

Activity in the Norwegian foreign exchange and derivatives markets in April 2019

Every three years since 1989, Norges Bank has conducted a survey of activity in the Norwegian foreign exchange market in cooperation with the Bank for International Settlements (BIS). The 2019 survey is the eleventh in the series. According to figures from April 2019, average daily turnover in the Norwegian foreign exchange market¹ declined from just over USD 40bn to USD 30bn. In NOK terms, average daily turnover was NOK 257bn in April 2019. Preliminary figures from the BIS indicate that the market share of reporting dealers in the Norwegian survey was 0.4% of the global foreign exchange market in April 2019, down from 0.6% in April 2016.

Average daily turnover in the Norwegian OTC interest rate derivatives market was approximately USD 6.5bn, up from approximately NOK 3.5bn in April 2016, an increase of 77%. Turnover in forward rate agreements (FRAs) more than doubled, while turnover in interest rate swaps rose by 27% compared with April 2016. As in the 2016 survey, no turnover in interest rate options was reported in April 2019. Preliminary figures from the BIS indicate that the market share of reporting dealers in the Norwegian survey was 0.1% of the global OTC interest rate derivatives market in April 2019, unchanged from the survey in April 2016.

Background to the survey

Participation in the BIS survey is voluntary. In 2019, five out of seven invited banks took part, and it is estimated that approximately 80% of the activity in the Norwegian market is covered. By comparison, seven banks took part in the 2016 survey. An important aspect of the survey is that all trades should be reported in the country in which the sales desk is located, regardless of whether deals are entered into in the name of the head office outside Norway or in the reporting dealer's own name. This was part of a global survey of 53 countries coordinated by the Bank for International Settlements (BIS). Turnover figures from these surveys will be published simultaneously on the BIS website and by the participating central banks. It is estimated that approximately 1300 financial institutions took part globally. The object of the survey is to obtain comprehensive and consistent information on activity in the foreign exchange and derivatives markets. The information will enable central banks, authorities and market participants to monitor changing patterns in market activity over time.

The first surveys (1989, 1992 and 1995) were confined to turnover in the foreign exchange market. Over-the-counter (OTC) derivatives were included as from 1998. Exchange-traded derivatives are not covered.

In addition to the turnover survey in April 2019, a separate survey coordinated by the BIS of amounts outstanding took place at the end of June 2019. The BIS plans to publish a more detailed report on these surveys in November 2019.

In the survey, reporting dealers were asked about trends in turnover. The perception was that turnover in the foreign exchange and derivatives markets was stable in the six months prior to the survey. Unlike in the 2016 survey, turnover in April 2019 was termed lower than normal. Financial markets often have lower turnover at Easter. As all the Easter public holidays were in April in 2019, this may have contributed to lower turnover.

¹ Turnover in the spot market, outright forwards, foreign exchange swaps, currency swaps (basis swaps) and currency options.

As from 2010, the BIS has included currency options and currency swaps (also referred to as basis swaps) in the survey of foreign exchange market turnover. The historical tables in this report have been adjusted accordingly.

Turnover in the Norwegian foreign exchange market²

1. Breakdown by instrument

Table 1 shows the turnover in the foreign exchange market in the seven most recent BIS surveys between April 2001 and April 2019. After rising in 2016, average daily turnover in the Norwegian foreign exchange market declined by around 25%, from approximately USD 40bn in April 2016 to approximately USD 30bn in April 2019. In NOK terms, average daily turnover in the Norwegian foreign exchange market was NOK 257bn in April 2019, mainly reflecting the decline in spot and forward turnover. Owing to a substantial reporting error, the figure for spot turnover in April 2016 was too high and the figure for forward turnover was too low. As a result, the decline in spot turnover between 2016 and 2019 in Table 1 is too large and the decline in forward turnover is too low. Currency options turnover fell from NOK 2.7bn in April 2016 to NOK 1.4bn in April 2019.

By comparison, preliminary figures from the BIS show that daily turnover in the global foreign exchange market rose by approximately 30% between April 2016 and April 2019. Average daily turnover rose in this period from USD 5.1tn to USD 6.6tn. The market share of transactions involving the Norwegian krone increased from 1.7% of global turnover to 1.8%.

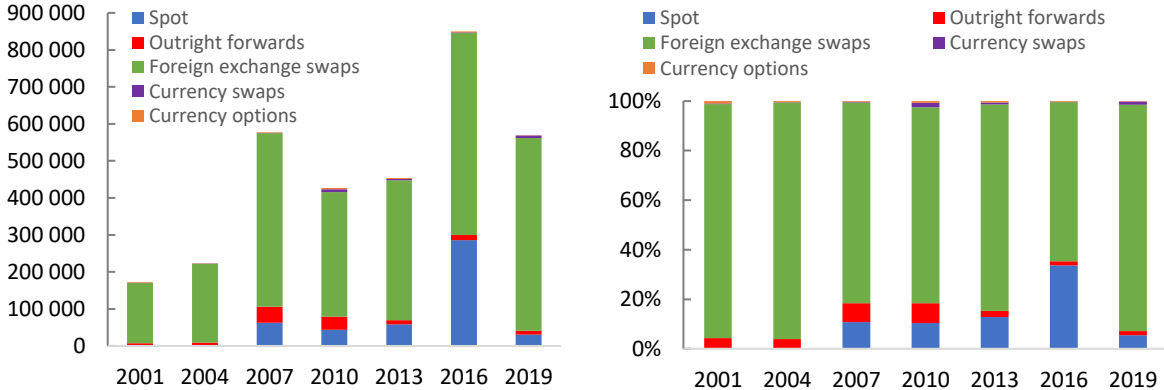
Table 1: Total turnover in the foreign exchange market in April, by instrument. In millions of USD and NOK

Instrument	2001	2004	2007	2010	2013	2016	2019
Spot	61 541	51 920	62 291	44 050	57 956	286 233	30 863
Forwards	169 893	221 492	512 242	372 017	389 616	559 546	530 802
- <i>Outright forwards</i>	7 454	8 720	43 544	34 652	11 668	13 747	9 827
- <i>Foreign exchange swaps</i>	162 439	212 772	468 698	337 365	377 948	545 799	520 975
Currency swaps (basis swaps)	300	312	969	7 771	3 423	1 578	6 852
Currency options	1 726	938	1 966	2 717	2 700	2 674	1 372
Total in millions of USD	233 460	274 662	577 468	426 555	453 694	850 032	569 890
Banking days in April	18	19	18	19	21	21	19
Daily average in mill. USD	12 970	14 456	32 081	22 450	21 605	40 478	29 994
Monthly average USD/NOK	9.09	6.92	6.00	5.92	5.79	8.22	8.57
Total in millions of NOK	2 103 735	1 892 011	3 447 198	2 434 026	2 611 173	6 987 263	4 881 284
Daily average in mill. NOK	117 897	100 035	192 489	131 369	124 342	332 726	256 910

Transactions between Norwegian reporting dealers are counted only once. Turnover figures for the foreign exchange market cover spot, outright forwards, foreign exchange swaps, currency swaps (basis swaps) and currency options.

² Supplementary tables appear in the annex.

