

Table A1

Federal Reserve Bank of New York Survey of Foreign Exchange and Derivatives Market Activity
FOREIGN EXCHANGE CONTRACTS ¹
Turnover in nominal or notional principal amounts in April 2019
(in millions of USD)

Instruments	USD against																				TOT		
	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	INR	JPY	KRW	MXN	NOK	NZD	PLN	RUB	SEK	SGD	TRY	TWD		ZAR	Other ²
TOTAL FOREIGN EXCHANGE SWAPS	436,301	2,848	965,722	559,332	140,866	4,842,571	1,972,454	124,059	485	1,331,056	5,049	346,252	200,118	134,216	89,207	47,988	182,213	91,931	77,357	3,140	65,196	343,106	11,781,801
<i>o/w prime brokered</i>	56,985	-	78,441	33,137	22,518	241,321	75,706	21,279	-	166,256	-	46,820	13,400	43,938	5,866	14,936	13,936	13,516	8,895	-	9,852	20,880	887,362
<i>o/w retail-driven</i>	9,264	0	33,172	9,220	2,447	215,471	21,255	2,222	0	38,823	52	11,608	999	5,674	889	401	2,132	506	80	0	407	1,669	356,291
MATURITIES FOREIGN EXCHANGE SWAPS																							
seven days or less	230,416	4	627,667	358,807	81,894	1,816,668	730,404	67,830	0	724,358	17	254,820	144,547	91,546	72,341	36,490	127,121	59,124	49,844	0	45,096	245,725	5,597,873
over 7 days and up to 1 month	61,893	132	104,323	34,087	16,714	457,488	252,639	16,446	164	291,148	67	26,898	13,336	11,818	4,288	5,108	18,862	9,975	10,703	0	9,988	25,551	1,374,102
over 1 month and up to 3 months	108,773	2,204	164,605	148,953	22,119	2,369,839	937,343	26,402	279	206,329	3,263	37,843	32,939	24,716	10,960	4,077	29,462	20,004	9,806	852	9,506	46,768	4,172,044
over 3 months and up to 6 months	23,327	190	49,206	14,910	7,217	132,556	43,862	7,869	2	91,422	0	13,522	8,560	3,926	1,422	817	5,113	3,023	5,309	196	2,659	8,503	427,008
over 6 months	11,893	119	19,921	2,574	12,922	66,919	8,406	5,771	40	18,339	1,702	13,069	736	2,209	195	1,496	1,654	805	1,695	2,092	946	16,558	190,773
CURRENCY SWAPS ⁷																							
with reporting dealers	418	5,380	15,899	2,684	1,229	23,943	7,300	20	0	2,441	0	5,066	1,000	0	0	729	192	0	383	0	88	382	86,942
local	324	1,000	1,771	434	0	6,823	1,527	0	0	580	0	1,295	0	0	0	162	0	0	0	0	88	63	14,165
cross-border	94	4,380	13,918	2,250	1,229	17,020	5,773	20	0	1,861	0	3,771	1,000	0	0	729	30	0	383	0	0	319	62,777
with other financial institutions	203	15,253	20,698	3,312	2,196	7,969	3,758	173	0	5,628	0	8,351	124	0	0	878	32	0	1,025	0	0	367	69,967
local	119	14,947	6,181	2,866	2,196	5,390	2,342	155	0	1,863	0	2,639	0	0	0	523	32	0	1,025	0	0	145	40,543
cross-border	84	306	14,517	326	0	2,579	1,416	18	0	3,765	0	5,712	124	0	0	355	0	0	0	0	0	222	29,424
non-reporting banks	84	15,168	4,381	604	0	5,228	1,756	0	0	1,869	0	5,737	124	0	0	128	0	0	8	0	0	262	35,346
institutional investors	84	8	3,904	2,996	0	905	904	0	0	504	0	1,918	0	0	0	308	32	0	0	0	0	24	11,087
hedge funds and proprietary trading firms	0	0	7,249	28	2,188	1,465	1,184	155	0	0	0	33	0	0	0	442	0	0	1,017	0	0	40	13,801
official sector financial institutions	35	80	99	84	8	32	0	0	0	5	0	6	0	0	0	0	0	0	0	0	0	41	390
others	0	0	5,065	0	0	339	14	18	0	3,250	0	657	0	0	0	0	0	0	0	0	0	0	9,343
undistributed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
with non-financial customers	0	0	846	0	0	2,836	436	0	0	179	0	2	0	6	0	0	0	0	0	0	0	206	4,511
local	-	-	-	-	-	1,889	-	-	-	179	-	-	-	-	-	-	-	-	-	-	-	100	2,168
cross-border	0	0	846	0	0	947	436	0	0	0	2	0	6	0	0	0	0	0	0	0	0	106	2,343
TOTAL CURRENCY SWAPS	621	20,633	37,233	5,996	3,425	34,748	11,494	193	-	8,248	-	13,419	1,124	6	-	1,607	224	-	1,498	-	88	955	141,420
