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## **Survey of Foreign Exchange and Derivatives Market Activity in Canada During April 2007**

OTTAWA — During the month of April, the Bank of Canada and 53 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 once 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 many other 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 every three years since 1983, and summary results of earlier surveys are also 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 18 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.

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 of the sales desk of any trade.<sup>3</sup> Where no sales desk is involved in a deal, the trading desk is used to determine the location. Although there was considerable variation in their individual assessments,

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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.

<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.

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 2007 survey

- The **turnover of traditional foreign exchange transactions** (defined to include spot transactions, outright forwards, and foreign exchange swaps) showed the lowest growth rate since the survey began in 1983. In April 2007, traditional foreign exchange transactions totalled US\$1.2 trillion, compared with over US\$1.1 trillion in April 2004, yielding an average daily turnover in 2007 of US\$59.8 billion (over 20 business days), compared with an average of US\$53.9 billion per day (over 21 business days) in 2004, an increase of 11 per cent ([Table 1](#)).
- When total volumes during the month of April 2007 are compared with the same month in 2004, foreign exchange swaps increased by 26 per cent to US\$837 billion, whereas spot transactions declined by 29 per cent to US\$273 billion. The growth in outright forwards was relatively flat, increasing 3 per cent to US\$86 billion.
- The average turnover for **currency swaps and OTC foreign exchange options** declined to US\$4.2 billion per day from US\$5.4 billion in April 2004. While currency swaps more than doubled to US\$1.6 billion, foreign exchange options declined by 46 per cent to US\$2.6 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 2007 totalled US\$20.6 billion, compared with US\$12.1 billion in April 2004, an increase of 70 per cent. As can be seen in [Table 2](#), all three interest rate derivatives products experienced a large increase in daily volume over the three years from the last survey.
- The composition of traditional foreign exchange business by **type of instrument or product** over the past nine surveys is shown in [Table 3](#). The trend has been for the proportion of spot transactions to fall and foreign exchange swaps to rise (except for the 1995 and 2004 surveys). Spot transactions have fallen from over 40 per cent of the total in the early years of the survey to a low of 23 per cent in 2007. Similarly, foreign exchange swaps have risen from a little over 50 per cent of the total in the 1980s to a high of 70 per cent in 2007. The proportion of outright forwards has been relatively stable, ranging from 4 to 7 per cent over the nine surveys.
- [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 55 per cent in 2007. The foreign exchange market has become more customer-focused, particularly with financial customers,<sup>4</sup> where the

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<sup>4</sup> Financial customers are defined to include 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

counterparty proportion of total transactions has risen from a low of around 10 per cent in the 1983—92 surveys to a high of 35 per cent in 2007. In contrast, the proportion (but not the absolute volume) of non-financial customer business, which is mainly with corporate firms and governments, has declined from around 20 per cent in the 1980s to 9 per cent in 2007.

- [Table 4](#) shows the **distribution by currency** of foreign exchange market activity in Canada. Almost all transactions (just over 95 per cent) have the U.S. dollar on one side. Similarly, the Canadian dollar was involved in 67.8 per cent of all transactions. The other most significant currencies in foreign exchange transactions in 2007 were the Euro (11.7 per cent), the U.K. pound sterling (6.9 per cent), the Japanese yen (5.4 per cent), the Mexican peso (3.9 per cent), and the Australian dollar (3.5 per cent). The Canadian dollar gained ground in percentage terms from the 2004 survey as a result of higher turnover activity against the U.S. dollar. In contrast, there was less other (non-Canadian dollar) currency business against the U.S. dollar and, as a result, the percentage share of every other major currency listed in [Table 4](#) declined (with the exception of the Mexican peso). The currencies that experienced the largest percentage drop in activity were the Euro (down 6 percentage points), the Japanese yen (down 4 percentage points), and the Swiss franc (down 1.9 percentage points). The Mexican peso rose by 2 percentage points.
- [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, while total foreign exchange turnover in Canadian-dollar against U.S.-dollar transactions increased by 26 per cent compared with April 2004, other currency business against the U.S. dollar fell by 21 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 5 per cent).
- Most interest rate derivatives in Canada are denominated in either Canadian dollars (48 per cent) or U.S. dollars (43 per cent), and both experienced substantial growth in turnover of 85 per cent and 100 per cent, respectively, compared with the April 2004 survey ([Table 6](#)). Interest rate derivatives in all other currencies in Canada account for only 9 per cent of the total, and volumes in April 2007 declined by 36 per cent over April 2004.