Chart 1: Total turnover in the foreign exchange market in April, by instrument. In millions of USD (left) and as a percentage (right). 2001 – 2019



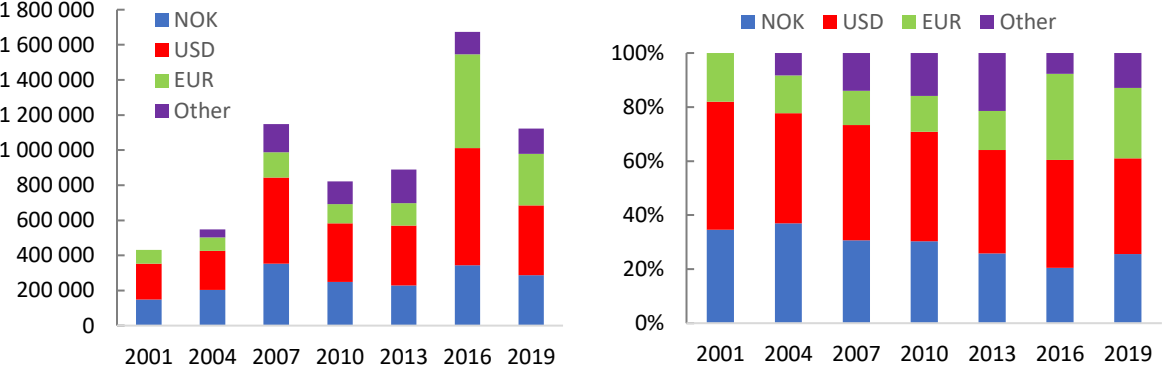
The April 2019 survey of the foreign exchange market shows that turnover in the Norwegian forward market is still considerably larger than spot market turnover. Table 1 and Chart 1 show that turnover in foreign exchange swaps continues to account for by far the largest share of total forward transactions and that spot market turnover, as has been the case since 2007, continues to be higher than outright forward turnover.

2. Currency breakdown for the Norwegian foreign exchange market

The US dollar share of foreign exchange turnover fell from 39.9% to 35.4% in the period between April 2016 and April 2019 (Chart 2). The share for the euro also fell, from 31.9% to 26.1%. The Norwegian krone share of foreign exchange turnover rose from 20.5% to 25.6%. The share for other currencies also rose from 7.7% to 13%.

According to figures from the BIS, the US dollar has retained its position as reserve currency in the global foreign exchange market. Globally, the US dollar was on one side of 88% of all foreign exchange transactions. The euro was on one side of 32% of all global foreign exchange transactions and continued to be the second most traded currency. Figures from the BIS also show that emerging economies’ currencies are continuing to increase their market share, which was 25% of all foreign exchange transactions in April 2019.

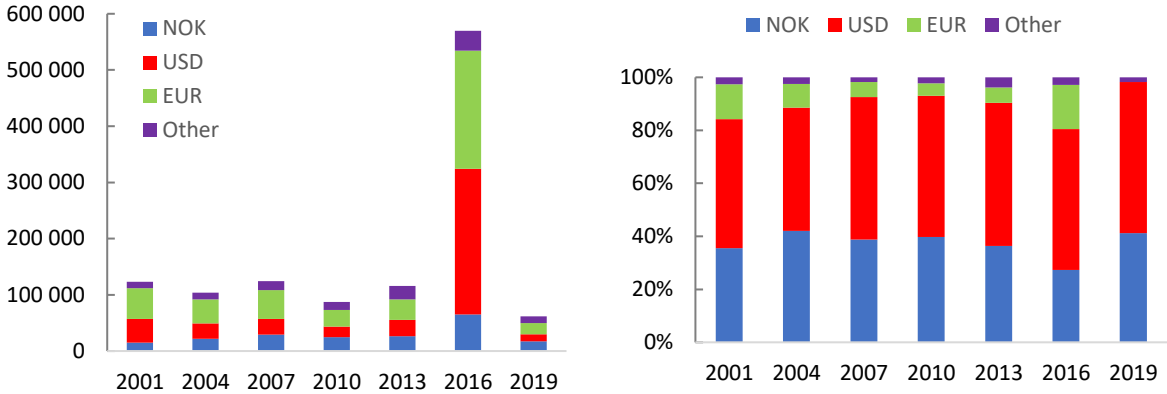
Chart 2: Total turnover in the foreign exchange market in April, by currency. In millions of USD (left) and as a percentage (right). 2001 –2019



3. Currency breakdown for the spot market

After declining somewhat in 2016, the share for the Norwegian krone in the spot market rose from 11.5% in April 2016 to 28.3% in April 2019 (Chart 3). The US dollar share fell from 45.4% to 19.6%, a level that is more in line with the years preceding April 2016. The euro share also fell, from 36.9% to 32.4%. The share for other currencies rose from 6.2% to 19.7%.

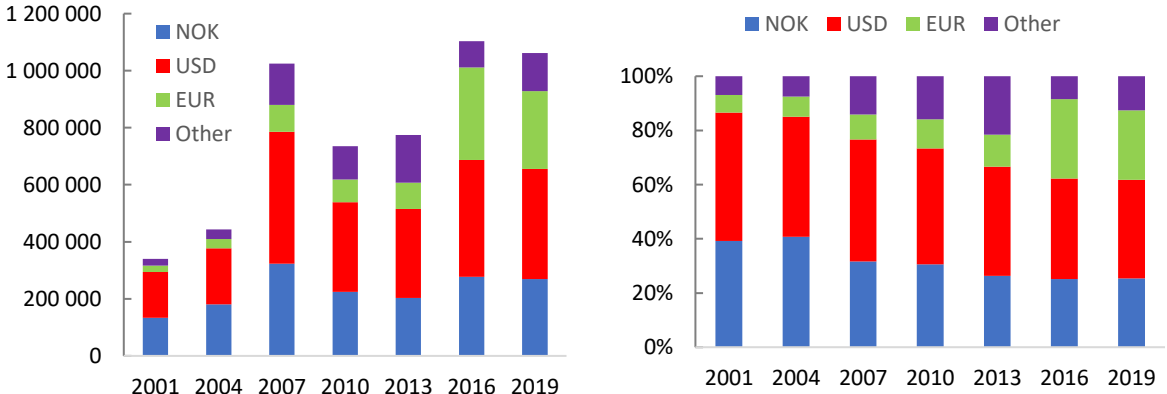
Chart 3: Turnover in the foreign exchange spot market in April, by currency. In millions of USD (left) and as a percentage (right). 2001 – 2019



4. Currency breakdown for the forward market

In the forward market, which includes foreign exchange swaps and outright forwards, the Norwegian krone was involved in 25.4% of transactions in April 2019, approximately unchanged from April 2016 (Chart 4). Compared with the survey in April 2016, the US dollar share fell somewhat, from 37.1% to 36.3%. The euro was involved in 29.4% of transactions in April 2016, falling to 25.7% in April 2019. The share of turnover of other currencies was 12.6%, up from 8.4% in April 2016.

Chart 4: Currency breakdown for forward market turnover in April, including outright forwards and foreign exchange swaps. In millions of USD (left) and as a percentage (right). 2001 – 2019



5. Counterparties in the foreign exchange market

Chart 5a shows counterparties in the Norwegian foreign exchange market broken down into Norwegian and non-Norwegian participants in the period April 2001–April 2019. After falling in 2016, the share of Norwegian counterparties has risen to a record-high level in the period covered by the 2019 survey. The share of Norwegian counterparties was 36.9% in April 2019. The share of non-Norwegian counterparties fell from 82.6% in April 2016 to 63.1% in April 2019. Chart 5b shows turnover broken down by the categories ‘reporting banks’, ‘other financial institutions’ and ‘non-financial customers’. Reporting banks’ share of market turnover has largely trended downward since 2001. After rising to 64.1% in April 2016, the share fell to 49.8% in April 2019. The share accounted for by other financial institutions, on the other hand, has shown a rising trend since 2001, increasing from 24.9% to 36.2% between April 2016 and April 2019. Non-financial counterparties’ share of market turnover edged up in April 2019 to 14%.