<i>o/w prime brokered</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>o/w retail-driven</i>	107	0	24	150	8	387	177	0	0	462	0	171	0	0	0	0	0	0	0	0	0	10	1,496
OTC OPTIONS (sum of bought and sold) ⁸																							
with reporting dealers	24,875	62,992	21,772	13,987	19,018	127,757	45,868	8,560	5,047	97,769	23,424	34,537	1,392	8,141	356	3,131	746	2,197	4,201	2,653	11,703	38,545	558,666
local	5,961	32,341	2,994	1,556	2,654	30,999	12,688	765	566	17,124	14,342	13,006	608	1,265	342	575	123	952	896	216	2,466	16,711	159,105
cross-border	18,914	30,651	18,778	12,431	16,364	96,758	33,180	7,795	4,481	80,645	9,082	21,531	784	6,876	14	2,556	623	1,245	3,305	2,437	9,237	21,834	399,561
with other financial institutions	19,472	56,323	43,140	12,212	13,511	97,439	39,423	6,495	10,085	67,407	8,240	26,823	2,435	5,491	354	2,415	814	1,623	4,902	4,495	8,861	37,542	469,502
local	5,323	28,361	3,801	1,776	8,712	28,376	11,909	5,276	2,967	10,867	3,731	9,663	584	1,463	207	1,330	175	419	1,547	971	4,288	7,823	139,569
cross-border	14,149	27,962	39,339	10,436	4,799	69,063	27,514	1,219	7,118	56,540	4,509	17,160	1,851	4,028	147	1,085	639	1,204	3,355	3,224	4,573	29,719	329,933
non-reporting banks	5,899	25,645	22,866	5,315	2,345	35,300	9,996	331	2,848	18,945	1,121	13,406	617	1,347	0	1,425	90	572	1,052	1,214	1,068	7,839	159,241
institutional investors	2,644	7,912	8,988	832	3,288	12,445	5,584	1,096	1,596	5,645	1,054	4,967	421	564	56	160	178	158	586	53	1,053	6,159	65,481
hedge funds and proprietary trading firms	1,173	10,172	8,440	4,209	4,855	20,046	17,204	4,393	2,451	27,599	4,119	5,961	1,121	1,504	158	720	90	470	2,593	1,065	5,154	8,950	154,598
official sector financial institutions	196	290	277	56	208	411	463	0	41	1,468	200	30	0	256	0	0	0	12	100	82	112	4,202	
others	2,028	3,232	2,263	1,241	2,689	15,265	4,261	500	2,887	7,604	1,659	2,324	125	528	0	18	77	423	408	1,162	730	4,852	54,306
undistributed	3,532	72	306	559	16	5,952	1,815	175	252	6,146	87	105	151	892	140	92	379	0	239	0	774	9,690	31,374
with non-financial customers	2,488	5,707	5,250	2,480	263	12,802	7,849	0	374	8,606	419	2,300	526	1,434	14	1,124	138	25	180	96	234	9,612	62,030
local	2,037	3,132	2,194	1,364	146	5,341	1,345	0	152	5,652	79	1,698	100	1,450	0	5	78	10	1	56	84	2,757	27,461
cross-border	491	2,575	3,056	1,116	117	7,461	6,504	0	222	3,104	340	602	426	34	14	1,119	60	15	188	40	170	6,855	34,569
TOTAL OTC OPTIONS	46,835	125,022	70,182	28,679	32,792	237,998	93,240	15,055	15,506	173,782	32,083	63,660	4,353	15,066	724	6,670	1,698	3,845	9,292	7,244	20,798	85,699	1,096,198
<i>o/w prime brokered</i>	15,170	36,962	18,072	10,166	15,845	77,654	27,038	8,510	4,882	62,022	9,537	10,631	2,076	7,516	6	1,114	350	1,281	4,462	3,433	9,821	11,930	338,478
<i>o/w retail-driven</i>	213	881	5,409	892	4	116,455	997	0	10	2,262	8	704	250	0	82	0	408	0	25	11	58	23,881	
TOTAL FX CONTRACTS	1,402,048	465,475	2,237,546	1,094,482	593,650	8,245,924	3,547,119	352,813	308,744	3,350,809	371,039	893,937	382,245	479,132	160,038	208,066	365,077	283,370	241,028	129,127	258,911	1,388,681	26,757,750
<i>o/w prime brokered</i>	570,507	45,394	641,982	242,117	219,244	1,897,874	634,908	113,300	17,408	1,098,119	33,486	274,041	112,493	254,130	43,243	88,214	104,942	103,503	88,769	11,358	115,255	285,854	6,796,121
<i>o/w retail-driven</i>	21,999	4,055	57,171	18,921	7,359	290,006	36,951	2,687	597	62,377	212	19,503	3,615	8,493	1,332	1,266	5,410	3,608	919	351	2,314	4,207	555,993

