	6	9	100
Local	75	-- <sup>c</sup>	4	17	1	3	100
Cross-border	60	-- <sup>c</sup>	17	2	9	12	100
<b>Foreign exchange swaps – Total</b>	27	21	26	3	2	21	100
Of which: With reporting dealers	44	-- <sup>c</sup>	35	1	2	17	100
Local	73	-- <sup>c</sup>	12	2	0	13	100
Cross-border	23	-- <sup>c</sup>	52	1	4	20	100
<b>Foreign exchange options – Total</b>	48	11	25	0	8	9	100
Of which: With reporting dealers	63	-- <sup>c</sup>	28	0	1	8	100
Local	50	-- <sup>c</sup>	23	0	2	25	100
Cross-border	65	-- <sup>c</sup>	29	0	0	5	100
<b>Total</b>	27	23	27	4	3	16	100

<sup>a</sup> Trades executed via automated order-matching systems for foreign exchange dealers

<sup>b</sup> Electronic trading systems generally geared towards customers. In multi-bank dealing systems, various banks provide liquidity to the system, whereas on single-bank proprietary platforms, the primary liquidity provider is a single bank.

<sup>c</sup> No reporting dealer data by definition.