Chart 5a: Foreign exchange turnover in April, by counterparty. Percent. 2001 – 2019

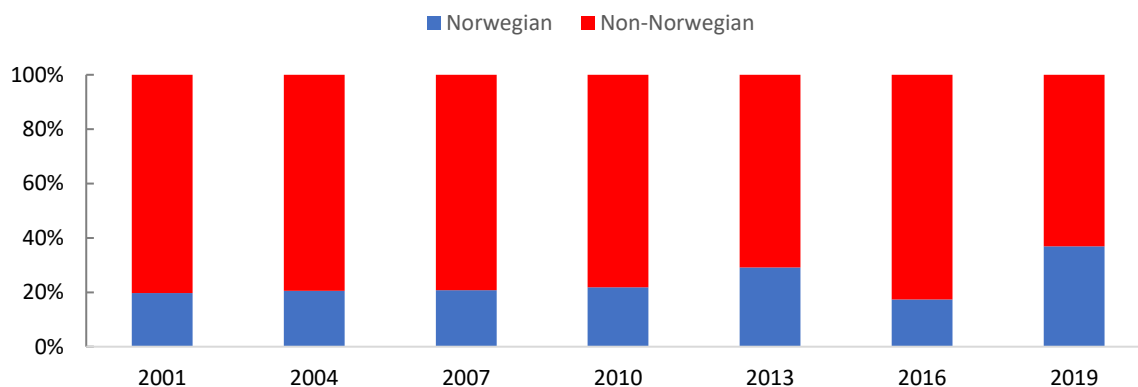
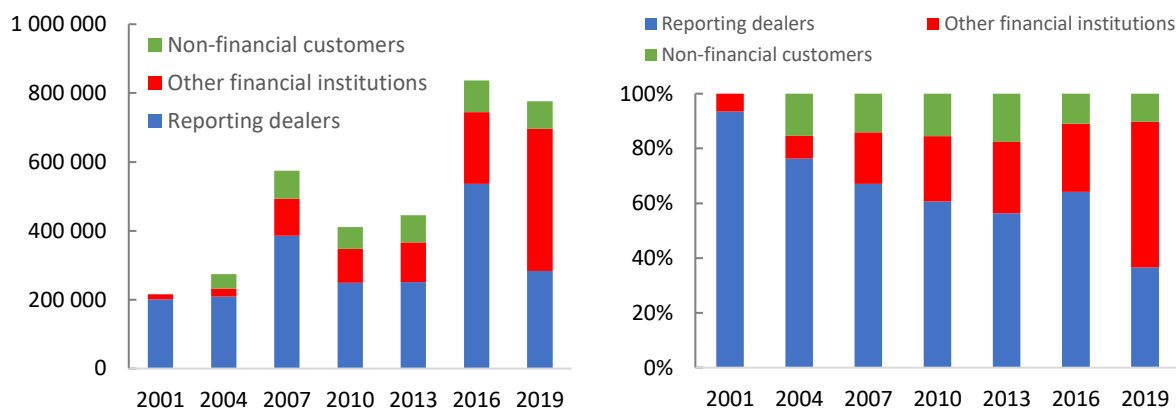


Chart 5b: Foreign exchange turnover in April, by turnover. In millions of USD (left) and as a percentage (right). 2001 – 2019



Reporting banks were asked to provide a more detailed classification of the category ‘other financial institutions’ for the first time in April 2013. The request was also included in the April 2019 survey. The reported figures are shown in Table 2. Compared with April 2016, the category ‘non-reporting dealers’ has increased its share of market turnover from 20.9% to 31.8% in April 2019. The shares accounted for by the other categories are fairly stable, except for the category ‘other counterparties’, which has increased its share to 0.7%.

Table 2: Foreign exchange turnover in April – breakdown for ‘Other financial institutions’. In millions of USD and as a percentage

Counterparty	2016	Percentage	2019	Percentage
Other financial institution	208 394	24.9 %	206 192	36.2 %
- Non-reporting dealers	174 486	20.9 %	181 407	31.8 %
- Institutional investors	29 756	3.6 %	19 757	3.5 %
- Hedge funds and proprietary trading firms	2 618	0.3 %	476	0.1 %
- Public sector financial institutions	955	0.1 %	470	0.1 %
- Other	576	0.1 %	4 081	0.7 %
- Undistributed	0	0.0 %	0	0.0 %

6. Maturity breakdown for the forward market

Most forward contracts have a maturity of seven days or less. Chart 6a shows that the share of these contracts has been rising since 2010. The share of forward contracts with a maturity of between seven days and one year fell between April 2010 and April 2016.

Reporting banks were asked to provide a more detailed maturity breakdown in the April 2019 survey. The following maturity bands were used in this year's survey: seven days or less, over seven days and up to one month, over one month and up to three months, over three months and up to six months, and over six months. Chart 6b shows banks' reported figures. The new maturity breakdown clearly showed that very few foreign exchange forwards have a maturity of more than six months.

Chart 6a: Forward market turnover in April, by maturity. In millions of USD (left) and as a percentage (right). 2010 – 2019

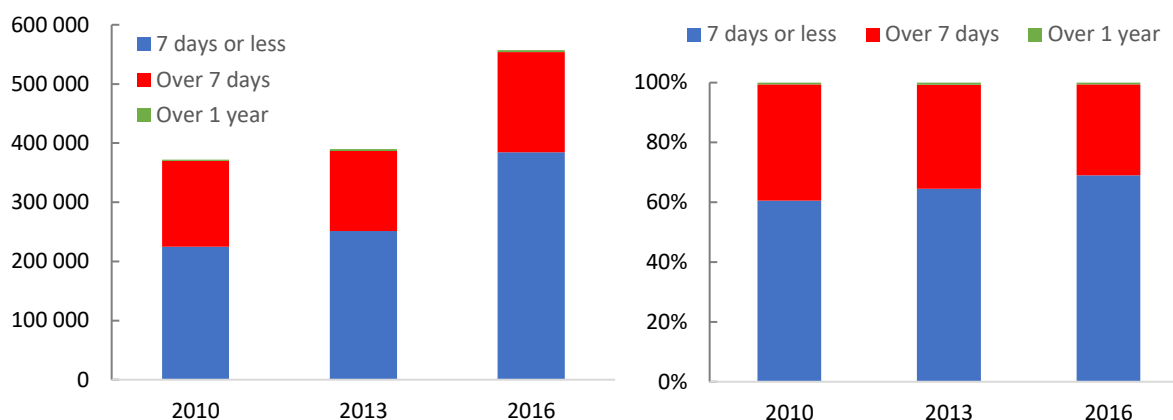
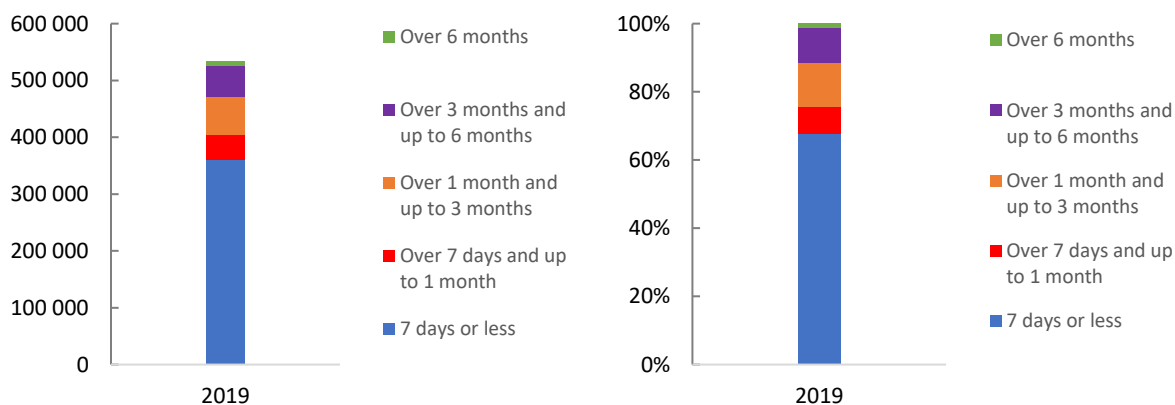