¹ All transactions involving exposure to more than one currency, whether in interest rates or exchange rates. ² "Other" covers currencies that are included in the Triennial

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FOREIGN EXCHANGE CONTRACTS¹
 Turnover in nominal or notional principal amounts in April 2019
 (in millions of USD)

Instruments	USD against																							
	AUD	BRL	CAD	CHF	CNY	EUR	GBP	HKD	INR	JPY	KRW	MXN	NOK	NZD	PLN	RUB	SEK	SGD	TRY	TWD	ZAR	Other ²	TOT	

Table A2

Federal Reserve Bank of New York Survey of Foreign Exchange and Derivatives Market Activity
FOREIGN EXCHANGE CONTRACTS ¹
Turnover in nominal or notional principal amounts in April 2019
(in millions of USD)

Instruments	EUR against														JPY against							RESIDUAL ³	GRAND TOTAL ⁴	
	AUD	CAD	CHF	CNY	DKK	GBP	HUF	JPY	NOK	PLN	SEK	TRY	Other ²	TOT	AUD	BRL	CAD	NZD	TRY	ZAR	Other ²			TOT
<i>o/w prime brokered</i>	959	1,131	5,251	673	173	5,211	2,566	3,525	7,576	1,884	4,513	121	4,429	38,012	1,650	11	618	769	216	67	3,292	6,623	12,163	1,194,059
<i>o/w retail-driven</i>	6	85	32	9	0	243	5	32	175	74	121	0	158	940	4	0	0	3	0	0	49	56	3,038	28,647
<i>o/w non-deliverable forwards ⁷</i>														6,358								5,941	3,492	1,101,587
MATURITIES OUTRIGHT FORWARDS																								
seven days or less	7,699	9,180	16,024	499	1,241	30,646	478	14,244	10,032	2,644	3,024	119	40,588	136,472	1,583	1,545	2,862	471	127	315	26,107	33,008	43,011	1,847,627
over 7 days and up to 1 month	3,930	3,174	3,120	119	475	26,700	792	12,703	3,931	1,099	5,366	103	17,603	79,140	1,571	1,857	1,563	215	198	17	12,872	18,344	15,282	1,144,073
over 1 month and up to 3 months	5,213	6,836	8,508	608	147	26,734	2,176	22,563	3,844	1,701	3,945	134	19,767	102,114	2,296	1,335	2,320	1,787	117	16	14,124	21,978	19,074	1,851,175
over 3 months and up to 6 months	147	943	1,607	365	244	5,248	60	4,818	322	69	446	29	5,273	19,520	320	32	1,059	470	0	12	5,875	7,719	4,976	379,273
over 6 months	445	156	771	87	8	1,654	79	440	174	59	111	14	8,181	12,213	823	192	260	0	23	7	1,329	2,650	1,947	191,582
FOREIGN EXCHANGE SWAPS ⁸																								
with reporting dealers	4,374	42,399	31,413	225	66,662	93,258	1,228	18,273	21,841	911	23,650	309	229,382	533,923	512	0	546	187	373	4	21,610	23,230	91,224	8,902,474
local	324	538	668	35	448	4,371	145	1,325	587	193	646	9	28,856	38,143	33	0	45	26	7	1	4,802	4,912	1,475	832,877
cross-border	4,050	41,861	30,745	190	66,214	88,887	1,083	16,948	21,254	718	23,004	300	200,526	495,780	479	0	501	161	366	3	16,808	18,318	89,749	8,069,597
with other financial institutions	6,859	8,920	11,096	223	864	41,526	1,241	41,668	7,217	1,405	4,675	168	91,704	217,566	4,008	0	2,243	379	168	172	39,621	46,591	22,901	3,381,375
local	3,759	3,804	3,047	39	412	20,315	379	22,626	2,846	854	1,018	47	46,618	105,764	1,303	0	1,148	189	168	151	9,301	12,260	9,996	1,468,526
cross-border	3,100	5,116	8,049	184	452	21,211	862	19,042	4,371	551	3,657	121	45,086	111,802	2,705	0	1,095	190	0	21	30,320	34,331	12,905	1,912,849
non-reporting banks	3,164	1,273	6,895	33	386	19,043	522	18,877	2,810	772	1,649	93	40,665	96,182	1,892	0	438	270	168	164	19,297	22,229	5,804	1,818,993
institutional investors	2,343	6,498	2,226	120	455	13,327	354	13,300	952	235	970	39	12,487	53,306	878	0	1,563	63	0	8	18,178	20,690	7,396	629,296
hedge funds and proprietary trading firms	869	735	979	69	23	5,869	360	8,948	3,455	396	1,914	22	19,355	42,994	885	0	197	14	0	0	252	1,348	7,949	594,674
official sector financial institutions	40	179	34	1	0	146	0	93	0	0	7	0	4,331	4,831	16	0	15	2	0	0	1,277	1,310	479	76,029
others	443	174	946	0	0	2,784	0	450	0	1	135	14	12,282	17,229	89	0	30	30	0	0	557	706	1,214	239,692
undistributed	0	61	16	0	0	357	5	0	0	1	0	0	2,584	3,024	248	0	0	0	0	0	60	308	59	22,691
with non-financial customers	1,106	1,421	2,732	339	308	7,508	303	794	261	1,004	1,065	198	19,424	36,463	195	0	133	12	0	0	4,988	5,328	2,387	457,564
local	393	194	310	183	6	2,531	157	65	20	180	184	140	9,597	13,960	14	-	7	1	-	-	3,880	3,902	702	282,305
cross-border	713	1,227	2,422	156	302	4,977	146	729	241	824	881	58	9,827	22,503	181	0	126	11	0	0	1,108	1,426	1,685	175,259
TOTAL FOREIGN EXCHANGE SWAPS	12,339	52,740	45,241	787	67,834	142,292	2,772	60,735	29,319	3,320	29,390	675	340,510	787,952	4,715	-	2,922	578	541	176	66,219	75,149	116,512	12,741,413
<i>o/w prime brokered</i>	667	260	3,005	140	169	3,277	1,048	2,251	2,392	778	2,213	49	5,742	21,991	1,209	-	191	287	539	130	3,696	6,052	11,831	927,236
<i>o/w retail-driven</i>	29	34	18	18	8	84	7	32	1	66	1	0	491	789	0	0	0	0	0	0	109	109	1,390	358,579
MATURITIES FOREIGN EXCHANGE SWAPS																								
seven days or less	3,228	3,291	8,570	125	176	34,031	543	14,598	6,023	978	2,040	342	239,170	319,773	2,157	0	856	263	377	111	26,772	30,527	17,350	5,968,288
over 7 days and up to 1 month	4,083	5,361	7,085	213	1,641	30,031	595	28,508	2,554	1,008	2,657	118	17,097	99,610	1,162	0	1,111	109	161	53	6,562	9,073	8,078	1,491,017
over 1 month and up to 3 months	4,545	41,637	28,012	403	65,899	74,437	1,514	11,513	20,175	1,247	24,092	133	48,318	315,770	867	0	826	205	2	12	18,584	20,530	87,753	4,593,223
over 3 months and up to 6 months	409	2,083	1,026	36	99	3,224	48	5,997	126	83	520	64	16,315	30,251	243	0	129	1	0	0	9,937	10,357	2,533	470,207
over 6 months	74	367	548	10	18	569	73	119	440	3	81	18	19,608	22,548	285	0	0	0	0	0	4,364	4,662	797	218,678
CURRENCY SWAPS ⁹																								
with reporting dealers	0	1,685	0	148	0	0	0	0	0	0	0	0	137	1,970	0	0	0	0	0	0	0	-	60	68,972
local	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0	0	-	3	14,168
cross-border	0	1,685	0	148	0	0	0	0	0	0	0	0	137	1,970	0	0	0	0	0	0	0	-	57	54,804