- **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 thought of as **execution methods primarily for dealers**. On that basis, 41 per cent of all interdealer transactions are undertaken electronically. The proportion of interdealer direct trades (44 per cent) is higher than one might expect, because internal or related party trades are classified as having been executed “direct” in the survey. Voice broking accounted for approximately 15 per cent of all dealer 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, 87 per cent of all customer trades in Canada are undertaken directly with the customer over the telephone, and 13 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 2007. The CFEC’s website will contain a direct link to that report once it is available.

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

	Foreign exchange turnover				Number of business days	Average daily turnover	Percentage 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

**Table 2: Over-the-counter (OTC) derivatives market turnover in Canada**  
**Summary of surveys**  
 Average daily turnover 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

**Table 3: Reported foreign exchange turnover in Canada by instrument and by counterparty**  
**Summary of surveys**  
 Billions of U.S. dollars (and 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)

**Table 4: Currency distribution of traditional foreign exchange market turnover in Canada**  
**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>
U.S. dollar	99.0	99.4	99.2	96.3	96.6	96.8	96.0	95.3	95.6
Canadian dollar	75.7	68.2	66.2	65.2	69.6	70.2	61.8	55.5	67.8
Euro <sup>a</sup>	--	--	--	--	--	--	15.7	17.7	11.7
German mark <sup>a</sup>	10.7	13.4	12.9	17.0	16.0	14.9	--	--	--
U.K. pound	6.8	8.3	6.3	6.9	4.4	4.6	7.8	7.8	6.9
Japanese yen	2.9	4.2	7.3	5.8	6.0	7.3	8.7	9.4	5.4
Mexican peso <sup>b</sup>	--	--	--	--	--	--	0.5	1.9	3.9
Australian dollar <sup>b</sup>	--	--	--	--	--	1.0	2.3	4.2	3.5
Swiss franc	2.9	4.7	5.6	5.0	4.4	2.3	4.2	4.5	2.6
Hong Kong dollar <sup>b</sup>	--	--	--	--	--	--	0.2	1.4	0.5
Other currencies	2.0	1.8	2.5	3.8	3.0	2.9	2.8	2.3	2.0
All currencies <sup>c</sup>	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0

a. On 1 January 1999, the Euro replaced 11 European currencies including the German mark.

b. "--" indicates that the currency was not broken out and reported separately.

c. 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

Instrument and counterparty	Canadian dollar against the 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 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth
<b>Spot</b>	169,480	162,540	-4.1	186,101	92,253	-50.4	5,567	7,503	34.8	24,531	10,780	-56.1	385,679	273,075	-29.2
Reporting dealers	91,044	90,923	-0.1	124,204	57,303	-53.9							233,017	155,212	-33.4
Financial customers	49,416	45,882	-7.2	55,614	31,779	-42.9							115,620	86,400	-25.3
Non-financial customers	29,020	25,735	-11.3	6,283	3,171	-49.5							37,042	31,463	-15.1
<b>Outright forwards</b>	48,207	45,469	-5.7	26,351	24,452	-7.2	4,908	13,571	176.5	3,973	2,577	-35.1	83,439	86,069	3.2
Reporting dealers	6,269	12,757	103.5	10,824	-80,981	-848.2							19,320	28,236	46.1
Financial customers	22,940	16,820	-26.7	11,639	8,617	-26.0							39,750	35,646	-10.3
Non-financial customers	18,998	15,892	-16.3	3,888	4,382	12.7							24,369	22,187	-9.0
<b>FX swaps</b>	391,149	559,264	43.0	259,010	256,500	-1.0	9,693	20,464	111.1	3,482	1,106	-68.2	663,334	837,334	26.2
Reporting dealers	241,658	311,631	29.0	204,979	159,080	-22.4							451,392	477,864	5.9
Financial customers	114,758	200,084	74.4	42,861	90,148	110.3							162,626	300,014	84.5
Non-financial customers	34,733	47,549	36.9	11,170	7,272	-34.9							49,316	59,456	20.6
<b>Total reporting dealers</b>	338,971	415,311	22.5	340,007	135,402	-60.2	5,059	11,955	136.3	19,692	6,210	-68.5	703,729	661,311	-6.0
<b>Total customers</b>	269,865	351,962	30.4	131,455	145,369	10.6	15,109	29,582	95.8	12,294	8,253	-32.9	428,723	535,166	24.8
Financial	187,114	262,786	40.4	110,114	130,544	18.6	10,054	21,382	112.7	10,714	7,348	-31.4	317,996	422,060	32.7
Non-financial	82,751	89,176	7.8	21,341	14,825	-30.5	5,055	8,200	62.2	1,580	905	-42.7	110,727	113,106	2.1
<b>Local</b>	242,947	305,003	25.5	33,026	78,914	138.9	13,563	35,675	163.0	2,048	1,882	-8.1	291,584	389,819	33.7
<b>Cross-border</b>	365,889	462,270	26.3	438,436	325,945	-25.7	6,605	5,862	-11.2	29,938	12,581	-58.0	840,868	806,658	-4.1
<b>Total turnover</b>	608,836	767,273	26.0	471,462	373,205	-20.8	20,168	41,537	106.0	31,986	14,463	-54.8	1,132,452	1,196,477	5.7
<i>Currency swaps</i>	10,063	17,510	74.0	1,048	12,525	1095.1	475	7,299	1436.5	966	3	-99.7	12,552	32,067	155.5
<i>OTC options</i>	33,841	39,693	17.3	57,672	9,671	-83.2	2,680	1,146	-57.2	6,158	1,513	-75.4	100,351	52,023	-48.2