Chart 6b: Forward market turnover in April, breakdown by maturity. In millions of USD (left) and as a percentage (right). 2019



7. Currency breakdown in the market for currency options and currency swaps (basis swaps)

Chart 7a shows that total turnover in the market for currency options fell from USD 5.3bn in April 2016 to USD 2.7bn in April 2019. The Norwegian krone was involved in 46.7% of the turnover in April 2019, up from 41.4% in April 2016. Turnover in the US dollar and the euro has fallen compared with April 2016, but these currencies' share of total turnover has remained relatively stable, at 26.1% 23.8%, respectively, in April 2019. Total turnover in the currency swap market increased in the same period, from NOK 2.6bn in April 2016 to NOK 13.7bn in April 2019. The share of turnover involving the Norwegian krone has remained stable compared with April 2016, at 47% in the 2019 survey. Changes in turnover shares between April 2016 and April 2019 were more pronounced for the other

currencies. The US dollar increase its share from 17.4% to 40.4%, while the euro’s share fell from 36.0% to 6.6%. Other currencies accounted for 6.5% of the turnover in currency swaps, up from 2.1% in April 2016.

Chart 7a: Turnover in currency options in April, by currency. In millions of USD (left) and as a percentage (right). 2001 – 2019

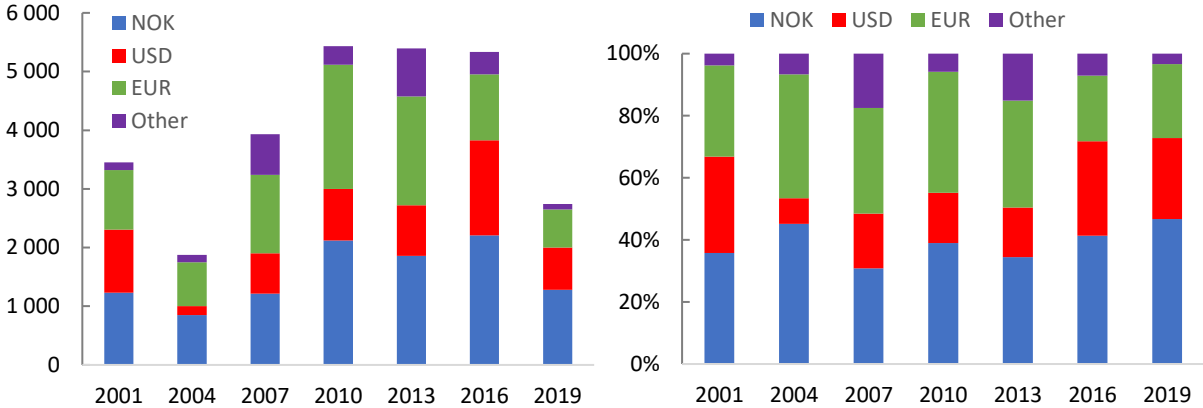
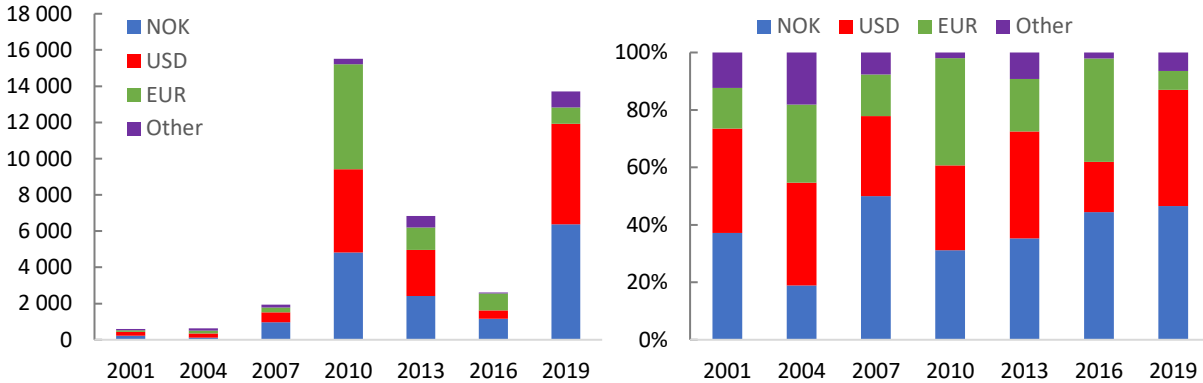


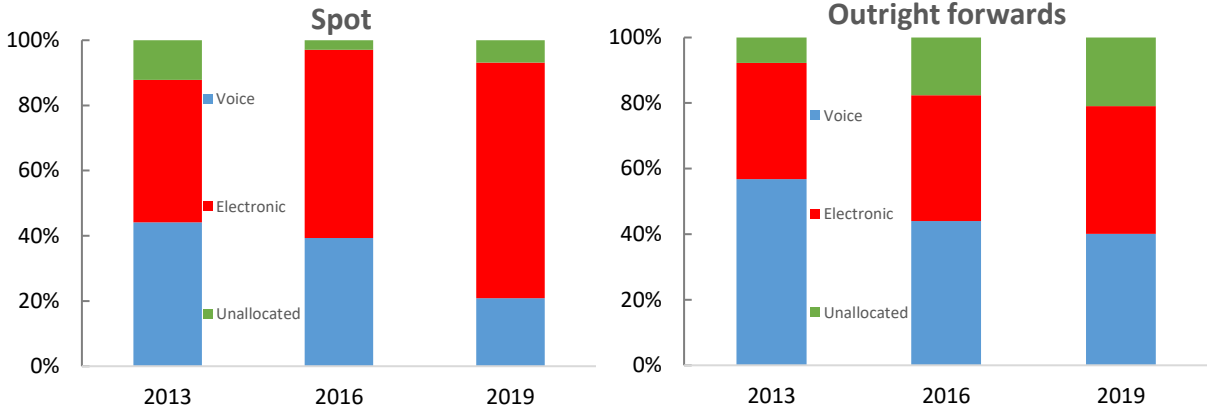
Chart 7b: Turnover in currency swaps (basis swaps) in April, by currency. In millions of USD (left) and as a percentage (right). 2001 – 2019



8. Execution method breakdown

The share of spot market transactions executed via electronic trading platforms continued to show the same rising trend as in 2013 and 2016, increasing from 57.8% in April 2016 to 72.3% in April 2019 (Chart 8). The share of forward transactions executed via electronic platforms shows little change from April 2016 and was 39% in April 2019. At the same time, the share executed via the telephone (voice) fell in both markets, decreasing most in the spot market, from 39.3% in April 2016 to 20.9% in April 2019.