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Instruments	EUR against														JPY against							RESIDUAL ³	GRAND TOTAL ⁴	
	AUD	CAD	CHF	CNY	DKK	GBP	HUF	JPY	NOK	PLN	SEK	TRY	Other ²	TOT	AUD	BRL	CAD	NZD	TRY	ZAR	Other ²			TOT
with other financial institutions	0	23	0	0	0	90	0	0	0	0	0	0	38	151	0	0	0	0	0	0	68	68	45	70,231
local	0	0	0	0	0	78	0	0	0	0	0	0	0	78	0	0	0	0	0	0	0	0	27	40,648
cross-border	0	23	0	0	0	12	0	0	0	0	0	0	38	73	0	0	0	0	0	0	68	68	18	29,583
non-reporting banks	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	68	68	8	35,431
institutional investors	0	0	0	0	0	12	0	0	0	0	0	0	20	32	0	0	0	0	0	0	0	0	18	11,137
hedge funds and proprietary trading firms	0	23	0	0	0	78	0	0	0	0	0	0	0	101	0	0	0	0	0	0	0	0	19	13,921
official sector financial institutions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	390
others	0	0	0	0	0	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	9,352
undistributed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
with non-financial customers	0	0	227	0	0	0	0	0	0	0	0	0	164	391	0	0	0	0	0	0	0	0	0	4,902
local	0	0	227	0	0	0	0	0	0	0	0	0	164	391	0	0	0	0	0	0	0	0	0	2,559
cross-border	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,343
TOTAL CURRENCY SWAPS	0	1,708	227	148	0	90	0	0	0	0	0	0	339	2,512	0	0	0	0	0	0	68	68	105	144,105
<i>o/w prime brokered</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>o/w retail-driven</i>	0	0	0	0	0	90	0	0	0	0	0	0	0	90	0	0	0	0	0	0	68	68	0	1,654
OTC OPTIONS (sum of bought and sold) ¹⁰																								
with reporting dealers	2,619	2,281	8,374	1,743	0	8,880	6,076	9,274	11,540	1,574	2,229	310	68,874	123,771	10,297	2,100	3,060	687	95	0	3,406	19,644	17,604	719,684
local	433	483	2,013	844	0	853	2,338	2,237	3,175	638	279	106	8,219	21,615	2,695	234	801	181	34	0	773	4,717	5,746	191,182
cross-border	2,186	1,798	6,361	899	0	8,027	3,738	7,037	8,365	936	1,950	204	60,655	102,156	7,602	1,866	2,259	506	61	0	2,633	14,927	11,858	528,502
with other financial institutions	3,380	1,263	4,772	421	0	7,946	4,580	7,501	9,906	608	2,329	247	36,487	79,440	9,367	2,583	2,096	246	377	27	3,567	18,263	19,384	586,589
local	1,388	202	877	241	0	1,033	786	3,539	6,497	45	389	96	20,030	35,123	1,548	24	305	104	347	0	52	2,380	11,418	188,490
cross-border	1,992	1,061	3,895	180	0	6,913	3,794	3,962	3,409	563	1,940	151	16,457	44,317	7,819	2,559	1,791	142	30	27	3,515	15,883	7,966	398,099
non-reporting banks	495	412	1,940	167	0	2,479	226	1,875	2,047	334	260	10	3,864	14,109	1,911	2,081	100	71	30	27	560	4,780	2,651	180,781
institutional investors	110	235	1,013	0	0	622	0	1,108	864	45	203	0	893	5,093	304	0	97	0	0	0	358	759	2,430	73,763
hedge funds and proprietary trading firms	1,489	615	1,168	254	0	3,324	4,354	3,189	4,491	229	1,735	225	9,952	31,025	5,054	502	1,899	119	347	0	519	8,440	8,593	202,956
official sector financial institutions	0	1	56	0	0	7	0	0	0	0	0	0	0	64	350	0	0	0	0	0	59	409	542	5,217
others	897	0	542	0	0	165	0	340	1,954	0	0	12	19,063	22,973	203	0	0	45	0	0	136	384	4,719	82,382
undistributed	389	0	53	0	0	1,349	0	989	550	0	131	0	2,715	6,176	1,545	0	0	11	0	0	1,935	3,491	449	41,490
with non-financial customers	0	28	383	91	0	1,191	0	343	227	0	0	1	4,189	6,453	75	671	0	13	0	0	204	963	653	70,099
local	0	26	116	0	0	119	0	23	0	0	0	0	3,085	3,369	75	637	0	13	0	0	195	920	35	31,785
cross-border	0	2	267	91	0	1,072	0	320	227	0	0	1	1,104	3,084	0	34	0	0	0	0	9	43	618	38,314
TOTAL OTC OPTIONS	5,999	3,572	13,529	2,255	0	18,017	10,656	17,118	21,673	2,182	4,558	558	109,550	209,664	19,739	5,354	5,156	946	472	27	7,177	38,870	37,641	1,376,372
<i>o/w prime brokered</i>	2,810	1,302	3,666	225	0	7,004	7,489	4,005	12,068	378	3,328	274	35,402	77,951	10,008	1,049	3,634	406	41	0	1,443	16,581	20,957	453,967
<i>o/w retail-driven</i>	34	256	82	148	0	333	0	357	0	0	0	0	271	1,481	46	0	7	0	0	0	102	155	175	25,692
Other products ¹¹																								0