**Table 6: Total single-currency interest rate derivatives turnover in Canada**  
Millions of U.S. dollars

Instrument and counterparty	Canadian dollar			U.S. Dollar			All other currencies			All currencies		
	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth	April 2004	April 2007	Percentage growth
<b>Forward rate agreements</b>	25,405	11,424	-55.0	37,542	93,093	148.0	8,542	19,308	126.0	71,489	123,824	73.2
Reporting dealers	22,775	4,816	-78.9	33,803	17,501	-48.2	8,542	1,637	-80.8	65,120	23,953	-63.2
Financial customers	1,914	5,282	176.0	3,408	70,658	1,973.3	--	17,456	--	5,322	93,396	1,654.9
Non-financial customers	716	1,326	85.2	331	4,934	1,390.6	--	215	--	1,047	6,475	518.4
<b>Interest rate swaps</b>	70,237	143,089	103.7	32,976	57,844	75.4	49,347	14,563	-70.5	152,560	215,495	41.3
Reporting dealers	43,271	98,777	128.3	24,961	41,577	66.6	45,326	8,018	-82.3	113,558	148,371	30.7
Financial customers	11,648	19,336	66.0	4,822	12,845	166.4	1,055	3,284	211.3	17,525	35,465	102.4
Non-financial customers	15,318	24,976	63.1	3,193	3,422	7.2	2,966	3,261	9.9	21,477	31,659	47.4
<b>OTC options</b>	12,346	44,945	264.0	17,230	24,484	42.1	845	2,894	242.5	30,421	72,323	137.7
Reporting dealers	8,759	24,482	179.5	11,685	8,731	-25.3	845	165	-80.5	21,289	33,378	56.8
Financial customers	2,965	14,938	403.8	4,160	13,825	232.3	--	2,544	--	7,125	31,307	339.4
Non-financial customers	622	5,525	788.3	1,385	1,928	39.2	--	185	--	2,007	7,638	280.6
<b>Total reporting dealers</b>	74,805	128,075	71.2	70,449	67,808	-3.7	54,713	9,819	-82.1	199,967	205,702	2.9
<b>Total customers</b>	33,183	71,383	115.1	17,299	107,612	522.1	4,021	26,945	570.1	54,503	205,940	277.9
Financial	16,527	39,556	139.3	12,390	97,328	685.5	1,055	23,284	2,107.0	29,972	160,168	434.4
Non-financial	16,656	31,827	91.1	4,909	10,284	109.5	2,966	3,661	23.4	24,531	45,772	86.6
<b>Local</b>	53,338	85,606	60.5	3,136	20,533	554.8	116	10,573	9,014.7	56,590	116,086	105.1
<b>Cross-border</b>	54,650	113,852	108.3	84,612	154,887	83.1	58,618	26,817	-54.3	197,880	295,556	49.4
<b>Total turnover</b>	107,988	199,458	84.7	87,748	175,420	99.9	58,734	37,390	-36.3	254,470	411,642	61.8

**Table 7: Execution methods for foreign exchange contracts**

Percentage share of total transactions, April 2007

	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>Instrument</b>							
Spot	36	21	30	2	3	8	100
Outright forwards	29	47	10	9	4	1	100
Foreign exchange swaps	31	24	29	2	1	14	100
Options	14	10	72	0	0	5	100
<b>Total</b>	31	24	30	2	2	11	100
<b>Counterparty</b>							
With reporting dealers	53	-- <sup>d</sup>	35	2	1	10	100
With other financial institutions	-- <sup>c</sup>	53	26	2	2	16	100
With non-financial customers	-- <sup>c</sup>	86	4	3	5	2	100
<b>Total</b>	31	24	30	2	2	11	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. on single-bank proprietary platforms, the primary liquidity provider is a single bank, e.g., a bank's own Internet-based system or the platform of another bank.

<sup>c</sup> No customer data by definition.

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