Chart 8: Foreign exchange market transactions in April, by execution method.³ Percent. 2013 – 2019



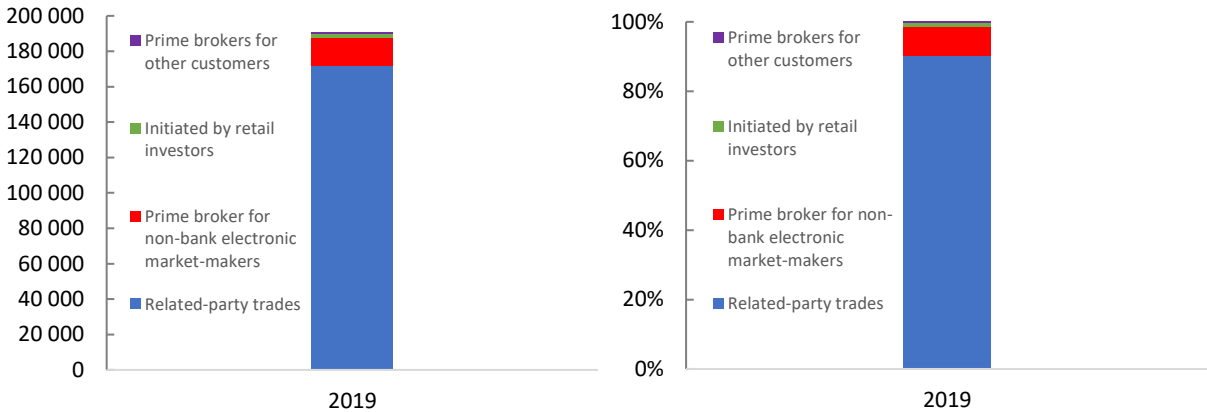
9. Other breakdowns of reporting banks’ turnover data

In the 2019 survey, reporting banks were requested to provide a breakdown of their turnover data by transactions where they act as prime broker for non-bank electronic market-makers, prime brokers for other customers, transactions initiated by retail investors, and related-party trades. Prime brokers are defined in the survey as institutions that facilitate trades for their clients in the prime broker’s name. Retail investors refers to private individuals executing transactions on their own behalf (ie not for any institution). Related-party trades include trades between reporting banks’ own branches and subsidiaries.

Turnover is broken down into these four categories in Chart 9. The categories are not exhaustive, and banks reported that not all turnover data can be categorised in this way. Furthermore, several banks reported that that they did not act as prime brokers in the period. Of total turnover in April 2019, related-party trades accounted for USD 172bn. This is about 90% of total turnover in the four categories. Prime brokerage for non-bank electronic market-makers, retail investors and prime brokerage for other customers account for USD 15.7bn, USD 2.2bn and USD 656m, respectively.

³ Voice includes transactions executed over the phone. Indirect voice transactions refer to transactions executed over the phone, intermediated by a third party (eg. via a voice broker, while direct voice transactions are not intermediated by a third party.

Chart 9: Foreign exchange market transactions in April executed by banks as prime brokers, initiated by retail investors and related-party trades. In millions of USD (left) and as a percentage (right), 2019

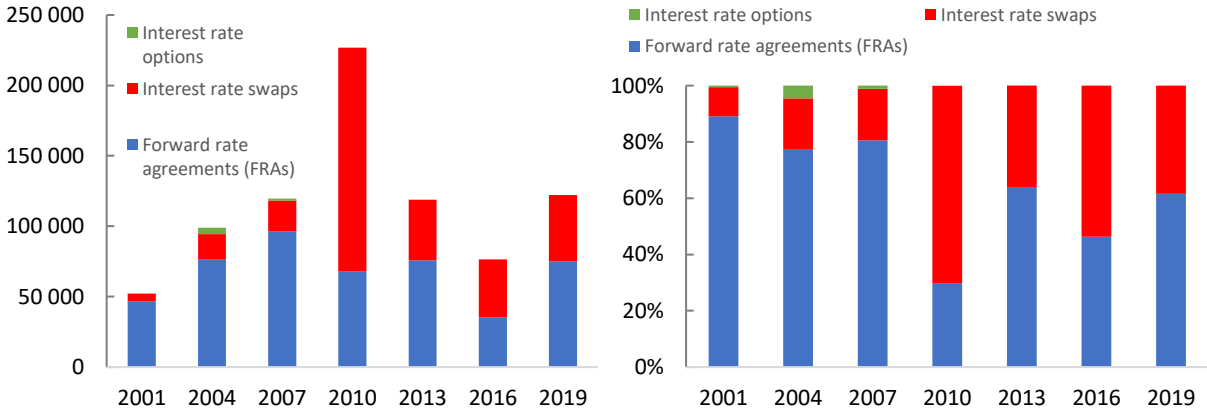


Breakdown of turnover in the Norwegian OTC interest rate derivatives market

1. By instrument

Total turnover in the Norwegian OTC interest rate derivatives market in April 2019 was USD 122.1bn, up from USD 76.4bn in April 2016, an increase of about 60%. This is equivalent to an average daily turnover in the Norwegian market of USD 6.4bn or NOK 55.1bn. After the previous survey in April 2016 showed the lowest turnover since the 2001 survey, this year’s survey shows that turnover has picked up again. Most of the increase in turnover is attributable to forward rate agreements (FRAs). The share of these instruments rose from 46.3% in April 2016 to 61.5% in April 2019. The share of interest rate swaps⁴, on the other hand, fell from 53.7% in April 2016 to 38.5% in 2019. As in the previous survey, no turnover in interest rate options was reported in this year’s survey.

Chart 10: Turnover in interest rate derivatives in April, by instrument. In millions of USD (left) and as a percentage (right), 2001 – 2019



⁴ Turnover for interest rate swaps is broken down into OIS (Overnight indexed swaps) and other swaps in Table A.11 in the annex.

Table 3: Turnover in interest rate derivatives in April, by instrument. In millions of USD and NOK

Instrument	2001	2004	2007	2010	2013	2016	2019
Forward rate agreements (FRAs)	46 629	76 708	96 425	67 845	75 874	35 354	75 114
Interest rate swaps	5 422	17 800	21 896	158 855	42 754	41 007	46 977
Interest rate options	277	4 513	1 324	348	50	0	0
Total in millions of USD	52 328	99 021	119 645	227 048	118 679	76 361	122 091
Average per banking day in millions of USD	2 907	5 212	6 736	11 950	5 651	3 636	6 426
Total in millions of NOK	475 662	685 225	717 870	1 344 124	687 150	627 689	1 046 321
Average per banking day in millions of NOK	26 426	36 064	39 882	70 743	32 721	29 890	55 070

2. By currency

Table 4 shows turnover for the various instruments by currency. The table shows that virtually all FRAs were traded in NOK in April 2019, as in April 2016. Over half of the interest rate swaps are traded in NOK. The share has risen from 31.2% in April 2016 to 57.8% in April 2019. Excluding NOK, most interest rate swaps involve the euro. This means that the USD share has fallen markedly from 58.8% in 2016 to only 3% in April 2019.