Table A2

Federal Reserve Bank of New York Survey of Foreign Exchange and Derivatives Market Activity
FOREIGN EXCHANGE CONTRACTS ¹
Turnover in nominal or notional principal amounts in April 2019
(in millions of USD)

Instruments	EUR against														JPY against							RESIDUAL ³	GRAND TOTAL ⁴	
	AUD	CAD	CHF	CNY	DKK	GBP	HUF	JPY	NOK	PLN	SEK	TRY	Other ²	TOT	AUD	BRL	CAD	NZD	TRY	ZAR	Other ²			TOT
TOTAL FX CONTRACTS	79,797	115,679	215,344	8,135	82,843	403,334	40,385	363,955	169,808	38,180	153,138	5,766	835,536	2,511,897	111,041	10,322	30,362	16,262	3,423	1,247	283,461	456,116	416,860	30,142,623
<i>o/w prime brokered</i>	23,691	18,180	73,199	2,370	6,860	71,025	24,927	146,193	81,600	17,282	64,803	1,216	99,283	630,629	61,863	1,060	11,677	9,928	2,628	706	79,705	167,567	124,359	7,718,676
<i>o/w retail-driven</i>	1,852	1,891	2,341	345	222	3,986	383	5,507	1,214	551	1,822	7	1,542	21,663	2,323	-	483	246	1	10	2,822	5,885	7,933	591,474
<i>o/w related party trades ¹²</i>																								8,539,039

¹ All transactions involving exposure to more than one currency, whether in interest rates or exchange rates. ² "Other" covers currencies that are included in the Triennial but not explicitly listed in each column of this table. See also table A4 for a more detailed breakdown of total turnover in "other" currencies. ³ "Residual" covers all currency pairs except those involving the domestic currency, the USD, the EUR, and the JPY. ⁴ Covers the sum of the totals in tables A1, A2, A3 and the column "residual". ⁵ Excluding "tomorrow/next day" transactions. ⁶ Including non-deliverable forwards and other contracts-for-differences. ⁷ Data should only be provided for the "total" and "residual" columns. ⁸ A swap is considered to be a single transaction in that the two legs are not counted separately. Includes "tomorrow/next day" transactions. ⁹ A swap is considered to be a single transaction in that the two legs are not counted separately. ¹⁰ Including currency warrants and multicurrency swaptions. ¹¹ Any instrument where the transaction is highly leveraged and/or the notional amount is variable and where a decomposition into individual plain vanilla components is impractical or impossible. ¹² Trades between desks and offices, and trades with own branches and subsidiaries and between affiliated firms (regardless of whether the counterparty is resident in the same country as the reporting dealer or in another country). Back-to-back deals and trades to facilitate internal bookkeeping and internal risk management within a given institution are not to be reported in the context of the triennial survey.