Table 4: Turnover in interest rate derivatives in April, by instrument and currency. In millions of USD and as a percentage

Forward rate agreements (FRAs)	2013	Percentage	2016	Percentage	2019	Percentage
NOK	73 296	96.6 %	33 864	95.8 %	74 759	99.5 %
USD	-	0 %	-	0.0 %	0	0.0 %
EUR	594	0.8 %	-	0.0 %	0	0.0 %
Other currencies	1 985	2.6 %	1 490	4.2 %	355	0.5 %
Total	75 874	100.0 %	35 354	100.0 %	75 114	100.0 %
Interest rate swaps	2013	Percentage	2016	Percentage	2019	Percentage
NOK	21 941	51.3 %	12 811	31.2 %	29 491	57.8 %
USD	13 308	31.1 %	24 132	58.8 %	1 526	3.0 %
EUR	6 307	14.8 %	3 463	8.4 %	15 104	29.6 %
Other currencies	1 198	2.8 %	602	1.5 %	0	0.0 %
Total	42 754	100.0 %	41 007	100.0 %	51 063	100.0 %
Options	2013	Percentage	2016	Percentage	2019	Percentage
NOK	28	56.0 %	-	0.0 %	-	0.0 %
USD	-	-	-	0.0 %	-	0.0 %
EUR	22	44.0 %	-	0.0 %	-	0.0 %
Other currencies	-	-	-	0.0 %	-	0.0 %
Total	50	100.0 %	-	0.0 %	-	0.0 %
Total	2013	Percentage	2016	Percentage	2019	Percentage
NOK	95 265	80.3 %	46 674	61.1 %	104 250	86.2 %
USD	13 308	11.2 %	24 132	31.6 %	1 526	1.3 %
EUR	6 923	5.8 %	3 463	4.5 %	15 104	12.5 %
Other currencies	3 183	2.7 %	2 092	2.7 %	0	0.0 %
Total	118 679	100.0 %	76 361	100.0 %	120 880	100.0 %

3. By counterparty

After falling markedly in the most recent surveys, the share of market turnover involving Norwegian counterparties stabilised at 10% in April 2019 (Chart 11a), although this is a low level compared with previous surveys. The share of turnover involving non-Norwegian counterparties was 90% in April 2019. Chart 11b shows that reporting banks' share of turnover has remained stable at 5.5%, after a marked fall in the April 2016 survey. The share for other financial institutions increased considerably in April 2016, but fell back in April 2019 to 32.9%. For non-financial customers, the share of turnover increased markedly from 2% in April 2016 to 11.6% in April 2019.

Chart 11a: Turnover in interest rate derivatives in April, by counterparty. Percent. 2010 – 2019

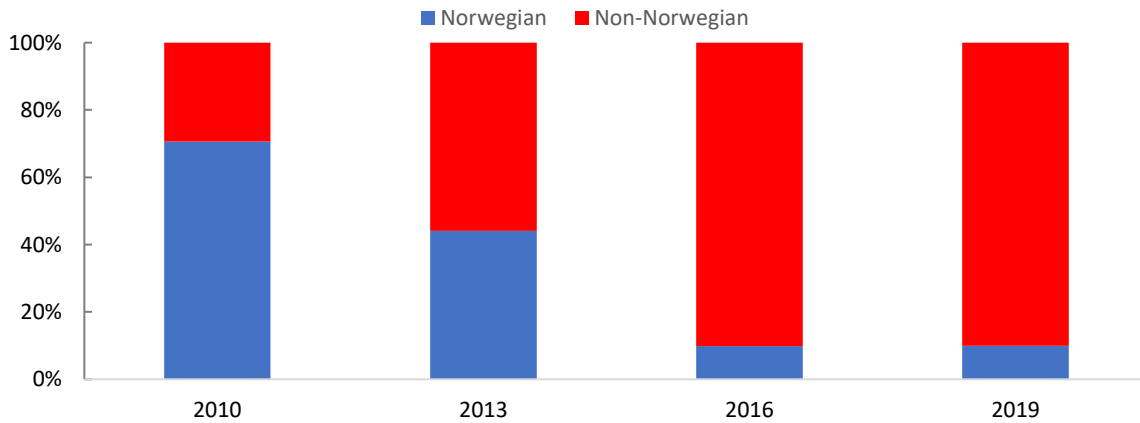
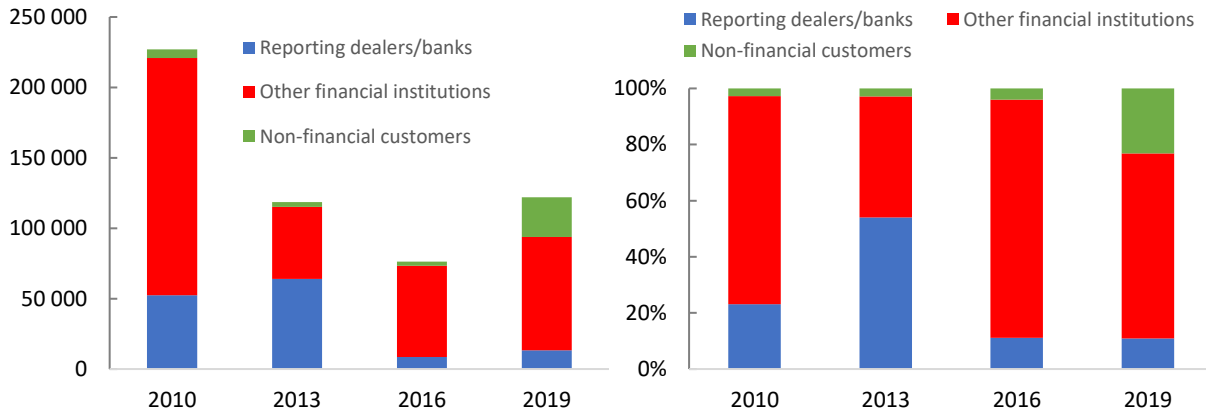


Chart 11b: Turnover in interest rate derivatives in April, by counterparty. In millions of USD (left) and as a percentage (right). 2010 – 2019



Annex

Foreign exchange market

Table A.1: Daily foreign exchange turnover in April, by instrument. In millions of USD and as a percentage

Instrument	2001	2004	2007	2010	2013	2016	2019
Spot	3 419	2 733	3 460	2 318	2 760	13 630	1 624
Forwards	9 438	11 658	28 458	19 580	18 553	26 645	27 937
- <i>Outright forwards</i>	414	459	2 419	1 823	556	655	517
- <i>Foreign exchange swaps</i>	9 024	11 199	26 039	17 756	17 998	25 990	27 420
Currency swaps (basis swaps)	17	16	54	409	163	75	361
Currency options	96	49	109	143	129	127	72
Total	12 970	14 456	32 081	22 450	21 605	40 478	29 994
Instrument	2001	2004	2007	2010	2013	2016	2019
Spot	26.4 %	18.9 %	10.8 %	10.3%	12.8%	33.7%	5.4 %
Forwards	72.8 %	80.7 %	88.7 %	87.2%	85.9%	65.8%	93.1 %
- <i>Outright forwards</i>	3.2 %	3.2 %	7.5 %	8.1%	2.6%	1.6%	1.7 %
- <i>Foreign exchange swaps</i>	69.6 %	77.5 %	81.2 %	79.1%	83.3%	64.2%	91.4 %
Currency swaps (basis swaps)	0.1 %	0.1 %	0.2 %	1.8%	0.8%	0.2%	1.2 %
Currency options	0.7 %	0.3 %	0.3 %	0.6%	0.6%	0.3%	0.2 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0%	100.0 %

Transactions between Norwegian reporting dealers are counted only once. Turnover figures for the foreign exchange market cover spot, outright forwards, foreign exchange swaps, currency swaps (basis swaps) and currency options. The figures for the forward market prior to 2001 include currency swaps.