Table A3

Federal Reserve Bank of New York Survey of Foreign Exchange and Derivatives Market Activity
FOREIGN EXCHANGE CONTRACTS ¹
Turnover in nominal or notional principal amounts in April 2019
(in millions of USD)

Instruments	ARS AUD BGN BHD BRL CAD CHF CLP CNY COP CZK DKK GBP HKD HUF IDR ILS INR KRW MXN MYR NOK NZD PEN PHP PLN RON RUB SAR SEK SGD THB TRY TWD ZAR Other																																					
	ARS	AUD	BGN	BHD	BRL	CAD	CHF	CLP	CNY	COP	CZK	DKK	GBP	HKD	HUF	IDR	ILS	INR	KRW	MXN	MYR	NOK	NZD	PEN	PHP	PLN	RON	RUB	SAR	SEK	SGD	THB	TRY	TWD	ZAR	Other		
SPOT ³																																						
with reporting dealers	1,077	41,847	0	6	31	19,613	15,925	4,724	15,213	3,730	11,824	8,963	70,776	6,505	6,825	2,945	9,968	44	0	8,956	157	6,289	23,903	2,766	2,510	687	1,135	1,033	3,267	8,665	7,796	12,715	844	0	3,323	147,806		
local	91	5,931	0	1	23	2,560	3,543	585	2,416	386	1,743	2,047	8,291	351	1,578	537	3,112	7	0	1,652	0	1,741	5,580	156	351	107	307	189	434	1,613	1,349	1,788	90	0	562	16,230		
cross-border	986	35,916	0	5	8	17,053	12,382	4,139	12,797	3,344	10,081	6,916	62,485	6,154	5,247	2,408	6,856	37	0	7,304	157	4,548	18,323	2,610	2,159	580	828	844	2,833	7,052	6,447	10,927	754	0	2,761	131,576		
with other financial institutions	4,115	48,503	31	18	365	17,523	20,629	4,613	2,566	3,096	18,450	11,915	109,472	3,191	19,480	9,894	16,223	226	118	7,432	197	27,125	27,582	1,933	5,563	6,320	1,762	1,260	424	11,898	5,306	13,037	2,082	16	3,625	187,862		
local	1,266	19,683	12	0	5	4,748	7,177	1,138	769	563	4,481	4,423	38,473	1,442	5,748	1,410	6,137	193	0	3,185	131	2,803	7,384	439	689	272	933	794	183	4,506	2,298	4,983	1,413	0	2,186	95,363		
cross-border	2,849	28,820	19	18	356	12,775	13,452	3,475	1,797	2,533	13,969	7,492	70,999	1,749	13,732	8,484	10,086	33	118	4,247	66	24,322	20,198	1,494	4,874	6,048	829	466	241	7,392	3,008	8,054	669	16	1,439	92,499		
non-reporting banks	2,032	14,213	20	0	33	7,762	7,345	2,168	1,383	2,042	4,171	4,801	37,116	982	5,120	4,287	3,393	84	51	4,388	18	9,765	10,098	1,191	2,201	2,160	716	1,011	174	5,025	1,630	5,942	1,694	1	2,447	24,582		
institutional investors	1,088	10,433	0	0	201	4,916	4,646	407	535	182	3,925	4,298	30,342	1,647	3,351	434	5,491	10	0	697	22	2,373	5,495	116	411	175	522	160	85	2,901	705	1,981	56	0	274	44,048		
hedge funds and proprietary trading firms	258	10,670	8	0	25	1,730	4,113	535	130	526	7,101	1,034	15,396	224	5,519	538	4,966	100	9	1,649	34	3,023	5,501	494	162	654	402	43	110	2,716	1,940	2,795	18	6	772	75,839		
official sector financial institutions	20	702	0	0	92	518	497	8	1	7	52	189	2,397	120	29	629	13	4	5	7	91	127	530	4	292	12	5	16	12	20	105	40	1	5	7	247		
others	624	12,363	1	18	9	2,537	3,749	1,375	491	242	3,011	1,590	24,108	213	5,429	3,914	2,346	2	51	659	32	11,805	5,873	77	2,444	3,306	49	26	34	1,226	922	2,199	313	3	121	37,885		
undistributed	93	122	2	0	5	60	279	120	26	97	190	3	113	5	32	92	14	26	2	32	0	32	85	51	53	13	68	4	9	10	4	80	0	1	4	5,261		
with non-financial customers	293	5,165	22	22	44	2,166	2,485	842	518	434	3,747	1,260	9,086	430	3,134	5,188	3,676	103	43	1,164	58	1,212	2,914	80	2,820	269	324	281	210	727	980	1,854	43	6	577	56,601		
local	74	2,635	16	11	20	1,495	1,541	558	342	263	731	640	3,964	128	455	299	2,533	77	3	209	36	134	1,489	54	291	115	99	229	134	149	455	381	28	5	202	40,710		
cross-border	219	2,530	6	11	24	671	944	284	176	171	3,016	620	5,122	302	2,679	4,889	1,143	26	40	955	22	1,078	1,425	26	2,529	154	225	52	76	578	525	1,473	15	1	375	15,891		
TOTAL SPOT	5,485	95,515	53	46	440	39,302	39,039	10,179	18,297	7,260	34,021	22,138	189,334	10,126	29,439	18,027	29,867	373	161	17,552	412	34,626	54,399	4,779	10,893	7,276	3,221	2,574	3,901	21,290	14,082	27,606	2,969	22	7,525	392,269		