Table A.2: Foreign exchange turnover in April, by currency. In millions of USD and as a percentage

Currency	2001	2004	2007	2010	2013	2016	2019
NOK	149 231	202 772	353 115	248 995	229 703	343 183	287 304
USD	204 358	224 011	489 567	333 222	340 881	667 797	397 602
EUR	77 880	76 198	145 295	109 462	127 835	534 160	292 814
Other currencies	34 832	45 720	161 089	130 627	191 314	128 215	145 610
Total	466 301	548 701	1 149 066	822 306	889 733	1 673 355	1 123 330
Currency	2001	2004	2007	2010	2013	2016	2019
NOK	32.0 %	37.0 %	30.7 %	30.3 %	25.8%	20.5%	25.6 %
USD	43.8 %	40.8 %	42.6 %	40.5 %	38.3%	39.9%	35.4 %
EUR	16.7 %	13.9 %	12.7 %	13.3 %	14.4%	31.9%	26.1 %
Other currencies	7.5 %	8.3 %	14.0 %	15.9 %	21.5%	7.7%	13.0 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0%	100.0 %

Transactions between Norwegian reporting dealers are counted only once.

Table A.3: Turnover in the foreign exchange spot market, by currency. In millions of USD and as a percentage

Currency	2001	2004	2007	2010	2013	2016	2019
NOK	14 740	21 556	29 263	24 551	26 191	65 362	17 476
USD	42 309	27 400	27 745	18 786	29 019	258 827	12 088
EUR	55 009	42 791	51 212	29 788	36 467	210 057	19 978
Other currencies	11 025	12 094	16 362	14 123	23 995	35 494	12 184
Total	123 083	103 841	124 582	87 248	115 671	569 741	61 727
Currency	2001	2004	2007	2010	2013	2016	2019
NOK	12.0 %	20.8 %	23.5 %	28.1 %	22.6 %	11.5%	28.3 %
USD	34.4 %	26.4 %	22.3 %	21.5 %	25.1 %	45.4%	19.6 %
EUR	44.7 %	41.2 %	41.1 %	34.2 %	31.5 %	36.9%	32.4 %
Other currencies	9.0 %	11.6 %	13.1 %	16.2 %	20.7 %	6.2%	19.7 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0 %

Transactions between Norwegian reporting dealers are counted only once.

Table A.4: Currency distribution in forward market turnover, including outright forwards and foreign exchange swaps. In millions of USD and as a percentage

Currency	2001	2004	2007	2010	2013	2016	2019
NOK	133 267	180 369	323 852	224 444	203 512	277 821	269 828
USD	160 975	196 456	461 646	314 436	311 862	408 969	385 514
EUR	21 857	32 658	94 084	79 674	91 368	324 103	272 836
Other currencies	23 687	33 501	144 902	116 504	167 319	92 721	133 426
Total	339 786	442 985	1 024 484	735 058	774 062	1 103 614	1 061 603
Currency	2001	2004	2007	2010	2013	2016	2019
NOK	39.2 %	40.7 %	31.6 %	30.5 %	26.3%	25.2%	25.4 %
USD	47.4 %	44.3 %	45.1 %	42.8 %	40.3%	37.1%	36.3 %
EUR	6.4 %	7.4 %	9.2 %	10.8 %	11.8%	29.4%	25.7 %
Other currencies	7.0 %	7.6 %	14.1 %	15.9 %	21.6%	8.4%	12.6 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0%	100.0 %

Transactions between Norwegian reporting dealers are counted only once. Pre-2004 figures include currency swaps (basis swaps).

Table A.5: Foreign exchange turnover in April, by counterparty. In millions of USD and as a percentage

Counterparty	2001	2004	2007	2010	2013	2016	2019
Reporting dealers	201 207	209 279	385 625	249 543	250 728	536 616	283 741
- Norwegian	19 242	6 376	3 103	4 914	2 705	6 365	3 299
- Non-Norwegian	181 965	202 903	382 522	244 629	248 023	530 251	280 442
Other financial institutions	14 087	22 713	107 648	97 667	115 777	208 394	206 192
- Norwegian	9 880	15 089	43 202	29 032	64 247	79 678	136 274
- Non-Norwegian	4 207	7 624	64 446	68 635	51 530	128 715	69 918
Non-financial costumers	17 859	42 360	81 260	63 942	78 361	91 668	79 958
- Norwegian	16 834	35 092	73 326	56 117	65 562	59 783	70 751
- Non-Norwegian	1 024	7 268	7 934	7 825	15 799	31 886	9 207
Total	233 152	274 352	574 533	411 152	444 866	836 678	569 891
- Norwegian	45 956	56 558	119 631	90 063	129 514	145 826	210 324
- Non-Norwegian	187 196	217 794	454 902	321 089	315 352	690 853	359 567
Counterparty	2001	2004	2007	2010	2013	2016	2019
Reporting dealers	86.3 %	76.3 %	67.1 %	60.7 %	56.4 %	64.1 %	49.8 %
- Norwegian	8.3 %	2.3 %	0.5 %	1.2 %	0.6 %	0.8 %	0.6 %
- Non-Norwegian	78.0 %	74.0 %	66.6 %	59.5 %	55.8 %	63.4 %	49.2 %
Other financial institutions	6.0 %	8.3 %	18.7 %	23.8 %	26.0 %	24.9 %	36.2 %
- Norwegian	4.2 %	5.5 %	7.5 %	7.1 %	14.4 %	9.4 %	23.9 %
- Non-Norwegian	1.8 %	2.8 %	11.2 %	16.7 %	11.6 %	15.4 %	12.3 %
Non-financial costumers	7.7 %	15.4 %	14.2 %	15.5 %	17.6 %	11.0 %	14.0 %
- Norwegian	7.2 %	12.8 %	12.8 %	13.6 %	14.1 %	7.1 %	12.4 %
- Non-Norwegian	0.4 %	2.6 %	1.4 %	1.9 %	3.6 %	3.8 %	1.6 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
- Norwegian	19.7 %	20.6 %	20.8 %	21.9 %	29.1 %	17.4 %	36.9 %
- Non-Norwegian	80.3 %	79.4 %	79.2 %	78.1 %	70.9 %	82.6 %	63.1 %

Transactions between Norwegian reporting dealers are counted only once. Pre-2007 figures include currency swaps (basis swaps).

Table A.6a: Forward market turnover in April, by maturity. In millions of USD and as a percentage

Maturity	2010	Percentage	2013	Percentage	2016	Percentage
7 days or less	225 091	60.5 %	251 382	64.5%	384 352	69.0%
Over 7 days	144 832	38.9 %	135 412	34.8%	169 662	30.4%
Over 1 year	2 050	0.6 %	2 820	0.7%	3 281	0.6%
Total	371 973	100.0 %	389 614	100.0%	557 295	100.0%

Not adjusted for Norwegian double-counting.

Table A.6b: Forward market turnover in April, by maturity. In millions of USD and as a percentage

Maturity	2019	Percentage
7 days or less	361 230	67.7 %
Over 7 days and up to 1 month	42 006	7.9 %
Over 1 month and up to 3 months	68 268	12.8 %
Over 3 months and up to 6 months	54 233	10.2 %
Over 6 months	7 644	1.4 %
Total	533 381	100.0 %

Not adjusted for Norwegian double-counting.