<i>o/w prime brokered</i>	7	49,503	-	1	-	10,090	15,132	162	2,139	-	17,549	6,560	105,042	970	15,161	258	14,655	-	-	4,711	-	11,832	25,632	-	63	565	799	392	132	13,070	5,312	10,871	189	-	2,110	111,494		
<i>o/w retail-driven</i>	-	2,100	-	-	-	1,253	670	-	1	-	183	206	3,183	4	231	-	126	-	-	71	1	290	1,317	-	3	-	-	-	9	251	69	12	-	-	6	1,651		
OUTRIGHT FORWARDS ⁴																																						
with reporting dealers	5,891	10,088	0	23	2,507	9,899	14,102	40,053	6,235	28,123	1,849	5,331	21,298	3,184	3,124	16,732	2,406	1,328	2,678	4,667	5,358	3,431	5,733	12,055	12,676	151	816	763	4,876	3,052	3,423	4,186	336	864	1,234	81,110		
local	1,315	1,661	0	0	616	3,561	835	11,701	538	6,315	283	1,264	5,115	243	566	2,882	433	270	435	837	596	361	682	2,213	2,014	33	211	283	2,079	920	206	376	40	239	250	5,715		
cross-border	4,576	8,427	0	23	1,891	6,338	13,267	28,352	5,697	21,808	1,566	4,067	16,183	2,941	2,558	13,850	1,973	1,058	2,243	3,830	4,762	3,070	5,051	9,842	10,662	118	605	480	2,797	2,132	3,217	3,810	296	625	984	75,395		
with other financial institutions	9,943	11,184	5	78	5,372	14,136	12,503	38,671	3,541	29,265	10,341	7,700	38,253	4,182	11,181	30,221	6,939	4,581	4,230	4,179	7,734	5,331	4,116	17,188	17,940	736	1,708	1,520	4,409	2,464	5,630	8,766	628	1,551	1,528	139,642		
local	4,480	3,853	3	30	3,374	4,193	2,996	13,933	1,182	11,319	2,929	2,479	10,870	999	4,362	12,803	2,191	2,186	1,103	1,208	3,378	970	953	8,316	6,061	362	1,002	445	1,466	1,022	932	3,094	332	313	893	61,102		
cross-border	5,463	7,331	2	48	1,998	9,943	9,507	24,738	2,359	17,946	7,412	5,221	27,383	3,183	6,819	17,418	4,748	2,395	3,127	2,971	4,356	4,361	3,163	8,872	11,879	374	706	1,075	2,943	1,442	4,698	5,672	296	1,238	635	78,540		
non-reporting banks	3,217	2,290	3	47	439	2,801	4,592	19,818	298	11,802	1,990	3,981	9,497	1,455	2,525	6,217	717	120	525	1,831	2,432	1,181	1,174	7,594	5,794	253	564	291	575	511	1,814	1,741	406	54	633	28,009		
institutional investors	2,368	4,517	0	31	2,882	6,650	3,949	10,864	414	11,070	2,210	1,374	12,980	1,679	2,912	14,256	1,273	1,002	888	684	2,151	799	1,307	5,732	5,064	291	534	326	1,274	890	1,729	2,673	30	529	377	26,113		
hedge funds and proprietary trading firms	3,552	3,362	1	0	985	2,263	2,695	5,841	42	5,686	5,707	1,785	10,530	650	5,298	5,930	4,614	576	902	1,308	2,777	3,088	1,157	3,360	3,224	147	531	576	2,426	671	542	3,648	94	145	446	49,529		
official sector financial institutions	222	260	0	0	343	2,051	611	641	265	236	124	220	2,867	201	63	709	22	74	280	16	359	22	97	90	417	10	12	7	19	102	902	173	14	153	11	378		
others	480	529	1	0	719	248	238	1,343	2,522	338	145	261	1,842	92	298	3,013	301	2,808	1,579	149	15	125	336	344	3,340	28	40	320	110	280	539	479	84	669	53	32,650		
undistributed	104	236	0	0	4	113	418	164	0	133	165	79	537	105	85	96	12	1	56	191	0	116	45	68	101	7	27	0	5	10	104	52	0	1	8	2,963		
with non-financial customers	2,226	1,596	33	2	1,359	5,536	1,059	4,333	1,495	5,214	4,032	1,775	7,251	395	3,926	5,042	3,729	572	273	326	1,599	702	369	2,918	3,973	204	305	426	166	214	1,097	1,968	108	396	304	33,742		
local	816	523	22	-	1,149	408	458	1,321	1,208	1,538	458	1,358	1,580	67	380	639	2,261	308	128	176	238	423	135	1,420	724	139	143	199	71	32	857	535	86	287	90	16,625		
cross-border	1,410	1,073	11	2	210	5,128	601	3,012	287	3,676	3,574	417	5,661	328	3,546	4,403	1,468	264	145	150	1,361	279	234	1,498	3,249	65	162	227	95	182	240	1,433	22	109	214	17,117		
TOTAL OUTRIGHT FORWARDS	18,060	22,868	38	103	9,238	29,571	27,664	83,057	11,271	62,802	16,222	14,806	66,802	7,761	18,231	51,995	13,074	6,481	7,181	9,172	14,691	9,464	10,218	32,161	34,589	1,091	2,829	2,709	9,451	5,730	10,150							