Table A.7a: Turnover in currency options in April, by currency. In millions of USD and as a percentage

Currency	2001	2004	2007	2010	2013	2016	2019
NOK	1 234	848	1 213	2 119	1 857	2 207	1 283
USD	1 075	155	691	881	862	1 624	717
EUR	1 014	749	1 338	2 114	1 858	1 124	652
Other currencies	130	125	690	320	817	380	93
Total	3 453	1 876	3 932	5 434	5 393	5 334	2 745
Currency	2001	2004	2007	2010	2013	2016	2019
NOK	35.7 %	45.2 %	30.9 %	39.0 %	34.4 %	41.4%	46.7 %
USD	31.1 %	8.2 %	17.6 %	16.2 %	16.0 %	30.4%	26.1 %
EUR	29.4 %	39.9 %	34.0 %	38.9 %	34.4 %	21.1%	23.8 %
Other currencies	3.8 %	6.7 %	17.5 %	5.9 %	15.1 %	7.1%	3.4 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0 %

Table A.7b: Turnover in currency swaps (basis swaps) in April, by currency. In millions of USD and as a percentage

Currency	2001	2004	2007	2010	2013	2016	2019
NOK	223	118	969	4 827	2 411	1 165	6 384
USD	218	223	541	4 585	2 549	457	5 538
EUR	85	170	280	5 798	1 246	943	899
Other currencies	74	113	148	300	633	55	884
Total	600	624	1 938	15 510	6 833	2 620	13 705
Currency	2001	2004	2007	2010	2013	2016	2019
NOK	37.2 %	18.9 %	50.0 %	31.1 %	35.2 %	44.4%	46.6 %
USD	36.3 %	35.7 %	27.9 %	29.6 %	37.3 %	17.4%	40.4 %
EUR	14.2 %	27.3 %	14.5 %	37.4 %	18.2 %	36.0%	6.6 %
Other currencies	12.3 %	18.1 %	7.6 %	1.9 %	9.3 %	2.1%	6.5 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0%	100.0 %

Transactions between Norwegian reporting dealers are counted only once, but total turnover involves double-counting, as there are two currencies in each currency trade.

Table A.8: Foreign exchange turnover in April 2019, by execution method. In millions of USD and as a percentage

	Voice ¹		Electronic ²				Undistributed
	Direct	Indirect	Direct		Indirect		
	Direct	Indirect	Single-bank proprietary trading system ³	Other	Anonymous venues ⁴	Disclosed venues	
Spot	6 363	71	9 039	8 637	3	4 634	2 116
Outright forwards	2 999	0	3 116	127	7	3 576	1
Foreign exchange swaps	154 398	55 469	128 089	15 286	47 324	9 405	111 007
Currency swaps (basis swaps)	5 624	1 230	0	0	0	0	0
Currency options	961	206	123	82	0	0	0
Total	170 345	56 976	140 368	24 132	47 334	17 615	113 125
	Voice ¹		Electronic ²				Undistributed
	Direct	Indirect	Direct		Indirect		
	Direct	Indirect	Single-bank proprietary trading system ³	Other	Anonymous venues ⁴	Disclosed venues	
Spot	20.6 %	0.2 %	29.3 %	28.0 %	0.0 %	15.0 %	6.9 %
Outright forwards	30.5 %	0.0 %	31.7 %	1.3 %	0.1 %	36.4 %	0.0 %
Foreign exchange swaps	29.6 %	10.6 %	24.6 %	2.9 %	9.1 %	1.8 %	21.3 %
Currency swaps (basis swaps)	82.1 %	17.9 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %
Currency options	70.0 %	15.0 %	9.0 %	6.0 %	0.0 %	0.0 %	0.0 %
Total	29.9 %	10.0 %	24.6 %	4.2 %	8.3 %	3.1 %	19.9 %

¹⁾ *Voice* includes transactions executed over the phone. *Indirect voice transactions* refer to transactions executed over the phone, intermediated by a third party (eg. via a voice broker), while *direct voice transactions* are not intermediated by a third party.

²⁾ *Indirect electronic transactions* are executed over an electronic medium, intermediated by a third party electronic platform, while *direct electronic transactions* are not intermediated by a third party.

³⁾ Single-bank proprietary trading system refers to an electronic trading system owned and operated by a bank.

⁴⁾ In the April 2019 survey, the BIS broadened the subcategories for electronic-indirect trades.

Table A.9: Foreign exchange turnover in April 2019, by transactions executed by prime broker, transactions initiated by retail investors and related-party trades. In millions of USD and as a percentage

Category	2019	Percentage
Prime brokers with electronic market-makers	15 737	8.3 %
Prime brokers with other customers	656	0.3 %
Initiated by retail investors	2 204	1.2 %
Related-party trades	171 868	90.2 %
Total	190 465	100.0 %

Not adjusted for Norwegian double-counting.

Table A.10: Daily turnover in interest rate derivatives in April, by instrument. In millions of USD and as a percentage

Instrument	2001	2004	2007	2010	2013	2016	2019
Forward rate agreements (FRAs)	2 591	4 037	5 357	3 571	3 613	1 684	3 953
Interest rate swaps	301	937	1 216	8 361	2 036	1 953	2 472
Interest rate options	15	238	74	18	2	0	0
Total	2 907	5 212	6 647	11 950	5 651	3 636	6 426
Instrument	2001	2004	2007	2010	2013	2016	2019
Forward rate agreements (FRAs)	89.1 %	77.5 %	80.6 %	29.9 %	63.9 %	46.3 %	61.5 %
Interest rate swaps	10.4 %	18.0 %	18.3 %	70.0 %	36.0 %	53.7 %	38.5 %
Interest rate options	0.5 %	4.5 %	1.1 %	0.1 %	0.0 %	0.0 %	0.0 %
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Transactions between Norwegian reporting dealers are counted only once.

Table A.11: Daily turnover in interest rate derivatives in April, by instrument. In millions of USD and as a percentage

Instrument	2019
Forward rate agreements (FRAs)	3 953
Overnight indexed swaps (OIS)	895
Other swaps	1 578
Interest rate options	0
Total	6 426
Instrument	2019
Forward rate agreements (FRAs)	61.5 %
Overnight indexed swaps (OIS)	13.9 %
Other swaps	24.6 %
Interest rate options	0.0 %
Total	100.0 %

Transactions between Norwegian reporting dealers are counted only once.

Table A.12: Turnover in interest rate derivatives in April, by counterparty. In millions of USD and as a percentage

Counterparty	2010	Percentage	2013	Percentage	2016	Percentage	2019	Percentage
Reporting dealers	52 353	23.1 %	64 090	27.0 %	8 544	5.6 %	13 375	5.5 %
- <i>Norwegian</i>	5 399	2.4 %	23 636	10.0 %	1 632	1.1 %	4 086	1.7 %
- <i>Non-Norwegian</i>	46 954	20.7 %	40 454	17.0 %	6 913	4.5 %	9 289	3.8 %
Other financial institutions	168 494	74.4 %	51 157	21.6 %	64 808	42.4 %	80 381	32.9 %
- <i>Norwegian</i>	148 949	65.6 %	26 695	11.2 %	3 024	2.0 %	7 310	3.0 %
- <i>Non-Norwegian</i>	19 545	8.6 %	24 461	10.3 %	61 784	40.5 %	73 071	29.9 %
Non-financial costumers	6 201	2.7 %	3 432	1.4 %	3 009	2.0 %	28 334	11.6 %
- <i>Norwegian</i>	5 863	2.6 %	2 049	0.9 %	2 912	1.9 %	811	0.3 %
- <i>Non-Norwegian</i>	338	0.1 %	1383	0.6 %	98	0.1 %	27524	11.3 %
Total	227 048	100.0 %	237 358	100.0 %	152 722	100.0 %	244 182	100.0 %
- <i>Norwegian</i>	160 211	70.6 %	104 761	44.1 %	15 135	9.9 %	24 415	10.0 %
- <i>Non-Norwegian</i>	66 837	29.4 %	132 597	55.9 %	137 588	90.1 %	219 768	90.0 %

Transactions between Norwegian reporting dealers are counted only once.