Table C

Federal Reserve Bank of New York Survey of Foreign Exchange and Derivatives Market Activity
EXECUTION METHOD FOR FOREIGN EXCHANGE CONTRACTS
Turnover in nominal or notional principal amounts in April 2019
(in millions of USD)

Instruments	Voice		Electronic				Unallocated	Total ¹
	Direct	Indirect	Direct		Indirect			
			Single-bank proprietary trading system	Other	Anonymous venues	Disclosed venues		
SPOT								
with reporting dealers	2,034,985	244,422	608,296	853,516	448,505	320,953	481,777	4,992,454
local	787,232	47,273	149,054	122,644	144,453	96,506	161,515	1,508,677
cross-border	1,247,753	197,149	459,242	730,872	304,052	224,447	320,262	3,483,777
with other financial institutions	1,957,363	58,970	1,277,492	1,433,393	300,963	296,857	166,912	5,491,950
with non-financial customers	56,446	45,121	222,994	347,693	6,468	49,186	9,030	736,938
TOTAL SPOT	4,048,794	348,513	2,108,782	2,634,602	755,936	666,996	657,719	11,221,342
OUTRIGHT FORWARDS								
with reporting dealers	686,944	202,798	109,160	403,251	287,552	174,731	147,756	2,012,192
local	260,886	52,894	11,125	26,246	164,048	52,905	53,367	621,471
cross-border	426,058	149,904	98,035	377,005	123,504	121,826	94,389	1,390,721
with other financial institutions	673,754	165,126	326,212	899,890	114,425	799,657	100,937	3,080,001
with non-financial customers	44,556	81,406	151,225	225,370	19,664	43,334	66,717	632,272
TOTAL OUTRIGHT FORWARDS	1,405,254	449,330	586,587	1,528,511	421,641	1,017,722	315,410	5,724,465
FOREIGN EXCHANGE SWAPS								
with reporting dealers	5,926,369	1,266,556	582,301	654,006	508,883	719,580	77,656	9,735,351
local	585,226	457,527	198,200	34,648	152,371	206,247	31,535	1,665,754
cross-border	5,341,143	809,029	384,101	619,358	356,512	513,333	46,121	8,069,597
with other financial institutions	483,052	385,738	549,282	923,217	264,958	568,745	206,383	3,381,375
with non-financial customers	53,834	187,162	79,802	41,046	27,808	60,783	7,129	457,564
TOTAL FOREIGN EXCHANGE SWAPS	6,463,255	1,839,456	1,211,385	1,618,269	801,649	1,349,108	291,168	13,574,290
CURRENCY SWAPS								
with reporting dealers	31,955	12,568	0	5,282	184	16,902	16,249	83,140
local	10,668	4,749	0	933	184	4,870	6,932	28,336
cross-border	21,287	7,819	0	4,349	0	12,032	9,317	54,804
with other financial institutions	43,461	9,448	0	6,949	0	7,234	3,139	70,231
with non-financial customers	3,287	363	0	326	0	0	926	4,902
TOTAL CURRENCY SWAPS	78,703	22,379	-	12,557	184	24,136	20,314	168,273
TOTAL OTC OPTIONS								
with reporting dealers	535,138	109,735	53,456	3,049	38,169	108,201	63,117	910,865
local	313,403	35,542	9,512	159	178	7,224	16,345	382,363
cross-border	221,735	74,193	43,944	2,890	37,991	100,977	46,772	528,502
with other financial institutions	242,156	135,490	62,655	471	15,345	109,559	20,913	586,589
with non-financial customers	24,444	24,506	8,033	154	0	11,872	1,090	70,099
TOTAL OTC OPTIONS	801,738	269,731	124,144	3,674	53,514	228,632	85,120	1,567,553
Other products								
TOTAL FX CONTRACTS	12,797,744	2,929,409	4,030,908	5,797,613	2,032,924	3,287,594	1,369,731	32,245,923

¹ Total spot, outright forwards, FX swaps, currency swaps, OTC options and other products as well as their corresponding counterparty breakdowns should be consistent with the amounts reported in table A3.